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An Exploration of Contextual Factors of Weight-based Discrimination Against Business Leaders

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Abstract

Two-thirds of the adult population of the United States are considered overweight (Ogden, Carroll, Kit, & Flegal, 2013) and are susceptible to weight-based discrimination in the workplace (Rudolph, Wells, Weller, & Baltes, 2009). The weight-based discrimination experienced by business leaders is relatively unknown. The present research used Leader Categorization Theory (Lord & Maher, 1991) as a framework to examine the extent to which a business leader's weight is associated with their perceived leadership qualities and effectiveness in two studies. The first study isolated the relationship between the base rate of weight in an organization and the assumed weight of the COO by verbally manipulating the weight distribution (normal weight and overweight) in the organization. The second study examined how leader gender and race as well as team performance affect perceptions of leaders in two weight categories: normal weight and overweight/obese. Combined, the results of these two studies provided evidence that a) weight-based discrimination of leaders exists, b) this discrimination is more prominent under conditions of stable and improving team performance, and c) women are more strongly penalized for their body size while race is not a significant factor. In addition to the novel exploration of identity intersectionality in leaders, this research has implications for both workplace diversity and discrimination interventions as well as leader performance evaluations.

An Exploration of Contextual Factors of Weight-Based Discrimination against Business Leaders

Over the last few decades, the average size of Americans has been steadily increasing. A number of researchers have pointed to body-weight discrimination as an important area for future research (Ruggs et al., 2013; Davison & Bing, 2013; Roehling, Pichler, & Bruce, 2013; Levay, 2014). It is essential for researchers to more fully understand the experiences of people who fall into extreme weight categories because, not only is there ample evidence that weight bias exists (e.g., Puhl & Heuer, 2009), but, increasingly, more and more of the global population is becoming a member of extreme weight categories. As of 2014, 37.7% of adults in the United States were considered obese. Looking at weight trends in the previous decade, the percentage of obese men has remained fairly stable since 2005 at 35% but there has been a steady increase in obesity among women since 2005 with obesity levels above 40% (Flegal, Kruszon-Moran, Carroll, Fryar, & Ogden, 2016). The prevalence of overweight adults in the United States is much higher at 69.5%. However, unlike with obesity, men are more likely to be overweight than women (73.0% and 66.2%, respectively; National Center for Health Statistics, 2016). With more than two-thirds of the country belonging to what is considered an "extreme" weight category, it is clear that individuals in what is considered the "normal" weight category are becoming increasingly uncommon.

Researchers and doctors commonly use body mass index (BMI) to define weight categories. BMI is a measure of weight adjusted by height, intended to approximate levels of body fat, and is correlated to direct measures of body fat (CDC, 2013). The US Center for Disease Control and Prevention (CDC) defines weight classifications based on

the Body Mass Index (BMI). The weight categories as defined by the CDC are "underweight" (BMI under 18.5), "normal weight" (BMI between 18.5 and 24.9), "overweight" (BMI between 25.0 and 29.9), and "obese" (BMI over 30.0; CDC, 2012). It should be noted that, due to the approximate rather than exact measure of body fat, BMI is typically not used as a diagnostic tool for individuals but is useful to examine at the population level (CDC, 2013). Though the medical, and often research, community groups individuals into different categories of weight, body weight is a continuous variable and can be difficult to break into distinct categories. As noted in meta-analytic investigations of weight bias, the terms *overweight* and *obese* are often used interchangeably in experimental research that examines weight bias (Roehling et al., 2013). As a result, this paper uses the term *overweight* to refer to any weight level that exceeds the normative standards (i.e., any BMI above 25), including both the categories of overweight and obese. However, as there are often observed differences within this "overweight" category, these differences will be denoted by using both the terms "obese" and "overweight" as the authors of the specific research used them.

Weight Bias

Bias refers to the tendency to evaluate one social group more favorably than another (Hewstone, Rubin, & Willis, 2002). Bias is manifested through attitudes, cognition, and behavior (Hewstone et al., 2002). Prejudice, bias manifested through attitudes, refers to any attitude, emotion, or behavior towards members of a group that implies some negativity or antipathy towards that group (Brown, 2011). A stereotype, bias manifested through cognition, consists of descriptive characteristics that are associated with membership in a specific group (Wyer, 2013). Stereotyping is the process

of ascribing these characteristics to an individual simply because of their group membership. Discrimination, the behavioral manifestation of bias, is the resulting negative behaviors toward an individual (Allport, 1979; Bodenhausen & Richeson, 2010).

The prejudice, stereotyping, and discrimination that overweight individuals experience is well documented through both experimental research and self-reported discrimination (Puhl & Heuer, 2009). According to the National Survey of Midlife Development in the United States (MIDUS), a longitudinal survey of English-speaking adults, the prevalence of perceived weight discrimination significantly increased between 1996 and 2006 from 7 to 12% in US adults (Andreyeva, Puhl, & Brownell, 2008). Meta-analytic evidence of self-reported discrimination suggests that, among obese individuals, 19.2% of individuals with class I obesity (BMI between 30 and 35) and 41.8% of individuals with extreme obesity (BMI > 35) have experienced weight discrimination (Spahlholz, Baer, Konig, Riedel-Heller, & Luck-Sikorski, 2016).

One basis for the prejudice of individuals based on weight lies in a set of stereotypes about overweight individuals. These stereotypes suggest that overweight individuals are lazy; don't try as hard; have poor work habits; are sloppy (e.g., Polinko & Popovich, 2001); have personal or emotional problems; don't get along well with others (e.g., Klassen, Jasper & Harris, 1993); are less outgoing, energetic, and social; and are unsuitable for active jobs (e.g., Popovich et al., 1997). When viewed through the lens of common personality traits, this set of stereotypes portrays an individual who is low in conscientiousness, emotional stability, agreeableness, and extraversion (Roehling, Roehling, & Odland, 2008). However, research comparing the personality traits of

overweight versus non-overweight adults refutes these stereotypical beliefs about the personality traits of overweight individuals (Roehling et al., 2008), suggesting that these stereotypes are not based on actual group differences. Overweight individuals are also perceived as less intelligent than non-overweight individuals (Puhl & Brownell, 2006), but when education level is controlled for, there are no differences between overweight and non-overweight individuals in intelligence levels (Yu, Han, Cao, & Guo, 2010). Thus, these stereotypes about overweight individuals are unsupported, indicating a weight bias.

Weight bias is distinct from other types of bias in several ways. First, overweight individuals do not exhibit in-group bias (preference towards other overweight individuals) to the same extent as other stigmatized groups (e.g., Black individuals) who feel positively towards their group. For example, individuals with higher BMIs have the same levels of weight bias as those with lower BMIs (Latner, O'Brien, Durso, Brinkman, & MacDonald, 2008). Results compiled across 71 nations indicate that thin people are implicitly and explicitly preferred compared to overweight people and that, while overweight individuals show weaker implicit and explicit weight bias, they still show a preference for thin people (Marini et al., 2013). Additional research has found that overweight individuals exhibit no preference for other overweight individuals and hold strong, consistent negative implicit associations about being overweight (Wang, Brownell, & Wadden, 2004).

The second primary difference between weight bias and other common types of bias is that weight bias is still a somewhat accepted form of prejudice in the United States and there is relatively little taboo on these biased opinions (Latner et al., 2008). This

largely stems from the perceived controllability of weight despite the fact that excess weight has a number of other causes (Brownell, 1991). In addition, weight is not a protected class at a federal level and, thus, there are fewer legal ramifications than other types of bias.

Though weight-based bias exists in both overweight and non-overweight individuals, there are several factors that influence an individual's degree of weight bias. Research has isolated a few key characteristics that are related to higher levels of weight bias. First, the extent to which an individual believes weight is controllable is a strong, positive predictor of weight bias (Carels & Musher, 2010; Puhl et al., 2015). General negative attitudes towards overweight individuals and perceptual resilience, or the extent to which an individual relies on information such as appearance to determine their attitudes towards others, are also positively related to weight bias (Carels & Musher, 2010). Research also suggests that men have higher levels of weight bias than women (Puhl et al., 2015). Thus, there is some degree of individual differences in levels of weight bias.

Weight bias affects overweight individuals in a number of different settings including employment, healthcare, education, interpersonal relationships, and through the media (Puhl & Brownell, 2001). The two most researched settings of weight discrimination are employment and healthcare. The large body of research of weight discrimination in the workplace indicates that this type of discrimination affects overweight and obese individuals at every stage of the employment process including selection, wages, training, promotions, and termination (Roehling et al., 2013; Rudolph et al., 2009; Vanhove & Gordon, 2014). Likely as a result of the considerable disadvantage

overweight and obese individuals experience in the workplace (Puhl & Heuer, 2009), the unemployment rate for obese individuals is higher than their normal weight counterparts (Klarenbach, Padwal, Chuck, & Jacobs, 2006; Tunceli, Li, & Williams, 2006).

In healthcare settings, evidence suggests that healthcare professionals have negative attitudes towards overweight and obese patients and consider them to be lazy, noncompliant, undisciplined, and lacking in willpower (Puhl & Heuer, 2009). These perceptions of overweight and obese patients have been evident in physicians (e.g., Foster et al., 2003; Teachman & Brownell, 2001; Thuan & Avignon, 2005), nurses (e.g., Brown, 2006; Brown, Stride, Psarou, Brewins, & Thompson, 2007), medical students (e.g., Wigton & McGaghie, 2001), fitness professionals (e.g., Chambliss, Finley, & Blair, 2004; Hare, Price, Flynn, & King, 2000), and dieticians (e.g., Campbell & Crawford, 2000; Puhl, Wharton, & Heuer, 2009) both in implicit and explicit measures of weight bias. These biases lead to poor weight management practices from providers which leads to the under-utilization of healthcare by overweight and obese individuals (Puhl & Heuer, 2009).

Though less research has been conducted in other settings, the available research does suggest that overweight students also experience stigmatization and discrimination from educators (e.g., Greenleaf & Weiller, 2005; Puhl & Brownell, 2006). In addition, overweight individuals, especially women, experience discrimination in interpersonal relationships. Overweight women experience difficulties dating as a result of weight stigma (e.g., Sheets & Ajmere, 2005; Smith, Schmoll, Konik, & Oberlander, 2007) as well as weight stigmatization from family members (e.g., Puhl & Brownell, 2006).

Weight bias is particularly evident in the media (Puhl & Heuer, 2009). In entertainment media, thin characters have more desirable and central roles while overweight characters are typically only seen in minor stereotypical roles and are often the objects of humor and ridicule (e.g., Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003; White, Brown, & Ginsburg, 1999). The advertising of weight loss products and programs reinforces the belief that weight is controllable and leads to more negative attitudes toward overweight and obese individuals (e.g., Crandall, 1994; Geier, Schwartz, & Brownell, 2003).

Beyond the discrimination and results of discrimination that overweight individuals face in their daily lives, weight bias has also been shown to negatively affect the health and wellbeing of those targeted individuals. Stigma often causes weight bias internalization, or the tendency to blame oneself for the negative stereotypes and treatment from others (O'Brien et al., 2016). Weight based internalization can lead to outcomes such as disordered eating behaviors (O'Brien et al., 2016), more negative affect, less positive affect, and lower self-esteem (Pearl & Puhl, 2016). Weight bias is also directly related to binge eating behavior, psychological distress, depression, low self-esteem, low affect, and poor body image (Ashmore, Friedman, Reichmann, & Musante, 2008). Stigmatizing media messages about obesity lead to an increased consumption of calorie-rich food and decreased self-efficacy related to diet control (Major, Hunger, Bunyan, & Miller, 2014).

The extensive body of research examining weight bias in the workplace has taken a number of different perspectives to get a more complete picture of the extent and nature of weight bias. The two primary methods for exploring weight bias are experimental

studies of weight discrimination and correlational research using self-report data from actual employees and applicants.

The two meta-analytic investigations of experimental studies of weight discrimination suggest that there is a moderate to strong effect of weight bias on workplace outcomes (Roehling et al, 2013; Rudolph et al., 2009). The meta-analysis conducted by Rudolph and colleagues (2009) found a moderate overall effect (d = -.52) suggesting that overweight individuals experience more workplace related bias than non-overweight individuals. This effect was more pronounced for hiring-related outcomes (d = -.70) than performance-related outcomes (d = -.23). In addition, no significant differences between job types (sales vs. managerial positions) were found. Roehling and colleagues (2013) expanded the scope of Rudolph et al. (2009) to examine a number of moderators of this relationship. They found a weaker overall effect size (d = -.36) though it still indicated that overweight individuals experienced more workplace discrimination than non-overweight individuals. Contrary to their hypotheses, no significant differences were found between male and female targets. Additionally, rater gender and race were also found to be non-significant moderators of this effect.

The third meta-analytic summary of weight bias specifically examined correlational relationships in real-world data (Vanhove & Gordon, 2014). As is to be expected with correlational rather than experimental data due to the lack of control of extraneous variables, the overall effect in this analysis was much weaker (d = -.02) than the other meta-analyses; though the effect is still significant and suggests that overweight individuals experience more negative outcomes in the workplace than their normal weight counterparts. The most important learning from this meta-analysis is that weight

bias does not exist at the same strength in all contexts. Specifically, gender and outcome-type were found to moderate the strength of weight bias. Women (d = -.04) experience more weight-based discrimination than men (d = -.01) and there is a greater amount of weight discrimination for employment status (d = -.07) than for income (d = -.02). The results of this research suggest that weight-based discrimination may be more nuanced than simply comparing overweight to non-overweight groups. It is important to look at moderators to this relationship. The present research examined a number of moderators including race, gender, and team performance.

These meta-analyses included research of weight discrimination in a number of different aspects of work including selection, training, performance ratings, income, coworker desirability, and unemployment rates. The evidence of weight discrimination in selection practices comes primarily from experimental research using resumes/CVs and simulated interviews. Results of sending fictitious resumes to actual hiring managers suggest that overweight job applicants are less likely to receive a callback for an interview than non-overweight applicants (Rooth, 2009) and the probability of receiving a callback is strongly related to the hiring manager's level of implicit obesity bias (Agerström & Rooth, 2011). Evaluations of fictitious resumes in an experimental setting have found that overweight applicants received lower employability (Finkelstein, Frautschy Demuth, & Sweeney, 2007; Grant & Mizzi, 2014) and job suitability (Ding & Stillman, 2005; Flint et al., 2016) ratings than normal weight candidates. Mock interview research suggests that overweight interviewees experience more discrimination than non-overweight interviewees (Pingitore, Dugoni, Tindale, & Spring, 1994).

If an overweight applicant is able to successfully complete the selection process, the likelihood of weight-based discrimination is still present. During job training, bias towards overweight trainees negatively impacts training effectiveness (Shapiro, King, & Quinones, 2007). Raters who endorse weight-based stereotypes provide lower performance ratings for overweight ratees than non-overweight ratees (Rudolph, Baltes, Zhdanova, Clark, & Bal, 2012). Overweight individuals even experience discrimination from coworkers as they are rated as less desirable to work with than non-overweight individuals (Roehling et al., 2013).

Correlational survey data concerning wages and income is also bleak for overweight individuals (Averett & Korenmann, 1999; Judge & Cable, 2011). Estimates of the specific wage penalty that overweight individuals face vary. By one estimate, overweight women make 5.8% less than normal weight women and overweight men make 3.2% less than normal weight men (Baum & Ford, 2004) while another study proposes the estimate for women is closer to 9% and equates that loss of wages with roughly 1.5 years of education or 3 years of on-the-job experience (Cawley, 2004). These wage penalties are especially steep in sales and service occupations (DeBeaumont, 2009) and for women (Fonda, Fultz, Jenkins, Wheeler, & Wray, 2004). Rates of unemployment are also significantly higher among overweight individuals than normal weight (Cawley & Danziger, 2005; Paraponaris, Saliba, & Ventelou, 2005).

One area of weight bias research in employment settings that is heavily lacking is employee perceptions of overweight leaders. While studies suggest that weight-based perceptions may play a role in leader emergence (Derue, Nahrgang, Wellman, & Humphrey, 2011), only 6% of male and 3% of female CEOs in the United States are

estimated as being obese and 45% of male and 22% of female CEOs are estimated as being overweight, while 49% of male and 75% of female CEOs are estimated as being normal weight (Roehling, Roehling, Vandlen, Blazek, & Guy, 2009). There are only a handful of studies that address weight-based perceptions of leader effectiveness. Decker (1987) participants rated managers of normal weight as more desirable than managers who are overweight. Herrmann (2016) found evidence of bias towards overweight managers, but only under certain conditions. Specifically, overweight managers were blamed more for poor team performance than their non-overweight counterparts. King and colleagues (2016) collected health data and multisource performance evaluations from hundreds of leaders and found that waist circumference was negatively related to leader perceptions and evaluations. This suggests that, despite a leader's high status in an organization, they are still affected by obesity stigma.

Though no other research exists in the workplace discrimination literature, some research has been conducted in the medical field examining another subordinate/superior dyad: patient perceptions of overweight/obese doctors. Overall, this research has found that patients perceive non-obese physicians as more competent than obese physicians. For example, non-obese physicians are perceived as better at providing health advice (Hash, Munna, Vogel, & Bason, 2003) and patients are more likely to listen to health advice from a non-obese physician (Feller & Hatch, 2004). In addition, overweight or obese physicians are perceived as less trustworthy, and patients are more likely to switch physicians with an overweight or obese physician (Puhl, Gold, Luedicke, & DePierre, 2013). The goal of the proposed research was to extend this line of research with two studies examining weight discrimination towards overweight business leaders through the

lens of leader categorization theory and whether or not it differs according to leader demographics and organizational characteristics.

Leader Categorization Theory

Leader categorization theory was developed by Eden and Leviatan (1975) from advancements in social cognitive theory. Leader categorization theory posits that a follower's knowledge structure is an essential driver of leadership perceptions and ratings (Lord, Foti, & De Vader, 1984). The specific knowledge structures addressed by this theory are the mental representations of leaders, or the leader prototype (Lord & Maher, 1991). These leader prototypes make up an individual's implicit leadership theory (ILT). Implicit leadership theories are unconsciously held, social constructs that are shaped by the individual's unique personal experiences (Fiske & Taylor, 1984) and allow perceivers to rapidly distinguish between "leaders" and "non-leaders" (Shondrick, Dinh, & Lord, 2010).

In this categorization process, perceivers compare a target's behaviors or characteristics to their own personal prototype of a leader. This results in the classification of the target as a leader or non-leader and often attributes unobserved prototypical behaviors or traits to the target. This process allows the perceiver to free up cognitive resources to use on other tasks (Shondrick et al., 2010). However, a negative consequence of the categorization process is that perceivers may remember behaviors that the leader did not perform (Lord et al., 1984).

There are two primary types of leader prototypes studied: the typical leader and the ideal leader (Junker & van Dick, 2014). A typical leader prototype is a central tendency-based prototype (Barasalou, 1985) and represents an average leader (Lord et al.,

1984). The scale that is primarily used to measure typical prototypes was created by Offermann and colleagues (1994) and expanded by Epitropaki and Martin (2004). The primary factors include sensitivity, intelligence, dedication, dynamism, tyranny, and masculinity (Epitropaki & Martin, 2004). These factors represent the image of a leader in general.

The ideal leader prototype represents the extreme positive end of the leader prototype. Only a few leaders possess these attributes (Van Quaquebeke, Graf, & Eckloff, 2014), as they are aspirational in nature. The scale used in the Global Leadership and Organizational Behavior Effectiveness (GLOBE) studies (e.g., Den Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999) represents the ideal leader prototype and include the following factors: charismatic, team-oriented, participative, humane, self-protective (negatively related), and autonomous (negatively related). Unlike the prototype of the typical leader, the ideal leader prototype does not include the attractiveness and masculinity dimension (Van Quaquebeke et al., 2014).

The extent to which an individual's leader matches their personal implicit leadership theory, ILT fit, is related to a number of different outcomes for the leader as well as the individual. There is a positive relationship between the level of ILT fit and follower ratings of leader performance (Abdalla & Al-Hamoud, 2001; Rosette, Leonardelli, & Phillips, 2008; Porr & Fields, 2006), collegiality (Nye & Forsyth, 1991), and technical competence (Sy et al., 2010). In addition, the stronger the fit between leader traits and their followers' ILTs, the more popular (Foti, Fraser, & Lord, 1982), liked (Sy et al., 2010), and respected (Van Quaquebeke & Brodbeck, 2008) the leader is. Based on this evidence, it is clear that matching followers' ILTs is a benefit to leaders. There is

also evidence that this ILT match is beneficial for the followers. A subordinate has higher organizational commitment, job satisfaction, and well-being when ILT fit is stronger (Epitropaki & Martin, 2005; Junker, Schyns, van Dick, & Scheurer, 2011).

There is a considerable amount of overlap in implicit leadership theories across individuals. However, because ILTs are specific to an individual's unique experiences (Lord, Foti, & Phillips, 1982), there are a number of contextual factors that lead to variations in ILTs. The primary contextual factors that are related to leadership perception are cultural differences, follower attributes, organizational differences, and leader attributes (Junker & van Dick, 2014).

A number of researchers, including the GLOBE researchers (e.g., Den Hartog et al., 1999), have examined the effects of culture on implicit leadership theories. This body of research indicates that, while there is a considerable amount of variation in preferred attributes across cultures, a core set of leader attributes are universally preferred (or not preferred; e.g., Den Hartog et al., 1999, Gerstner & Day, 1994, House et al., 1999). Attributes that are preferred regardless of culture are characteristic of charismatic and team-oriented leadership and include attributes such as planning ahead, encouraging, good communication, and good coordination (Junker & van Dick, 2014). Attributes that are culturally contingent include a leader who is ambitious, unique, sensitive, and willful (Den Hartog et al., 1999). The extent to which a leader matches their own culture's prototype is related to their perceived effectiveness. The greater the fit, the more the leader is considered effective by their followers (Javidan, Dorfman, & Sully de Luque, 2006). Research has primarily defined culture using national borders. To avoid the

confound of the cultural variation of implicit theories, the present research focused solely on leaders and followers in the United States.

Follower attributes are another important contextual factor to examine. The factors of ILTs are somewhat generalizable across gender (e.g., Offermann et al., 1994), but research suggests that the degree to which certain traits are emphasized in the leader prototype varies across gender (e.g., Deal & Stevenson, 1998). Specifically, in the typical leader prototype, male followers rate the dimension of Tyranny as more important than females (Epitropaki & Martin, 2004), while female followers weight the dimension of Sensitivity more highly (Epitropaki & Martin, 2004; Johnson, Murphy, Zewdie, Reichard, 2008). There is also evidence that follower personality influences the perceptions of leaders. Specifically, followers higher in extroversion are more likely to rate individuals as leader-like than followers lower in extroversion (e.g., Schyns & Sanders, 2007).

There are two primary influences that the organization has on ILTs. The first is the level of cohesiveness within the group. ILTs are less influential on leader evaluations in groups with higher cohesion and member group identification (Hogg, Hains, & Mason, 1998). The other important organizational influence on implicit leadership theories is the company or group performance. Followers are more likely to recall effective leader behaviors when the group is performing well and are more likely to recall ineffective leader behaviors when the group is performing poorly (Phillips & Lord, 1982). This cued recall of effective or ineffective behavior affects the follower's performance ratings of their leader. Specifically, positive performance leads to higher ratings and poor

performance leads to lower ratings (e.g., Nye, 2002). This important moderator of leader effectiveness ratings was examined in greater detail in Study 2.

The results of the large body of research on gender and leadership strongly indicate that men are perceived to be more leader-like than women (e.g., Eagly & Karau, 2002). When examined in the context of implicit leadership theories, this means that male leaders match implicit leadership theories more than female leaders (Junker & van Dick, 2014). This may be especially prominent in typical prototypes as one of the dimensions is masculinity. The effect of leader gender on implicit leadership theories are examined in more detail in Study 2.

The key contextual factor to the present research is the effect of leader appearance on followers' ILTs. The attractiveness of a leader is one of the primary factors of typical implicit leadership theories (Offermann et al., 1994) and race, specifically being White, has been identified as a component of typical implicit leadership theories (Rosette et al., 2008). This suggests that the leader prototype is influenced by appearance-based factors. As previously discussed, very little research exists that examines perceptions of leaders with extreme body-weights. Because of the strong biases that exist towards individuals of extreme body weight at almost every stage of the employment process (e.g., Roehling et al., 2013) and the influence of other appearance-based factors on implicit leadership theories, the present research seeks to examine the effect of a leader's body weight on followers' implicit leadership theories.

As previously discussed, there is very little research that investigates the relation between body weight and leadership perceptions. However, examining Leader Categorization Theory in the context of the body of research examining weight

discrimination in general suggests that there might be differences in leadership perceptions based on weight. The two components of Leader Categorization Theory most important to the question of weight bias are the development of ILTs and the composition of ILTs.

Implicit leadership theories are developed throughout an individual's life and are shaped by their personal experiences (Fiske & Taylor, 1984). Over time, individuals observe what traits are common among leaders and what traits are rare. These observations accumulate over time to create a defined prototype of the leader category (Lord & Maher, 1991). Thus, an observer's association between leaders and body weight is largely based on their experiences with leaders. Of course, exposure to leaders varies from person to person, but looking at national leaders may provide some insight into the relationship between body weight and leadership that Americans have. In the business world, the hurdles overweight individuals experience throughout the selection process (Roehling et al., 2013) may indicate a lack of representation of overweight individuals in leadership roles. Though data is not available for lower level leadership roles, obese men, obese women, and overweight women are underrepresented among the top CEOs compared to the general population (Roehling et al., 2009). There is also a large gap in representation in the political arena. In the 2008 and 2012 US Senate elections, there were no obese candidates in the primary or general elections and heavier candidates were much less likely to be elected than their less heavy opponent (Roehling, Roehling, Vandlen, Blazek, & Guy, 2014). If individuals do not see obese or overweight individuals in leadership roles, it is likely that they will not associate being overweight with being a leader.

The leader categorization process involves matching an individual's traits with the perceiver's prototype of a leader and the closer the match between the two, the more likely the individual will be perceived as a leader (Shondrick et al., 2010). A closer examination of the primary dimensions of implicit leadership theories and the stereotypes associated with being overweight reveal direct contradictions. A typical leader can be described as charismatic, intelligent, strong, attractive, and dedicated (Offermann et al., 1994) while the stereotypes of an overweight individual include that they don't get along with others, are incompetent, have poor health, are unhygienic, and are likely to be absent (Roehling, 1999). If these stereotypes are the traits that a perceiver relies on to categorize a leader or non-leader, it is unlikely the individual will be categorized as a leader.

The present research examined weight bias in the context of leader categorization theory. The first study isolated the relationship between the base rate of body weight in an organization and the assumed weight of the COO of the organization by verbally manipulating the weight distribution (i.e., percent overweight) in the organization. The second study examined how leader gender and race as well as team performance affect perceptions of leaders in two weight categories: lower body weight and higher body weight. Combined, the results of these two studies examine a) if weight-based discrimination of leaders exists, b) the effects of team performance on this type of discrimination, and c) how demographic subgroups differentially experience weight-based discrimination.

Study 1: Body Weight and Implicit Leader Prototypes

The goal of Study 1 was to determine the relationship between body weight and implicit leadership theories. Specifically, the results of this experiment examine if being

of normal weight is an important component of the prototype of a business leader and a less central component of a non-leader.

According to Leader Categorization Theory, individuals use the level of fit between the characteristics of a target and the characteristics they find prototypical of a leader to categorize a target as a leader or non-leader (Lord & Maher, 1991). If body weight, specifically a non-extreme body weight, is a characteristic of implicit leadership theories, perceivers would be less likely to categorize an overweight individual as a leader than an individual of normal body weight. In order to test this phenomenon, this study manipulated the statistical likelihood (base rate) of the different weight categories of a leader.

When predicting a group member's personal attributes, using the base rate of that attribute in the group is, probabilistically, a reliable basis. For example, if an organization's members are 30% male and 70% female, any given member is more likely to be female than male. However, research suggests that individuals are likely to ignore base rate information if it conflicts with an existing heuristic about the group in question, a phenomenon called base rate neglect (Kahneman & Tversky, 1973). In this case, if being of normal weight is a component of implicit leadership theories, an individual is likely to ignore a base rate that indicates most of the organization is overweight and predict that a leader would be normal weight.

Previous research has used base rates to examine the composition of implicit leadership theories. Rosette and colleagues (2008) manipulated the base rate of race in a fictitious organization and found evidence that, when reading about "a leader," individuals are more likely to predict that the leader is white than the base rate of white

individuals of the organization would suggest. Herrmann (2016) took the first step to examine weight bias towards leaders through the lens of base rate neglect and manipulated the base rate of weight in a work group using photos of the work team. The results of the study did not support the hypothesis that individuals would assume a leader was of normal weight more frequently than the base rates would suggest. However, I identified some methodological concerns that I address in this study. Specifically, age was not controlled across the work group members, and, based on some data I obtained, it seems likely that the participants assumed the oldest individual was the leader, and, thus, age was a confounding variable.

Taking this previous research into account, Study 1 isolated the relationship between the base rate of weight in an organization and the assumed weight of a leader in the organization by verbally manipulating the weight distribution in the organization. This should help avoid potential confounds, such as age, that would be evidenced in photos.

Hypothesis 1*: Leaders will be categorized as a lower weight than non-leaders.*

Hypothesis 2: *Weight ratings of followers will generally match the base rate, but there will be no differences in weight ratings among base rates for leaders.*

Method

Sample

Participants were sampled from Amazon Mechanical Turk (MTurk), an online marketplace from which high-quality data can be collected quickly and inexpensively (Buhrmester, Kwang, & Gosling, 2011). Participants were at least 18 years of age and lived in the United States. They participated on a voluntary basis and were paid $0.50 as

compensation. Data were collected from 302 participants. The sample was 38.7% female and 71.5% Caucasian, 12.3% Black/African American, 5.6% Asian/Asian American/Pacific Islander, 4% Hispanic/Latin American, 3.3% Multiracial, 2.3% Native American/Alaskan Native, and 1% preferred not to respond. Specific frequencies as well as weight and height distributions can be seen in Appendix C.

Design & Procedure

Both the role of the interviewee (team leader or team member) and the base rate of weight in the organization (80% overweight, 20% overweight, no weight information) were manipulated in this 2 X 3 experimental design. Participants were randomly assigned to one of the six conditions. In each condition, participants read a fictitious employee newsletter (see Appendix A) from a fictitious organization (i.e., Selcom, Inc.). Participants were told that they were evaluating the organization based on its employee newsletter. The newsletter had a number of articles about organizational events, including two stories that were key to the experiment.

The first key article, adapted from the first study of Rosette et al. (2008), was an "Update" on a big project (i.e., Project NOVA) at the company in which performance had been consistent with expectations. This article included an interview with either a member of the project team or the leader who oversees the project, depending on the condition. The second key article described a health initiative at the organization and the details varied depending on the organizational weight base rate. In general, it described the weight distribution of the organization and the details of the health initiative. After reading the newsletter, participants answered a series of questions about the contents of the newsletter.

Manipulations

There were two manipulated variables in the employee newsletter: the role of the interviewee in the Project NOVA article and the body weight distribution of the organization in the health initiative article.

Interviewee status. The role of the interviewee in the newsletter article about an organizational project was manipulated either as the "team leader" or a "project member."

Weight base rate. The base rate of body weight in the organization was manipulated in another article in the newsletter about an organizational health initiative. In the mostly overweight condition, the article explained that 80% of the employees at Selcom, Inc. were overweight and, in order to improve the health of employees, there would be a series of events that encourage healthy diet and exercise. In the mostly normal weight condition, the article explained that 20% of the employees at Selcom, Inc. were overweight and, in order to continue to improve the health of employees, there would be a series of events that encourage healthy diet and exercise. In the no information condition, the article explained that, in order to improve the health of employees, there would be a series of events that encourage healthy diet and exercise.

Measures

Interviewee Body Size. The primary outcome for this experiment was the presumed body size of the individual interviewed (either the leader or member) in the Project NOVA article. After indicating the gender of the interviewee, participants were asked to guess the body size of the person interviewed. They categorized their body size using the Body Image Assessment Scale-Body Dimensions (BIAS-BD), a scale

containing figure drawings of adult men and women with body weights ranging from 60% below average to 140% above (see Appendix B; Gardner, Jappe, & Gardner, 2009). Participants were given the gender of the scale that matched the gender they assigned to the interviewee. Participants were also asked to provide the percent likelihood that the interviewee is overweight/obese and the likelihood that the interviewee is normal weight.

Distractor Items. In order to disguise the purpose of the study, participants were also asked to categorize the interviewee on other characteristics such as gender, race, and age. See Appendix B for all items.

Manipulation Check. Directly after reading the newsletter, participants were asked about specific details from the newsletter to ensure they have paid sufficient attention. Participants had to answer these questions correctly to move on and were given as many tries as they needed. See Appendix B for all items.

Results

Participants were randomly assigned to one of six conditions. The frequency for each group can be seen in Table 1. Sample sizes are not equal due to attrition during the study. Following the consent, 32 participants were assigned a condition but did not complete any items before exiting the study.

Table 1

Sample Size in Each Condition (Study 1)

Condition	Frequency	Percent
Leader/No Information	45	14.9
Leader/80% Overweight	48	15.9
Leader/20% Overweight	53	17.5
Member/No Information	51	16.9
Member/80% Overweight	53	17.5
Member/20% Overweight	52	17.2
Total	262	100

A correlation table of all study variables is found in Table 2. Body size categorization is highly correlated with the likelihood normal weight and overweight, indicating respondents were consistent across their responses. The relationships between study outcomes and participant demographics were examined to determine if any demographics need to be controlled for. No significant relationships were found with participant demographics. The age and BMI of participants were not correlated to their body size categorization responses (see Table 2). One-way ANOVAs were conducted to examine the relationship of the participant's race and employment status to the body size categorization of the interviewee. Neither race, $F(6, 282) = 0.52$, $p = .791$, $\eta^2 = .01$, nor employment status, $F(3, 285) = 1.30$, $p = .274$, $\eta^2 = .01$, was significantly related to body size categorization (See Appendix C for means and ANOVA table). An independent sample t test showed that participant gender was also not related to weight categorization, $t = -0.13$, $p = .89$. As a result, participant demographics will not be used as controls in the hypothesis testing analyses.

Table 2

Numeric Variables: Means, standard deviations, and correlations with confidence intervals

Variable	*M*	*SD*	1	2	3	4
1. Body Size Categorization	9.89	3.65				
2. Likelihood Normal Weight	56.44	23.73	-.60** [-.67, -.52]			
3. Likelihood Overweight	43.56	23.73	.60** [.52, .67]	-1.00** [-1.00, -1.00]		
4. Participant BMI	24.61	7.52	.01 [-.11, .12]	.08 [-.04, .19]	-.08 [-.19, .04]	
5. Participant Age	34.22	10.26	-.00 [-.12, .12]	.05 [-.06, .16]	-.05 [-.16, .06]	.09 [-.03, .20]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

After reading the newsletter, participants were asked to guess the interviewee's race, gender, age, and body size. The only context they received in the article was the interviewee's level in the organization (i.e., project leader or project member) and the general body weight distribution in the organization (with the exception of the "no information" conditions). The first three categorizations served primarily as distractor items from the body size categorization. However, these items still provide interesting information about how the participants imagined leaders. Specifically, participants overwhelmingly classified the interviewee as White, Male, and 35-45 years old (see Appendix D for frequencies). In the race classification, a z-test for proportion between the leader conditions and the member conditions revealed that leaders were classified

significantly more often as White than the non-leaders. Leaders were classified as White 86% of the time while non-leaders were classified as White 76% of the time (p<.00001). In the gender classification, leaders were actually less likely to be classified as a man (78%) than non-leaders (87%; p<.00001).

The relationship of each of the distractor categorizations with the primary study outcome was examined. A one-way ANOVA indicated that the categorization of the interviewee's race was not related to their categorization of the interviewee's body size, $F(4, 284) = 1.34$, $p = .254$, $\eta^2 = .02$, and a t test did not find evidence that the categorization of the interviewee's gender was related to their categorization of the interviewee's body size, $t = -0.14$, $p = .89$ (see Appendix D for more information). The categorization of the interviewee's age was significantly related the categorization of body size $F(1, 287) = 5.50$, $p = .020$, $\eta^2 = .02$. A post-hoc analysis revealed only one significant group difference: the average body size classification was significantly larger for those who categorized the interviewee as 55 years old than those who categorized the interviewee as 35 years old ($p = .03$, see Appendix D for more information). This indicates that older individuals are expected to be slightly larger than younger individuals.

The primary outcome of the study, body size of the interviewee, was asked in two ways. First, participants were given a body size scale with figure drawings and asked to select the body size of the interviewee. Then participants were asked to give the percent likelihood that the interviewee is normal weight and overweight/obese. Table 3 includes the descriptive statistics by condition of the body size categorization of the interviewee and Figure 1 displays histograms by condition.

Table 3

Body Size Categorization of Interviewee by Condition

Condition	*Mean*	*SD*	*N*
Leader/No Information	9.21	3.57	45
Leader/80% Overweight	11.70	3.06	48
Leader/20% Overweight	8.82	3.43	53
Member/No Information	8.35	3.41	51
Member/80% Overweight	11.80	3.83	53
Member/20% Overweight	9.43	3.03	52
Total	9.89	3.65	302

Note. The scale included 17 figure drawings and ranges from 1 (smallest body size) to 17 (largest body size). See Appendix B for the exact drawings used.

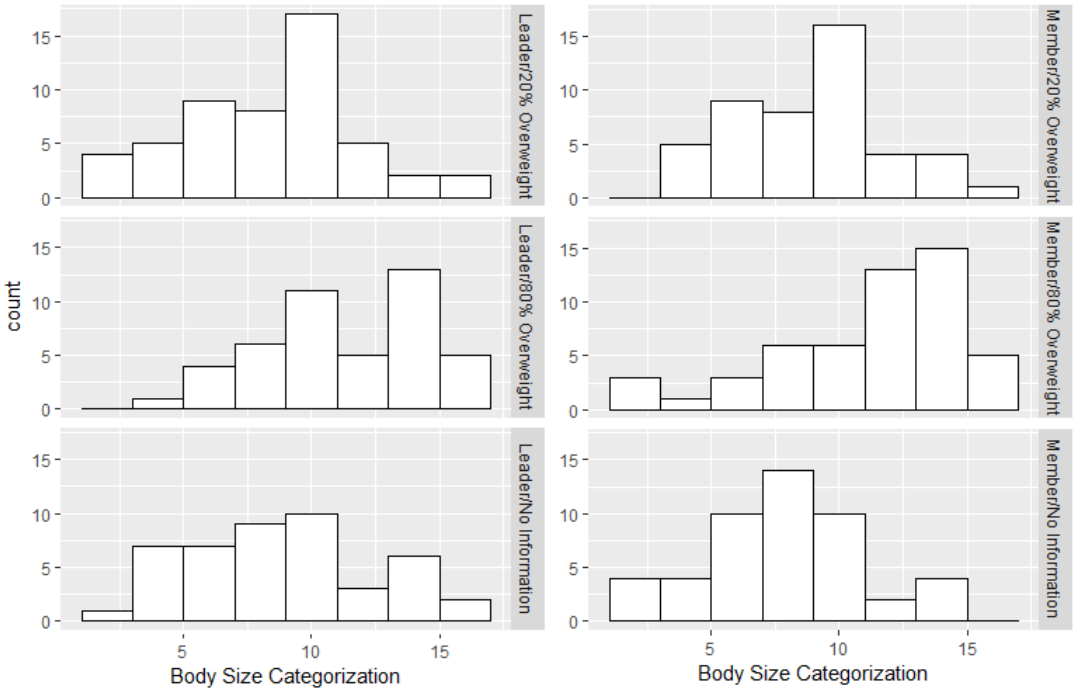


Figure 1. Histograms of Body Size Categorization by condition. The scale included 17 figure drawings and ranges from 1 (smallest body size) to 17 (largest body size).

Table 4 displays the average percent likelihood that the interviewee is overweight/obese and a comparison to the base rate of the condition. A single sample *t* test was run for each condition with a base rate. In both 80% overweight base rate conditions, participants gave a significantly lower likelihood that the interviewee was

overweight than the base rate would suggest while in the underweight condition, participants gave a significantly higher likelihood. Mean differences across conditions will be examined in the hypothesis testing.

Table 4

Percent Likelihood Overweight/Obese and Single Sample t Test Compared to Base Rate

Condition	Base rate of Overweight/ obese	Percent Likelihood Overweight/Obese				
		M	SD	N	*t*	*p-value*
Leader/No Information	-	34.8%	18.5	45	-	-
Leader/80% Overweight	80%	57.5%	22.1	48	7.05	<0.0001
Leader/20% Overweight	20%	30.4%	19.8	53	3.82	0.0004
Member/No Information	-	37.5%	21.1	51	-	-
Member/80% Overweight	80%	62.4%	23.0	53	5.57	<0.0001
Member/20% Overweight	20%	38.6%	18.5	52	7.25	<0.0001
Total	-	43.6%	23.7	302	-	-

Note. Results of the single sample t-test comparing the base rate of overweight/obese employees in each condition to the average likelihood indicated by participants. No tests were performed in the "No Information" conditions.

Hypothesis Testing

The hypotheses were tested with both outcomes. Two separate two-way analyses of variance (ANOVA) examined differences in body size categorization and then percent likelihood by interviewee role and weight base rate. The outcomes were the classification of interviewee body size (1 = *smallest body size* to 17 = *largest body size*) and the percent likelihood that the interviewee is overweight/obese. The first factor, interviewee role, had two levels: team leader and team member. The second factor, weight base rate, had three levels: 80% overweight, 20% overweight, and no weight information. The first hypothesis states that leaders will be categorized as a lower weight than team members. The second hypothesis states that the body size categorizations of team members will generally follow the base rate, but there will be no differences in body size categorization

among base rates for team leaders. Both hypotheses were tested using the "lm" and "anova" functions in the R package "stats" (R Core Team, 2018).

The first outcome, the classification of interviewee body size, was examined in a two-way analysis of variance. The main effect of interviewee role, $F(1, 283) = 1.47$, $p = .227$, $\eta^2 = .01$, was not significant, indicating that the rating of body size did not vary depending on whether the interviewee was a team leader or team member, thus failing to support the first hypothesis. The main effect of the base rate condition, $F(2, 283) = 10.05$, $p < .001$, $\eta^2 = .07$, was significant, suggesting that subjects did take the base rate of body weight in the organization into account when categorizing the interviewee. The non-significant two-way interaction, $F(2, 283) = 1.12$, $p = .327$, $\eta^2 = .01$, fails to support the second hypothesis and is presented in Figure 2.

Table 5

Means and standard deviations for Body Size Categorization by Condition

	Interviewee Condition			
	Leader		Member	
Base Rate Condition	*M*	*SD*	*M*	*SD*
No Information	9.21	3.57	8.35	3.41
80% Overweight	11.73	3.06	11.79	3.83
20% Overweight	8.82	3.43	9.43	3.03

Note. *M* and *SD* represent mean and standard deviation, respectively.

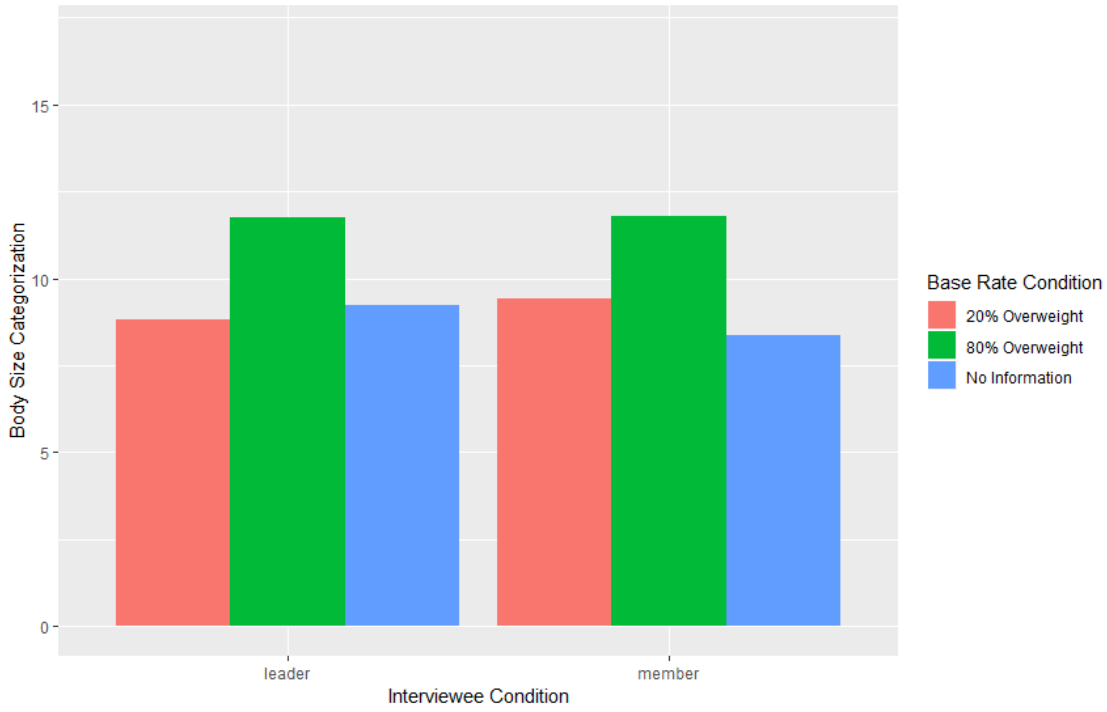


Figure 2. Results of Body Size Categorization Two-Way ANOVA, Mean Body Size Categorization by Condition

Table 6

Fixed-Effects ANOVA Results Using Body Size Categorization as the Criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	3818.01	1	3818.01	328.65	.000		
Interviewee	17.06	1	17.06	1.47	.227	.01	[.00, .03]
Base Rate	233.40	2	116.70	10.05	.000	.07	[.02, .11]
Interviewee x Base Rate	26.09	2	13.04	1.12	.327	.01	[.00, .03]
Error	3287.70	283	11.62				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

The second outcome, the likelihood of the interviewee being overweight/obese, was also examined in a two-way analysis of variance. Results of this analysis closely followed the same pattern as the first outcome. The main effect of interviewee condition,

$F(1, 294) = 0.40$, $p = .527$, $\eta^2 = .00$, was not significant, indicating that the rating of likelihood overweight/obese did not vary depending on whether the interviewee was a team leader or team member, failing to support the first hypothesis. The second main effect of the base rate condition, $F(2, 294) = 24.10$, $p < .001$, $\eta^2 = .14$, was significant, suggesting that subjects did take the base rate of body weight in the organization into account when indicating the likelihood that the interviewee was overweight/obese. The non-significant two-way interaction, $F(2, 294) = 0.46$, $p = .630$, $\eta^2 = .00$, is presented in Figure 3 and, again, fails to support the second hypothesis.

Table 7

Means and standard deviations for Likelihood Overweight/Obese by Condition

	Interviewee Condition			
	Leader		Member	
Base Rate Condition	*M*	*SD*	*M*	*SD*
No Information	34.80	18.53	37.47	21.08
80% Overweight	57.51	22.07	62.38	23.01
20% Overweight	30.42	19.84	38.65	18.46

Note. *M* and *SD* represent mean and standard deviation, respectively.

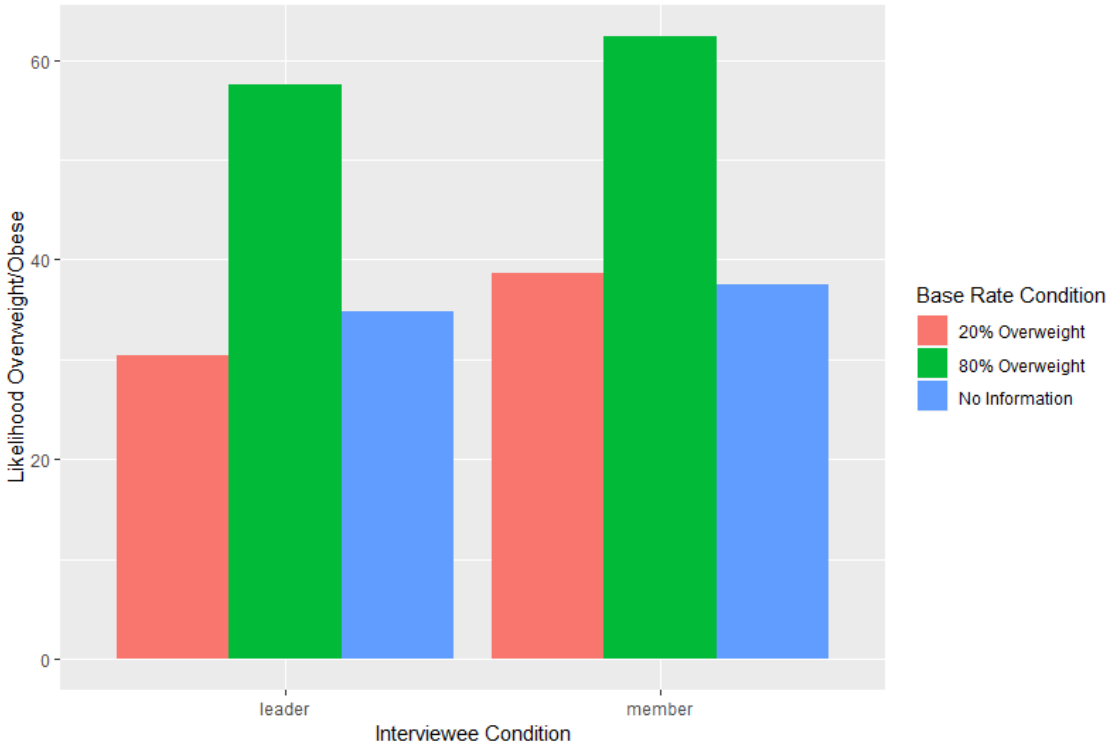


Figure 3. Results of Likelihood Overweight/Obese Two-Way ANOVA, Mean Likelihood Overweight/Obese by Condition

Table 8

Fixed-Effects ANOVA results using Likelihood Overweight as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	54496.80	1	54496.80	128.42	.000		
Interviewee	170.50	1	170.50	0.40	.527	.00	[.00, .02]
Base Rate	20451.94	2	10225.97	24.10	.000	.14	[.08, .20]
Interviewee x Base Rate	393.30	2	196.65	0.46	.630	.00	[.00, .02]
Error	124762.62	294	424.36				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Discussion

The hypotheses of this study were not supported; participants did not categorize leaders as a lower body weight than non-leaders. Instead, participants followed the trends

of the base rate of body weight in the organization. This could indicate that body weight is not a component of implicit leadership theories and that perceivers do not take the weight of the target into account when making leader categorizations. However, this may also indicate that the relationship between body weight and leader categorization may be more complicated.

The distractor items provided interesting information regarding how participants imagine leaders. Without any context surrounding the interviewee's race or gender, participants were more likely to classify the leader as white than the non-leader and less likely to classify the leader as masculine than the non-leader. This supports previous findings that being White is a component of implicit leadership theories (Rosette et al., 2008). However, traditional implicit leadership theory research would suggest that the prototypical leader is masculine, in opposition to our findings (Epitropaki & Martin, 2004; Offerman et al., 1994). More recent research indicates this might not be the full picture. A recent study found that female leaders were perceived as more leader-like than male leaders (Merritt & Lynch, under review). This may be a result of increasing representation of women in leadership roles or a shift of traditional leadership tasks to include more social-focused requirements, tasks that fit more closely with feminine stereotypes (e.g., Paustian-Underdahl, Walker, & Woehr, 2014, Rosette & Tost, 2010). Evidence from 73 years of public opinion polls (Eagly, Nater, Miller, Kaufmann, & Sczesney, 2019) indicates that gender stereotypes may not be as temporally rigid as researchers have thought (e.g., Haines, Deaux, & Lofaro, 2016); in fact, over time, stereotypes of male and female competence and intelligence have changed dramatically. Women and men are now seen as equals in both of these traits.

The results of this study could also be a result of the type of manipulation used. Because body weight can be more difficult to manipulate visually, this study approached the manipulation through a verbal description. Participants clearly understood and accounted for the verbal body weight descriptions of the organization. However, it is possible that hearing about overweight individuals was not salient enough to activate stereotypes of overweight individuals.

What is clear from the results of this study is that more research is needed that integrates moderating variables into the relationship between body weight and leader perceptions. The following study will examine some of these possible moderators including leader gender, leader race, and organizational performance.

Study 2: Demographic and Performance Factors of Weight Based Discrimination against Business Leaders

This study examined how body-weight discrimination of those in leadership positions may vary according to demographic and performance factors. First, the present study examined whether the effect of body weight on perceptions of leaders varied according to the leader's sex and race. There is evidence that, in general, female leaders (e.g., Johnson et al., 2008) and black leaders (e.g., Rosette et al., 2008) are perceived as less leader-like than male and white leaders, respectively. Further, meta-analytic examinations of weight-based discrimination suggest that these effects are moderated by gender (Roehling et al., 2013; Vanhove & Gordon, 2014) and the interaction of gender and race (Vanhove & Gordon, 2014). One of the goals of this study was therefore to examine the extent to which these moderation effects generalize to perceptions of leaders.

The second goal of this study was to examine if the performance of the team or organization may interact with leader body weight. In general, team performance heavily influences leadership ratings; leaders receive higher ratings when the team or organization performs well and much lower ratings when the team has poor performance (for a review, see Junker & van Dick, 2014; Ensari & Murphy, 2003; Nye, 2002). Research also suggests that poor team/organizational performance may intensify the evaluations leaders receive when they are a member of a stigmatized group (e.g., Knight, Hebl, Foster, & Mannix, 2003). Varying the performance level of the leader's team allowed the results of this study to generalize to teams at different performance levels. Examining leadership perceptions in the context of both identity intersectionality and organizational performance allowed a deeper, more nuanced understanding of the barriers overweight leaders may face in the workplace.

Based on the previous summary of weight discrimination in employment settings, it is likely that overweight individuals experience more challenges in the workplace than their non-overweight counterparts. Research suggests that weight discrimination in the workplace may exist across all aspects of employment including selection, training, performance ratings, income, coworker desirability, and termination (e.g., Roehling et al, 2013; Rudolph et al., 2009). Though the research examining body-weight discrimination in the leadership context is somewhat limited, an initial study found that leaders with more body weight were rated lower on implicit leadership traits (charisma, intelligence, strength, attractiveness, and dedication; Herrmann, 2016).

Based on this evidence and the previously discussed conflict between overweight stereotypes and the characteristics of implicit leadership theories, it was hypothesized that

greater body weight in terms of body weight composition would be associated with lower ratings of leader prototypicality. Further, implicit leadership theory research indicates that perceptions of leader prototypicality are related to leadership perceptions of leader competence and effectiveness (e.g., Sy et al., 2010). When examining leaders who are a member of a stigmatized group, leader prototypicality has been found to be a mediator between group membership and leadership perceptions. Group membership determines which aspects of the leader prototype becomes salient and to what extent each factor is activated in the perceiver. Then the level of fit with the activated prototype is related to the leadership ratings the follower provides (Lord, Brown, Harvey, & Hall, 2001). This relationship has primarily been examined in the contexts of race (Sy et al., 2010) and gender (Lord, Brown, Harvey, & Hall, 2001). As overweight individuals are members of a stigmatized group, it was hypothesized that leader prototypicality ratings would mediate the relationship between leader body weight and leadership perceptions.

Hypothesis 1a: Leader's body weight is negatively related to leader prototypicality perceptions.

Hypothesis 1b: Leader's body weight is negatively related to leadership perceptions.

Hypothesis 1c: Leader prototypicality perceptions mediates the relationship between body weight and leadership perceptions.

The relationship between body weight and leader prototypicality is likely to be more complex once other demographic variables are considered. Intersectionality theory (Cole, 2009) suggests that focusing on only one identity dimension (e.g., race or gender) in research does not account for the complexities that exist in our society. Considering

the experience and consequences of belonging to multiple social categories is imperative to advance research in psychology and specifically in body weight discrimination. Because there are differences in both perceptions of leadership and those of different body weights across social categories, two different facets of identity were also explored to examine the moderating effects: gender and race.

Weight Bias and Gender

The "glass ceiling" effect in which women reach a point in their careers where they are unable to advance (Morrison, White, & Van Velsor, 1987) is thought to be a direct consequence of gender stereotypes (Heilman, 2001). Heilman's Lack of Fit model (1983, 1995) and Eagly and Karau's Role Congruity Theory (2002) theorize that gender discrimination stems from a disconnect between gender-based stereotypes of and the types of skills and abilities necessary for the job in question. If the level of fit is high, perceivers will more likely expect the target to succeed, whereas if there is a low level of fit, perceivers will expect the target to perform poorly. In the context of gender, the primary differences in stereotypes center around achievement-oriented (agentic) traits and social-oriented (communal) traits. Agentic traits, including the tendency to be assertive and controlling, are considered more masculine and are more strongly ascribed to men, while communal traits, including the tendency to be affectionate, kind, sympathetic, and nurturing, are more strongly ascribed to women (Eagly & Karau, 2002). In a meta-analysis of simulated experimental research, men were preferred for male-dominated jobs while there were no gender differences for jobs traditionally held by women (Koch, D'Mello, & Sackett, 2015). A meta-analysis of both field and laboratory experiments found similar results: men were considered more effective than women in

masculine jobs while women were perceived to be more effective in positions that were less culturally masculine (Eagly, Karau, & Makhijani, 1995). In summary, research suggests that women receive higher ratings in female-dominated positions while men receive higher ratings in male-dominated positions.

Leadership roles are often considered to be more masculine in nature (Heilman, 2001). A meta-analysis (Koenig, Eagly, Mitchell, & Ristikari, 2011) examined leader stereotypes through the lens of three different paradigms to determine the extent to which they are similar and dissimilar in terms of male and female stereotypes. The paradigms included Schein's (1973) "think manager-think male" paradigm in which the correlations of leader trait ratings and traits ratings of each gender are compared, Powell and Butterfield's (1979) "agency-communion" paradigm in which leader categories are rated by participants as either agentic (masculine) or communal (feminine), and Shinar's (1975) "masculinity-femininity" paradigm in which occupations are rated on a continuum of masculine versus feminine. Across all three paradigms, results indicated that leader stereotypes are masculine. In the "think manager-think male" paradigm, perceptions of leaders were more strongly related to perceptions of men than women; in the "agency-communion" paradigm, leaders were perceived as more agentic than communal; and in the "masculinity-femininity" paradigm, leaders were rated as more masculine than feminine. In leader prototype research, perceptions of male leaders more closely fit ILTs than perceptions of female leaders (e.g., Johnson et al., 2008; Powell, Butterfield, & Parent, 2002; Scott and Brown, 2006; Sczesny, Bosak, Neff, & Schyns, 2004). In addition, research suggests that women receive lower scores in leader evaluations (e.g.,

Johnson et al., 2008). Because of this bias towards women in leadership roles, I expected that, overall, female leaders would receive lower leadership ratings than male leaders.

Discrimination against female leaders may become more problematic when the body weight of the leader is taken into account. Research suggests that women are more severely penalized for higher body weight than are men (Roehling et al., 2013; Vanhove & Gordon, 2014). The origin of this discrimination gap may lie in the evolutionary process of mate selection. Attractiveness and health is more prescriptive in choosing a female mate than when choosing a male mate (Sprecher, Sullivan, & Hatfield, 1994). This suggests that being attractive and thin is more expected of women and a prescriptive characteristic, such that women may be interpersonally penalized for not fulfilling expectations in that domain.

One estimate suggests that obese women are three times more likely than obese men to report weight-based discrimination in their daily lives (Puhl, Andreyeva, & Brownell, 2008). When employment contexts are specifically considered, women are 16 times more likely than men to perceive employment-related, weight-based discrimination (Roehling, Roehling, & Pichler, 2007). Consistent with such perceptions, research suggests that overweight women are evaluated more negatively than equivalent overweight men in the hiring process (Miller & Lundgren, 2010; Pingitore et al., 1994; Rothblum, Miller, & Garbutt, 1988), particularly when applying for more visible or physically demanding positions (Bartles & Nordstrom, 2013).

Once on the job, there is also evidence that women still experience more weight-based discrimination. Overweight women were more likely than overweight men to be assigned undesirable sales territories (Bellizzi, Klassen, & Belonax, 1989) and

overweight female employees were rated as less desirable coworkers than overweight male employees (Jasper & Klassen, 1990). There is also a pay gap for overweight women compared to normal weight women that is more dramatic than the pay gap between overweight and normal weight men. Obesity was related to a 17% reduction in wages for women, while men experienced a much smaller weight penalty (Conley & Glauber, 2007). When examining the interaction between weight and gender in leader perceptions, I expected that the negative correlation between body weight and leader prototypicality would be stronger for female targets than male targets.

> *Hypothesis 2:* Gender moderates the relationship between body weight and perceived prototypicality such that the negative relationship between weight and prototypicality is stronger for female leaders than male leaders.

Weight Bias and Race

Race is another characteristic that affects perceptions of leadership. Research suggests that "being white" may be a component of implicit leader prototypes (Rosette et al., 2008) in addition to the other dimensions of charisma, intelligence, strength, attractiveness, and dedication. Indeed, white individuals are perceived as more prototypic leaders than non-white individuals (Festekjian, Tram, Murray, Sy, & Huynh, 2014). Rosette et al. (2008) posits that the disconnect of black individuals, specifically, from ILTs stems from a historic and current underrepresentation of people of color in high-profile leadership positions. In addition, broad stereotypes in the United States often associate African Americans with negative traits, such as being lazy and incompetent (e.g., Dixon & Rosenbaum, 2004). These stereotypes lead to discrimination against

African Americans in both leadership positions (Chung-Herrera & Lankau, 2005) and non-leadership positions (e.g., Aberson & Ettlin, 2004).

Black leaders may receive lower ratings of leadership ability than their white counterparts regardless of their actual performance (e.g., Knight et al., 2003; Rosette et al., 2008). These poor ratings make it difficult for Black employees to move up in an organization (Powell & Butterfield, 1997), at least under ordinary circumstances. The glass cliff theory suggests that the Black employees are more likely to be promoted to high level leadership positions only when the organization is struggling (Cook & Glass, 2014). When the organization performs poorly because they were already in a downward performance trajectory, the tenure of the Black leader is often cut short by the replacement of a white man (the "savior"; Cook & Glass, 2014). Carton and Rosette (2011) suggest the bias towards Black leaders is sustained by goal-based stereotyping. They found that perceivers applied different stereotypes to their judgments of black leaders depending on the performance outcome. For example, poor performance was attributed to traits related to leadership while successful performance was attributed to non-leadership traits.

Though discrimination towards black and white leaders shows a similar pattern as the discrimination towards female and male leaders, the research examining how race and body weight interact presents a different picture than we saw with gender and body weight (where the stigmatized group, women, experience a greater weight penalty). Current theories actually suggest that weight penalties are not as strong for black individuals as they are for white individuals. One theory is that, due to the greater number of overweight, black, female role models, they are more culturally accepted than

overweight white individuals (Hebl & Heatherton, 1998; Schooler, Ward, Merriwether, & Caruthers, 2004). Another suggestion is that, because being overweight is more common among African Americans, it is less likely to result in stereotypes and be used as a characteristic to make categorizations (Hebl & Heatherton, 1998). Among black women, specifically, the pervasive "Mammy" archetype may have contributed to the societal perceived acceptability of overweight black women. The Mammy image - a large, black, happy, spunky caretaker - originated in post-civil war literature to make readers feel more comfortable about slavery (Chrisler, Golden, & Rozee, 2012).

Empirical research results show that, among men, normal weight, white men are rated as more intelligent and competent than normal weight black men (Trautner, Kwan, & Savage, 2013) while overweight black men are perceived as more intelligent and competent than their overweight, white, male counterparts (Trautner et al., 2013; Hebl & Turchin, 2005). Research suggests that a similar pattern exists among women. White women experience a greater weight penalty than black women (Hebl & Heatherton, 1998; Maranto & Stenoien, 2000). When examining the interaction between weight and race in leader perceptions, I expected that the negative correlation between body weight and leader prototypicality would be stronger for white targets than black targets.

> *Hypothesis 3:* Race moderates the relationship between body weight and perceived prototypicality such that the negative relationship between body weight and prototypicality is stronger for white leaders than black leaders.

Weight Bias and Team Performance

In general, evaluations of leaders are heavily impacted by the performance of their team or organization. Leader categorization theory asserts individuals have a

tendency to attribute organizational performance to humans rather than external causes (Lord & Maher, 1991) and that followers often attribute the causality of performance outcomes to the leader because leaders are the most prominent target of performance causality (Lord & Emrich, 2001). According to this theory, individuals believe that a leader's primary purpose is to help organizations succeed. As a result, if an organization or team has performed well, perceivers will attribute that to capable leadership, leading to higher performance ratings (Lord & Emrich, 2001; Lord & Maher, 1991). Meindl and Ehrlich's Romance of Leadership Theory (1987) suggests that this is a result of individuals' romanticized, heroic perceptions of leadership.

In a small group lab study, the leaders of the winning groups were evaluated more favorably and perceived as the cause of the success while the leaders of the losing groups were perceived more negatively (Nye, 2002). In an experimental setting with both students and working individuals, team performance was found to influence leader evaluations. Specifically, successful performance resulted in more favorable leadership evaluations while poor performance resulted in more negative evaluations (Kollée, Giessner, & van Knippenberg, 2013). In another study, participants were placed into groups with an arbitrary leader. Though the task was set up so that half the groups would fail, all groups attributed successful performance to effective leadership and poor performance to ineffective leadership even though it was the nature of the situation the participants were placed in that determined success, not the ability of the leader (Weber, Camerer, Rottenstreich, & Knez, 2001).

A number of mechanisms have been proposed to explain these effects. One mechanism is hindsight bias. When an individual retroactively evaluates the performance

of a team, the evaluators tend to assume the environment at the organization is predictable and that performance is the direct result of the manager's competence (Bukszar & Connolly, 1988). The effect of team performance on leader evaluations can also be explained by the rater's level on the Romance of Leadership Scale (RLS; Meindl & Ehrlich, 1987). Leader evaluations by individuals who are high on RLS are more susceptible than by those who are low in RLS. Individuals high on RLS provide more positive leader evaluations after good performance and more negative evaluations after poor performance. However, team performance does not affect the ratings of individuals who are low in RLS (Meindl, 1990). The rater's level of RLS was an important control variable to examine in the present study.

If evaluations of leaders are affected by both team performance and weight bias, the interaction of these phenomena need to be examined. As previously discussed minority leaders do not strongly match perceivers' implicit leadership theories, indicating that they are not viewed as prototypical leaders. As a result, when extreme performance information is provided about a minority leader's group, they are often more extremely evaluated than a non-minority leader would be (Heilman, 2001). For example, a woman might be overvalued following successful performance in a traditionally masculine-typed task (Heilman, Martell, & Simon, 1988). This phenomenon can be explained with three separate models: equity theory (Taynor & Deaux, 1973, 1975), complexity-extremity theory (Linville, 1982), and shifting standards (Biernat, 2003).

Taynor and Deaux (1973, 1975) proposed equity theory as an explanation for why women in masculine jobs were perceived as performing better and more deserving of a reward than a man in a masculine job. Equity theory (Adams, 1965) posits that, in the

context of social relationships, the amount of rewards or outcomes received are a result of the amount input in the exchange (e.g., performance, effort, skill, age, gender). Taynor and Deaux (1973, 1975) suggest that the gender of a woman in a male-typed job would be a limiting factor and require the perceiver to overly reward the woman for doing an excellent job. Like women, overweight individuals are often perceived as less capable of succeeding in certain jobs. Because a leader is a stereotype-inconsistent role for an overweight individual, an overweight leader may be over-rewarded for successful group performance.

Complexity-extremity theory (Linville, 1982) postulates that individuals have more complex schemas of the behavior of those in their same social category. As a result, it is more difficult to reach extreme conclusions about these in-group members, so individuals tend to rate out-group members more extremely than members of their own group (Linville & Jones, 1980). For example, an out-group member with positive characteristics would be rated more positively than an in-group member, and an out-group member with negative characteristics would be rated more negatively.

The shifting standards model (Biernat, 2003) suggests that out-group members are not judged on the same standard as in-group members. For example, men are stereotypically considered to be better leaders than women so an individual may have lower standards when evaluating the leadership ability of a female leader and higher standards when evaluating the leadership ability of a male leader. These lower standards for female leaders are thought to lead to higher evaluations when a female leader performs well than when a male leader performs well. In this case, the evaluations would not be comparable as “good” and “bad” mean different things for male and female

leaders. This would lead to extreme ratings of the out-group member relative to the in-group member in the case of identical extreme performance.

As a result, I hypothesized that, when a team performs very well or very poorly, the relationship between leader prototypicality and leader effectiveness would be much stronger than when a team performs neutrally. That is, the level of prototypicality would become more influential and important to a leader's effectiveness ratings when the team is performing well or poorly.

> *Hypothesis 4:* Team performance moderates the relationship between leader prototypicality and leader effectiveness such that the positive relationship between prototypicality and effectiveness is stronger for deteriorating and improving performance than stable performance.

Method

Sample

Participants were sampled from Amazon Mechanical Turk (MTurk), an open online marketplace that can be used to quickly and inexpensively collect reliable data (Buhrmester, Kwang, & Gosling, 2011). Through MTurk, 1260 participants who were at least 18 years old and lived in the United States were sampled and compensated $0.75 for approximately 9 minutes of their time.

The sample was 47.9% female and 74.1% Caucasian, 9.4% Black/African American, 7.0% Asian/Asian American/Pacific Islander, 6.0% Hispanic/Latin American, and 2.0% Multiracial. Specific frequencies as well as weight and height distributions can be seen in Tables 9, 10, and 11.

Table 9

Demographics of the Sample - Race

Race	Frequency	Percent
White/Caucasian American	934	74.1%
Black/African American	118	9.4%
Asian/Asian American/Pacific Islander	88	7.0%
Hispanic/Latin American	75	6.0%
Multiracial	25	2.0%
Native American/Alaskan Native	0	0.0%
Other	3	0.2%
Prefer not to say	17	1.4%
Total	1260	100.0%

Table 10

Demographics of Sample - Gender

Gender	Frequency	Percent
Male	604	51.0%
Female	642	47.9%
Other	3	0.2%
Missing	11	0.9%
Total	1260	100%

Table 11

Demographics of Sample – Height, Weight, and BMI of Sample by Gender

	Male			Female			Total		
Variable	M	SD	N	M	SD	N	M	SD	N
Height (in.)	70.3	3.48	604	64.6	2.89	642	67.3	4.26	1260
Weight (lbs.)	189	45.5	604	158	46	642	172	47.9	1260
BMI	26.5	5.87	604	26.6	7.29	642	26.6	6.63	1260

Note. M and *SD* represent mean and standard deviation, respectively.

Design & Procedure

This experiment was a 2 (leader size: high body size, low body size) X 2 (leader gender: male, female) X 2 (leader race: black, white) X 3 (organizational performance: deteriorating, stable, improving) between-subjects design. Participants were randomly assigned to one of 24 conditions and each read a vignette, adapted from Sy et al., 2010,

about the Chief Operating Officer (COO) of an organization. The vignettes described the performance of the organization as deteriorating, stable, or improving (See Appendix E for example vignettes). A photo of the COO was attached, and the gender, race, and body size varied according to condition. Following the vignette, participants answered items regarding the COO's prototypicality and effectiveness.

Manipulations

Leader body size, race, and gender. The body size, race, and gender of the COO were manipulated through the photograph included with the vignette. Because past research indicates that individual can judge body weight using three facial cues: width-to-height ratio, perimeter-to-area ratio, and cheek-to-jaw-width ratio (Coetzee, Chen, Perrett, & Stephen, 2010), professional headshots were used instead of full body photos. The photos were selected from open source online galleries and all had permission to both edit and reproduce. The photographs were selected so each individual looked approximately the same age (approximately 50 years old), had similar clothing on (professional blazer and shirt or blouse), and was sitting in a similar position. The same individual was used across body size conditions, and in the higher body size condition, the photos were manipulated through an editing program to look overweight. The eight photos used in the study can be seen in Figure 4.

Figure 4. Study 2 photos for stimulus materials

Organizational performance. Organizational performance was manipulated through the text of the vignette as either stable ("Over the last 2 years, this company's performance has been consistent"), improving ("Over the last 2 years, this company's performance has dramatically improved"), or deteriorating ("Over the last 2 years, this company's performance has dramatically deteriorated"). See Appendix E for the full text of the vignette.

Measures

Leader prototype measure. To measure the extent to which the COO fits the participant's leader prototype, participants were asked to describe the COO on each of the five primary characteristics included in the prototype (i.e., charisma, intelligence, strength, attractiveness, and dedication). The five-item scale (e.g., "I think the manager is charismatic."), adapted from Rosette et al. (2008), includes a 7-point response scale

ranging from 1 *(strongly disagree)* to 7 *(strongly agree)*. Specific items are included in Appendix F. For the analyses, the five items were aggregated into a composite measure.

Leadership effectiveness measure. To measure the perceived effectiveness of the leader, participants were asked to describe the COO on three 9-point bipolar adjective scales (competent-incompetent, productive-unproductive, effective-ineffective; adapted from Heilman & Haynes, 2005). For the analyses, the three items were aggregated into a composite measure.

Perceived leader body size. Though each photo is assigned to a weight condition, perceptions of body weight can be subjective. As a result, participants were asked what they think is the body size of the individual in the photo and rated their body size using the Body Image Assessment Scale-Body Dimensions (BIAS-BD), a scale containing figure drawings of adult men and women with body weights ranging from 60% below average to 140% above (see Appendix F; Gardner et al., 2009). The gender of the figures in the scale presented to participants matched the gender condition to which they were assigned. Instead of the dichotomous, manipulated variable (higher body weight or lower body weight), I focused on this rating of perceived body size in the hypothesis testing because it accounts for individual differences in perceived body size. Though perceptions of body size do vary, participants clearly distinguished between the overweight and non-overweight photos as there was a significant difference between the two conditions in the rating of body size ($t = 42.46$, $p < .001$).

Attention check. Participants were asked to categorize the race and gender of the individuals in the stimulus materials (See Appendix F) to ensure their awareness of the

photographs. They were required to answer these items correctly to continue participating.

Additional measures. Meindl's romance of leadership theory (Meindl, Ehrlich, & Dukerich, 1985) suggests that individuals attribute an organization's performance to the leaders rather than considering other factors that may influence performance. The "influence of a leader subscale" of the Romance of Leadership scale was examined as a possible control (Schyns, Meindl, & Croon, 2007; see Appendix F) to determine if this individual difference affects leadership effectiveness ratings. Participants' demographic information as well as height and weight information were collected to determine if their own body size influenced ratings.

Results

No respondents were removed from the analysis as a result of the attention check requirements (participants could not proceed with the study until they correctly identified the gender and race of the interviewee). Normality, univariate outliers, and multivariate outliers were examined, and no violations were identified. Because all scales had an acceptable level of internal consistency (prototypicality: $\alpha = .87$; effectiveness: $\alpha = .92$; Romance of Leadership: $\alpha = .80$) and had strong relationships between items, a combined composite variable for each scale was created. The means, standard deviations, and correlations for each scale can be seen in Appendix G.

Descriptive Statistics

Participants were randomly assigned to one of 24 conditions. Each condition had approximately equal sample sizes ranging from 51-54 respondents. The frequencies for

each condition as well as the means and standard deviations for key study variables by condition can be seen in Table 12.

The overall means, standard deviations, and correlations among the study variables can be seen in Table 13. The correlations between the variables included in the hypotheses (Perceived Body Size, Leader Prototypicality, and Leader Effectiveness) are statistically significant ($p<.05$) which enables the tests of mediation and moderation.

Table 12

Descriptive Statistics of Key Study Variables by Condition

Condition					Body Size		Prototypicality		Effectiveness	
Leader Race	Leader Gender	Leader Weight Category	Organizational Performance	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Black	Male	High	Deteriorating	53	13.28	2.33	4.71	1.06	7.26	1.20
Black	Male	High	Stable	52	13.63	1.86	5.33	0.77	7.87	0.99
Black	Male	High	Improving	52	12.85	2.29	5.59	0.66	8.06	1.13
Black	Male	Low	Deteriorating	53	8.74	2.71	4.69	1.07	6.97	1.03
Black	Male	Low	Stable	52	8.08	3.16	5.43	0.65	8.10	0.94
Black	Male	Low	Improving	53	8.36	2.65	5.69	0.70	8.38	0.84
Black	Female	High	Deteriorating	53	14.58	2.31	4.55	1.15	7.21	1.13
Black	Female	High	Stable	53	14.62	1.52	5.53	0.80	8.07	0.94
Black	Female	High	Improving	53	13.98	2.69	5.57	1.16	8.18	1.02
Black	Female	Low	Deteriorating	52	7.19	3.17	4.95	1.25	6.99	1.18
Black	Female	Low	Stable	54	6.80	2.13	5.85	0.67	8.25	0.91
Black	Female	Low	Improving	53	7.34	3.10	5.77	0.99	8.28	0.87
White	Male	High	Deteriorating	52	15.79	1.29	3.70	1.09	7.00	0.90
White	Male	High	Stable	53	14.83	2.09	4.81	0.86	7.63	1.11
White	Male	High	Improving	52	15.54	1.31	4.74	0.84	7.87	1.03
White	Male	Low	Deteriorating	52	7.17	2.79	4.25	1.35	7.23	0.99
White	Male	Low	Stable	51	7.73	2.48	5.00	0.78	7.58	1.01
White	Male	Low	Improving	53	7.77	2.64	5.24	0.74	8.11	0.94
White	Female	High	Deteriorating	52	15.29	1.58	3.97	1.30	7.00	1.24
White	Female	High	Stable	53	15.49	1.89	4.87	1.13	7.69	1.32
White	Female	High	Improving	53	15.32	1.63	4.95	1.07	7.96	0.91
White	Female	Low	Deteriorating	51	10.37	3.04	4.36	1.13	7.37	1.12
White	Female	Low	Stable	53	10.57	2.69	5.43	0.78	7.89	1.05
White	Female	Low	Improving	52	9.85	2.77	5.52	0.79	8.08	1.05

Note. *N*, *M*, and *SD* are used to represent sample size, mean, and standard deviation, respectively.

Table 13

Means, standard deviations, and correlations with confidence intervals of Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Race Condition	0.50	0.50											
2. Gender Condition	0.50	0.50	.00										
			[-.05, .06]										
3. Body Size Condition	0.50	0.50	-.00	.00									
			[-.06, .05]	[-.05, .06]									
4. Performance Condition	0.00	0.82	-.00	.00	-.00								
			[-.06, .05]	[-.05, .06]	[-.06, .05]								
5. Perceived Body Size	11.47	4.09	-.17**	.08**	.77**	-.02							
			[-.22, -.11]	[.02, .13]	[.74, .79]	[-.07, .04]							
6. Leader Effectiveness	7.71	1.13	.08**	.04	-.05	.36**	-.07*						
			[.03, .14]	[-.02, .09]	[-.11, .00]	[.31, .40]	[-.12, -.01]						
7. Leader Prototypicality	5.02	1.12	.25**	.08**	-.15**	.36**	-.22**	.42**					
			[.20, .30]	[.03, .14]	[-.20, -.09]	[.31, .41]	[-.28, -.17]	[.37, .46]					
8. Romance of Leadership	3.53	0.47	.05	.02	-.01	.06*	-.00	.26**	.11**				
			[-.00, .11]	[-.04, .08]	[-.06, .05]	[.00, .11]	[-.06, .05]	[.21, .31]	[.05, .16]				
9. Participant Height	67.34	4.26	.01	.05	.07*	-.02	.06*	-.09**	-.08**	-.09**			
			[-.04, .07]	[-.01, .10]	[.02, .13]	[-.08, .03]	[.00, .11]	[-.15, -.04]	[-.13, -.02]	[-.15, -.04]			
10. Participant Weight	172.21	47.88	.00	.03	.03	-.01	.03	-.00	-.05	.01	.45**		
			[-.05, .06]	[-.03, .08]	[-.02, .09]	[-.06, .05]	[-.03, .08]	[-.06, .05]	[-.11, .00]	[-.05, .07]	[.41, .50]		
11. Participant BMI	26.56	6.63	.00	-.00	-.00	.00	-.00	.05	-.02	.06*	.01	.89**	
			[-.05, .06]	[-.06, .05]	[-.06, .05]	[-.05, .06]	[-.06, .05]	[-.01, .10]	[-.08, .03]	[.01, .12]	[-.05, .06]	[.87, .90]	
12. Participant Age	38.13	12.20	.07*	.02	.02	.04	.00	.10**	.09**	.06*	-.09**	.08**	.13**
			[.01, .12]	[-.03, .08]	[-.04, .08]	[-.02, .10]	[-.05, .06]	[.04, .15]	[.04, .15]	[.00, .11]	[-.15, -.04]	[.03, .14]	[.07, .18]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

To ensure that participants' own weight was not related to the study results, all study outcomes were correlated with the participants' BMIs. Correlations were broken down by gender (Table 14). No correlations are significant, and we can conclude that the participants' BMIs are not significantly related to the various outcomes of the study.

Table 14

Correlations of Participant BMI with Study Outcomes by Gender

		Correlations by Gender	
Variable	Total *r*	Men	Women
Perceived Body Size	-.00	.03	-.03
Leader Effectiveness	.05	.03	.06
Prototypicality	-.02	-.05	-.00

Note. * indicates $p < .05$. ** indicates $p < .01$.

Hypothesis Testing

The components of the model in Figure 5 were examined separately to answer each hypothesis. There were three primary measures included across the hypotheses: perceived body size rating of leader, perceptions of leader prototypicality, and ratings of leader effectiveness.

Hypothesis 1. Hypothesis 1 predicted that leader prototypicality mediates the relationship between the leader's body size and perceptions of leader effectiveness. The hypothesis was tested using Model 4 from Hayes' PROCESS method (Hayes, 2012) in the R package "processr" (White, 2019).

Leader body size was significantly associated with lower perceptions of leader prototypicality ($a = -.06$, $p < .001$), and perceptions of leader prototypicality were positively associated with leader effectiveness ratings ($b = .43$, $p < .001$). The direct effect of body size on effectiveness was not significant ($c' = .01$, $p = .26$). The indirect effect of leader body size on effectiveness was statistically significant (ab = -.03, 95% CI

[-0.03, -0.02]), indicating support for Hypothesis 1. The entire path structure with coefficients is shown in Figure 5.

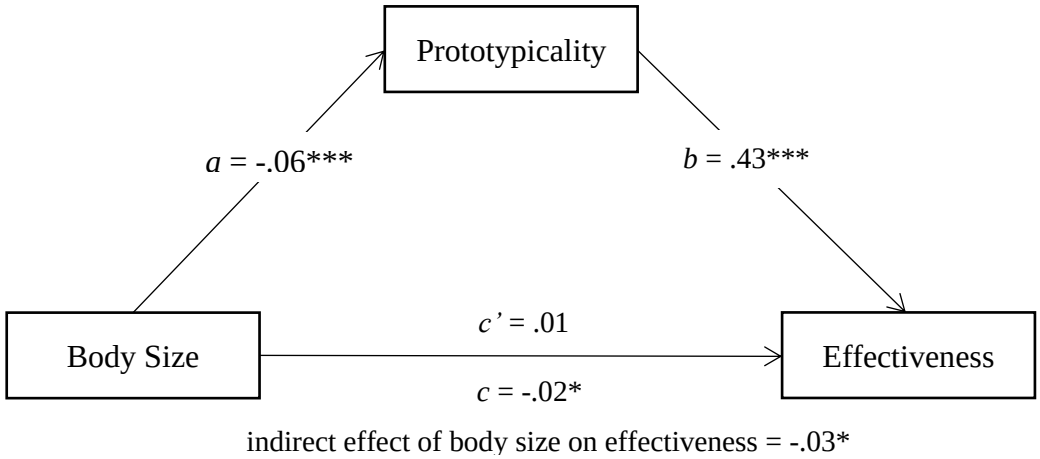


Figure 5. Results of Hypothesis 1: Leader prototypicality will Mediate the Association of Leader Body Size with Effectiveness Ratings

Hypothesis 2. The second hypothesis predicted that leader gender would moderate the relationship between leader body size and perceived leader prototypicality such that the negative relationship between size and prototypicality is stronger for female leaders than male leaders. Leader body size ratings and leader gender, as well as their interaction, were used as predictors of leader prototypicality. The hypothesis was tested using the "lm" function in the R package "stats" (R Core Team, 2018).

Leader body size, leader gender, and their interaction each significantly predicted leader prototypicality, $F(3, 1255) = 28.77$, $p < .001$, $R^2 = .064$, Adjusted $R^2 = .062$. Results of the regression analysis are shown in Table 15. A graphical representation of the interaction effect is presented in Figure 6. Supporting Hypothesis 2, leader prototypicality decreases with increasing body size for both genders but the rate of decrease is more pronounced for women. Generally, it appears that the perceptions of prototypicality of female leaders are more strongly affected by body size than for males.

Table 15

Hypothesis 2 Regression Results with Prototypicality as the criterion

Predictor	*b*	*b* 95% CI [LL, UL]	SE_b	*β*	sr^2	sr^2 95% CI [LL, UL]	Fit
(Intercept)	6.07**	[5.81, 6.32]	0.13				
Body size	-0.08**	[-0.10, -0.06]	0.01	-0.30	.04	[.02, .07]	
Gender	-0.63**	[-0.98, -0.27]	0.18	-0.28	.01	[-.00, .02]	
Body size: Gender	0.04*	[0.01, 0.06]	0.02	0.13	.00	[-.00, .01]	
							R^2 = .064** 95% CI[.04,.09]

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *β* represents the standardized regression weights. sr^2 represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.
* indicates $p < .05$. ** indicates $p < .01$.

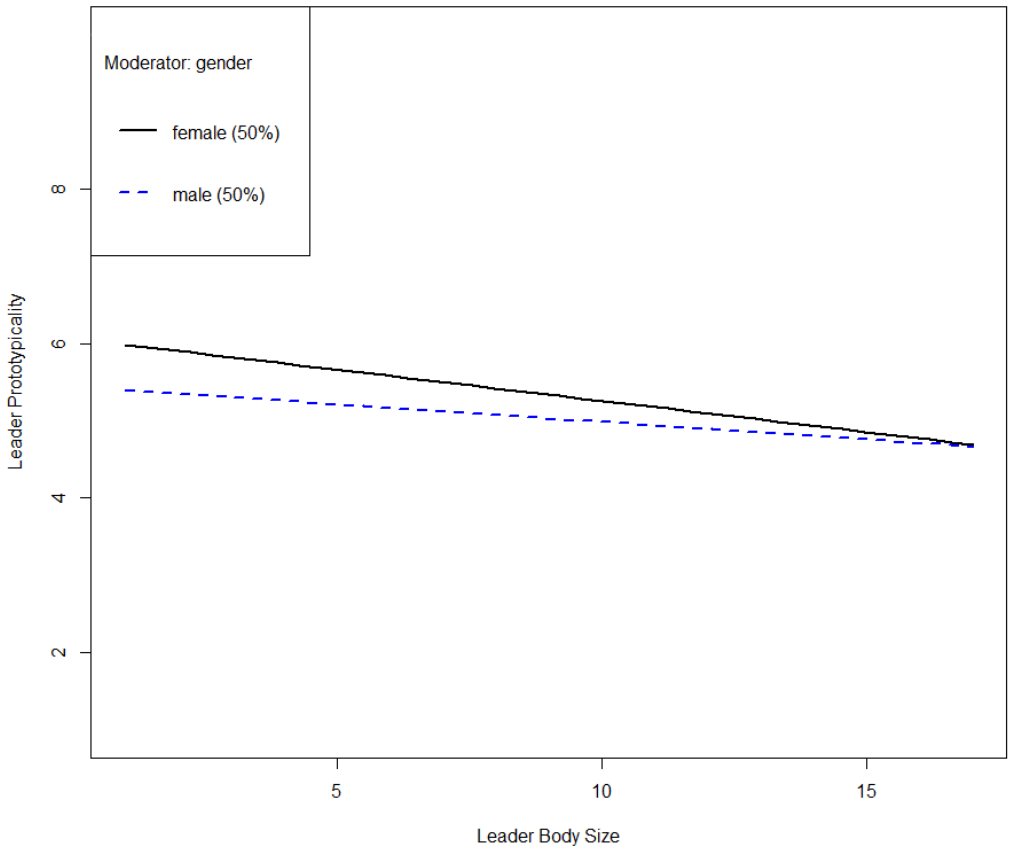


Figure 6. Interaction plot of the gender moderation for Hypothesis 2

Hypothesis 3. The third hypothesis predicted that leader race would moderate the relationship between leader size and leader prototypicality such that the negative relationship between size and prototypicality is stronger for white leaders than black leaders. Leader body size ratings and leader race, as well as their interaction, were used as predictors of leader prototypicality. The hypothesis was tested using the "lm" function in the R package "stats" (R Core Team, 2018).

Only leader body size significantly predicted leader prototypicality, $F(3, 1255) = 46.05$, $p < .001$, $R^2 = .099$, Adjusted $R^2 = .097$. Results of the regression analysis are shown in Table 16 and a graphical representation of the interaction effect is presented in Figure 7. Leader prototypicality decreases with increasing body size for both races at the same rate, not providing support for Hypothesis 3.

Table 16

Hypothesis 3 Regression Results with Prototypicality as the criterion

Predictor	*b*	*b* 95% CI [LL, UL]	SE_b	β	sr^2	sr^2 95% CI [LL, UL]	Fit
(Intercept)	5.78**	[5.54, 6.02]	0.12				
Body size	-0.04**	[-0.06, -0.02]	0.01	-.16	.01	[.00, .02]	
Race	-0.33	[-0.68, 0.03]	0.18	-.15	.00	[-.00, .01]	
Body size: Race	-0.01	[-0.04, 0.01]	0.02	-.05	.00	[-.00, .00]	
							R^2 = .099** 95% CI[.07,.13]

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. β represents the standardized regression weights. sr^2 represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.
* indicates p < .05. ** indicates p < .01.

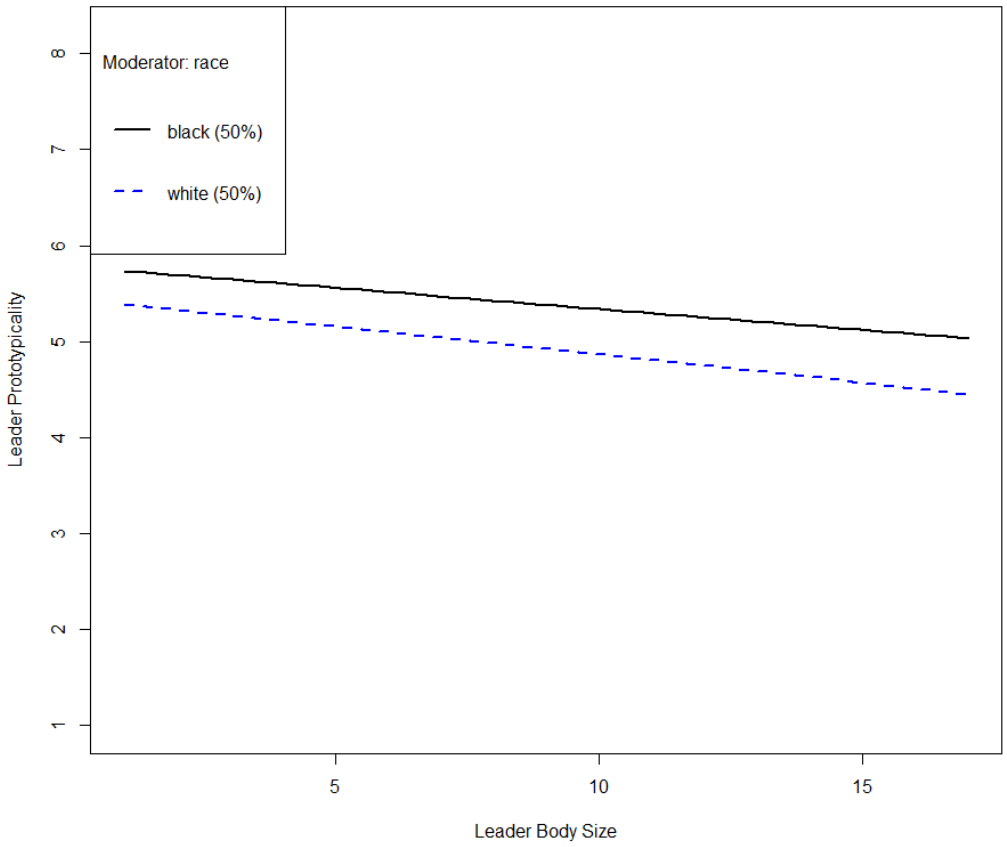


Figure 7. Interaction plot of the race moderation for Hypothesis 3

Hypothesis 4. The fourth hypothesis predicted that team performance would moderate the relationship between leader prototypicality and leader effectiveness such that the positive relationship between prototypicality and effectiveness is stronger for deteriorating and improving performance than stable performance. Leader prototypicality ratings and performance conditions, as well as their interaction, were used as predictors of leader effectiveness. The performance condition had three levels and were examined two at a time in the regression model. The hypothesis was tested using the "lm" function in the R package "stats" (R Core Team, 2018).

Performance conditions and the interactions of performance and leader prototypicality significantly predicted leader effectiveness, $F(5, 1253) = 104.1$, $p < .001$,

R^2 = .293, Adjusted R^2 = .291. Results of the regression analysis are shown in Table 17 and a graphical representation of the interaction effect is presented in Figure 8. The positive relationship between perceptions of leader prototypicality is stronger for the stable and improving performance conditions, partially supporting Hypothesis 4.

Table 17

Hypothesis 4 Regression Results with Effectiveness as the criterion

Predictor	*b*	*b* 95% CI [LL, UL]	SE_b	*β*	sr^2	sr^2 95% CI [LL, UL]	Fit
(Intercept)	6.98**	[6.64, 7.32]	0.17				
Prototypicality	0.03	[-0.04, 0.11]	0.04	0.03	.00	[-.00, .00]	
Performance (Stable-Deteriorating)	-2.63**	[-3.29, -1.98]	0.33	-1.90	.04	[.02, .05]	
Performance (Improving-Deteriorating)	-1.67**	[-2.30, -1.05]	0.32	-1.66	.02	[.00, .03]	
Prototypicality* Performance (Stable-Deteriorating)	0.64**	[0.51, 0.76]	0.07	0.46	.05	[.03, .08]	
Prototypicality* Performance (Improving-Deteriorating)	0.49**	[0.37, 0.61]	0.06	0.48	.03	[.02, .05]	
							R^2 = .293** 95% CI[.25,.33]

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *β* represents the standardized regression weights. sr^2 represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.
* indicates p < .05. ** indicates p < .01.

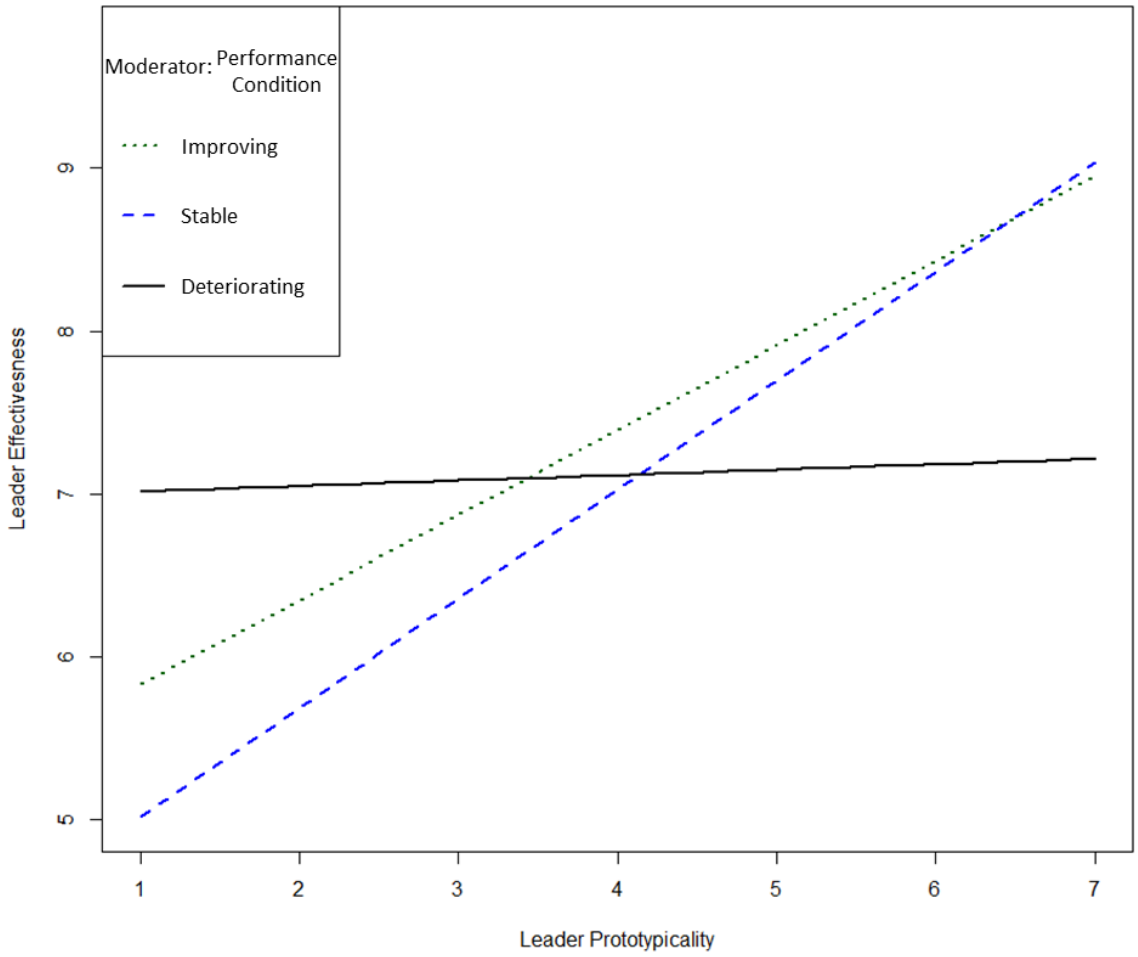


Figure 8. Interaction plot of the performance moderation for Hypothesis 4

Supplemental Analyses

In addition to the two-way interactions hypothesized in Hypotheses 2 – 4, the three-way interaction of weight, race, and gender was also examined as an exploratory analysis. Only leader body size significantly predicted leader prototypicality, $F(7, 1251) = 23.21$, $p < .001$, $R^2 = .115$, Adjusted $R^2 = .110$, suggesting no moderating effect of race and gender with body size on perceptions of leader prototypicality. Results of the regression analysis are shown in Appendix H.

Because some individuals tend to attribute an organization's performance to a leader regardless of other factors that influence performance (Meindl et al., 1985), the

Romance of Leadership "Influence of a Leader" subscale was examined as a control variable in the fourth hypothesis. This controls for the impact of this individual difference on leader effectiveness ratings. The Romance of Leadership scale was significant in the model with leader prototypicality ratings and performance conditions, as well as their interaction, predicting leader effectiveness prototypicality, $F(6, 1250) = 100.3$, $p < .001$, $R^2 = .325$, Adjusted $R^2 = .322$ (see Appendix H for full results). However, the addition of this variable did not meaningfully change the interpretation of the remaining results and, thus, the original model will be retained for parsimony.

Study 2 Discussion

Results from Study 2 indicate that body weight discrimination against leaders does exist and that it does vary according to demographic and performance factors. The larger the perceived body size of the leader, the less likely they were to be perceived as effective. This was a result of a lack of fit with the leader prototype; leaders with a larger body size were seen as less leader-like, which negatively influenced ratings of effectiveness. As hypothesized, results suggested that female leaders are penalized more severely for being overweight than their male counterparts.

Though the female leaders were more penalized for being overweight, they actually received higher prototypicality ratings than the male leaders. This could mean that the results were impacted by shifting standards and the female leaders were being judged on a different basis than male leaders, especially considering women were contradicting norms in that they were in a male dominated role of COO (Biernat, 2003; Heilman, 2001).

Contrary to hypotheses, the influence of a leader's body weight on their perceived prototypicality was not moderated by their race; both races were equally penalized for being overweight. There are a few possible reasons for these results. There could be a moderator to this relationship, but gender, the most obvious, was not a significant moderator when this was examined in the supplemental analyses. Because both races were affected in the same way by body weight, it is possible that body weight was a more salient characteristic to participants than race. This could also be an indicator that the stimulus materials were not functioning as intended. Defying previous research (e.g., Knight et al., 2003; Rosette et al., 2008), across conditions, black leaders were actually rated significantly more leader-like and effective than white leaders (see Appendix G, Table G1). This is likely because, across conditions, black leaders were perceived at a lower body weight than white leaders. These lower ratings may have been a result of unbalanced photos or may be a result of higher body weight being more acceptable (Schooler et al., 2004) and common (Hebl & Heatherton, 1998) among African Americans.

These results did provide support for the influence of team performance on the relationship between leader prototypicality and perceptions of leader effectiveness, but not exactly as hypothesized. Current evidence suggests that stigmatized groups may experience extreme effectiveness ratings under more extreme performance situations (e.g., Knight et al., 2003). However, evidence from this research indicates prototypicality is more influential on perceptions of effectiveness under improving or stable performance conditions. One reason for this phenomenon may be that participants did not activate their leader prototypes when observing deteriorating performance. Kunda and Spencer

(2003) found that observers do not apply stereotypes to judgments of individuals when presented with individuating information that conflicts with a previous stereotype. In this case, deteriorating performance conflicts with the image of a good leader. If the leader prototype was not activated because of this, it would not be related to effectiveness perceptions.

General Discussion

Due to the growing prevalence of obesity in the United States, it is crucial to have a thorough understanding of the implications of weight bias on workplace interactions. Relative to research on legally protected classes such as race and gender, body weight discrimination has received less attention from discrimination researchers. However, appearance-based discrimination is important to examine because it still has implications for the fairness of both selection devices and performance appraisals. Understanding weight discrimination and the contextual variables that surround it can help individuals and organizations reduce weight bias in the workplace. Research suggests that a rater's level of endorsement of stereotypes is more strongly related to performance ratings than rater demographic characteristics (e.g., Baltes, Bauer, & Frensch, 2007). Interventions such as the Structured Free Recall Intervention (SFRI; Baltes & Parker, 2000) have been effective in reducing weight-based discrimination on performance ratings (Rudolph et al., 2012). However, little is known about the stereotypes of leaders at the intersection of body weight, race, and gender. In order to develop effective interventions, it is crucial that these relationships are examined. Improving bias in performance ratings will increase fairness and even the playing field across demographic groups.

There is growing empirical evidence of the discrimination overweight individuals face in the employment realm (Rudolph et al., 2009). However, very little of this evidence has examined the experiences of overweight leaders. The present research examined if the perceptions of overweight employees would generalize to perceptions of overweight leaders. The evidence from the two present studies combined suggests that leaders of a larger body size are perceived differently than leaders of a smaller body size. The first study verbally manipulated body weight and found that participants categorized both leaders and non-leaders as similar body weights, indicating that body weight was not a salient influence on perceptions of leaders.

To determine if body weight was indeed not related to leader perceptions or if, instead, there is a more complicated relationship, the second study examined a number of moderators to this relationship. The second study also used a different form of body weight manipulation by using photographs to show body size differences. The results from this study indicated that leader prototype perceptions are a key facilitator of the relationship between the leader's body size and the perceptions of the leader's effectiveness. The larger the body size of the leader, the less likely they are to fit a perceiver's prototype. This lack of fit with a leader prototype leads to lower ratings of leader effectiveness. Gender is an important moderator in leader perceptions. Female leaders were found to experience more weight-based discrimination than male leaders; the size of their body is more strongly related to whether or not they were perceived as leader-like. Interestingly, race was not a differentiator in these leader perceptions based on body size. Another important factor that influences leader perceptions is the performance of the leader's team. Leader prototypicality is more strongly related to

perceptions of leader effectiveness when the team is experience stable or improving performance. This suggests that the body size of a leader will have the strongest impact on leader effectiveness ratings when the team is doing well or neutrally. Leaders were given low effectiveness ratings under poor performance conditions no matter how prototypical they were.

This research contributes to the understanding of the intersectionality of leader gender and leader race in the perceptions of overweight leaders. This has not yet been studied in the leadership context and evidence in other areas of employment discrimination suggests that weight bias may not uniformly affect men and women or different races. Knowing that men and women do not experience weight bias to the same extent in leadership perceptions is critical to understanding performance ratings of leaders and to the content of leadership development programs. Future research should take a closer look at the specific facets of the leader prototype to examine where overweight women fall short and how this can be used in leader development programs.

Practical Implications

These findings have implications for performance management systems in organizations. Performance management systems allow organizations to identify their high and low performers and are typically directly related to compensation and other employment decisions (Mercer, 2013). When these systems break down and work differently for different groups, both the organization and the employees are punished (Greenhaus & Parasuraman, 1991; Mirvis, 1997). When the system is biased towards certain groups, this makes it harder for the stigmatized group to receive fair treatment (e.g., Greenhaus & Parasuraman, 1993). It also makes it more difficult for the

organization to identify who the true high potentials are, thus hurting their bottom line (Mirvis, 1997). The results of this research indicate that overweight leaders may experience weight-based penalties in performance ratings by subordinates. If these subordinate ratings are tied to employment outcomes such as compensation, promotions, or even terminations, overweight leaders, especially overweight female leaders, may be unfairly disadvantaged.

To combat this issue, organizations should take precautions. The ratings provided in the present research were not of the participants' actual leaders so the results may not fully generalize to organizational ratings because raters will have more individuating information about the target (Kunda & Spencer, 2003). However, the results of this research suggest that a rater's initial inclination is to penalize overweight leaders for their weight. It is important to remind raters of the stereotype conflicting information that they may know about the ratee. Implementing an intervention aimed at reducing the influence of stereotypes on performance ratings is an important consideration for anyone providing performance ratings. As previously discussed, tools such as the SFRI can be effective in reducing discrimination based on body weight (Rudolph et al., 2012). The SFRI is an intervention in which raters identify behaviors, both positive and negative, that they have seen the ratees perform. This forces raters to consider behaviors that may be inconsistent with negative group stereotypes (Baltes et al., 2007).

Limitations and Suggestions for Future Research

Though the present research provides important context and evidence of body weight discrimination, there are some limitations. One limitation of the research is the manipulation of body weight. Because the perception of obesity and being overweight

can vary across individuals, showing only two different weight categories may not differentiate across the variety of body-weight perceptions individuals may have. The analyses used the participants' perceptions of the leader's body size instead of the manipulated, dichotomous variable, but the photos still did not capture the full extent of the weight spectrum. The extreme end of obesity was not measured in this research nor was the other end of the body weight continuum. There is some evidence that men may not experience discrimination until they reach the highest levels of obesity or the lowest end of the body size spectrum (Judge & Cable, 2011). Future research should examine leader perceptions of these more extreme categories. The lowest end of the body size spectrum, the underweight category, is especially important to examine in future research. There is evidence that very thin individuals experience more teasing and are considered lonelier than normal weight individuals (e.g., Swami, Furnham, et al., 2008). There is evidence of bias against very thin women in employment decisions as well. Specifically, "emaciated" women were discriminated against in hiring decisions (Swami, Chan, et al., 2008) and were more likely to be terminated (Swami, Pietschnig Stieger, Tovee, & Voracek, 2010). It is also important for future research to consider height in relation to the other demographic variables considered in this research. There is a positive relationship between height and income (Judge & Cable, 2004) as well as workplace authority status (Gawley, Perks, & Curtis, 2009).

Beyond the weight categories, the individuals in the photos are also a limitation of this research. All individuals were selected to be approximately the same age. The age selected (50 years) was in the middle of the likely age range of leaders (e.g., 30-70), but age would likely be a moderator to perceptions of leader effectiveness as perceptions of

older versus younger leaders could vary. There was also only one individual per group (e.g., only one white woman). There is a wide variability to what the population of each group could look like. Using more than one photo in each group would be a good area for future research to control for unique aspects of the pictures I used. For example, the black woman had very short hair. Using varying hair lengths would be interesting to get the full picture of perceptions of female, black leaders. The physical manipulation of the photos to create the overweight conditions could also be a limitation. Participants were able to detect the differences in weight categories, but, if they could tell the photo had been digitally altered, this could have affected their responses to the other items in the study.

The demographic spread of the participants in the two samples may have been a limitation of this research. Both samples were overwhelmingly white (72% and 74 %) compared to the actual distribution of the population as the non-Hispanic white population in the United States is currently estimated at 60.4% (U.S. Census Bureau, 2018). In particular, the Hispanic population is underrepresented in this sample with 4% and 6% in the two samples, compared to 18% in the United States (U.S. Census Bureau, 2018). Because of the lack of fit with the racial and ethnic distribution of the country, the results of this research may not fully generalize to the population as a whole.

As with all research designs like this one, the external validity of the results may be somewhat low. Participants had no previous familiarity with the company or leaders in this research and were given limited details during the research. They were required to make judgments based on very limited information. In the real world, perceptions of leaders would be backed up by more information and experience. This would introduce more variability into the leader perceptions. Perceivers would have examples of specific

behavior, both good and bad, that they observed these leaders exhibiting and research suggests that individuals do use individuating information under some conditions (Fiske, Neuberg, Beattie, & Milberg, 1987). Despite this lack in external validity, examining these relationships in a lab setting is important. The controlled setting allows the relationship between weight and leader perceptions to be isolated and easily manipulated to examine the effects of different situations. This situation may not be a perfect example of how supervisors and subordinates interact, but the scenario is very similar to perceptions individuals may have of leaders they learn about through the news.

The variance explained in the second study is also rather low and should be considered when generalizing these results to real leaders. This is likely because the relationships between different demographic and physical characteristics of a leader and perceptions of their leadership effectiveness is likely much more complicated than what was examined here. There are many other variables, such as the economy and other external forces, that may affect perceptions of leader effectiveness.

Both studies evoked male-dominated fields. The name of the company in the first study, Selcom, Inc, could imply a technology-related organization while the organizational level of the target in the second study is the Chief Operating Officer. Both the technology industry and high-level leadership positions are considered male-dominated fields (e.g., Corbett & Hill, 2015; Heilman, 2001). Future research should examine perceptions of overweight leaders in leadership roles that are considered gender neutral and female-dominated. It is also important for future research to examine these relationships in other job contexts and levels. For example, weight bias may be more prominent in a managerial position where the leader is required to be in contact with the

public as there is meta-analytic evidence that, in general, there is greater discrimination of overweight individuals who have roles with high public contact (Roehling et al., 2013).

Conclusion

This study found evidence that overweight individuals are perceived as less leader-like and less effective than non-overweight individuals. This relationship is strengthened under conditions of stable and improving team performance. Perceptions do vary based on the gender of the leader; specifically, a woman's body size is more closely related to the extent she is considered leader-like. The findings of this study support existing research that suggest the experience of overweight leaders is important to continue studying.

References

Abdalla, I. A., & Al-Homoud, M. A. (2001). Exploring the implicit leadership theory in the Arabian Gulf states. *Applied Psychology*, *50*(4), 506-531. doi: 10.1111/1464-0597.00071

Aberson, C. L., & Ettlin, T. E. (2004). The aversive racism paradigm and responses favoring African Americans: Meta-analytic evidence of two types of favoritism. *Social Justice Research*, *17*(1), 25-46. doi: 0885-7466/04/0300-0025/0

Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, 2, (pp. 267-299). NY: Academic Press. doi: 10.1016/S0065-2601(08)60108-2

Agerström, J., & Rooth, D. O. (2011). The role of automatic obesity stereotypes in real hiring discrimination. *Journal of Applied Psychology*, *96*(4), 790-805. doi: 10.1037/a0021594.

Allport, G. W. (1954/1979). *The nature of prejudice*. Reading, MA: Perseus Books.

Andreyeva, T., Puhl, R. M., & Brownell, K. D. (2008). Changes in perceived weight discrimination among Americans, 1995–1996 through 2004–2006. *Obesity*, *16*(5), 1129-1134. doi: 10.1038/oby.2008.35

Ashmore, J. A., Friedman, K. E., Reichmann, S. K., & Musante, G. J. (2008). Weight-based stigmatization, psychological distress, & binge eating behavior among obese treatment-seeking adults. *Eating Behaviors*, *9*(2), 203-209. doi: 10.1016/j.eatbeh.2007.09.006

Averett, S., & Korenman, S. (1999). Black-white differences in social and economic consequences of obesity. *International Journal of Obesity, 23*(2), 166-173. doi: 10.1038/sj.ijo.0800805

Baltes, B. B., Bauer, C. B., & Frensch, P. A. (2007). Does a structured free recall intervention reduce the effect of stereotypes on performance ratings and by what cognitive mechanism?. *Journal of Applied Psychology, 92*(1), 151. doi: 10.1037/0021-9010.92.1.151

Baltes, B. B., & Parker, C. P. (2000). Reducing the effects of performance expectations on behavioral ratings. *Organizational Behavior and Human Decision Processes, 82*(2), 237-267. doi: 10.1006/obhd.2000.2897

Baum, C. L., & Ford, W. F. (2004). The wage effects of obesity: A longitudinal study. *Health Economics, 13*(9), 885-899. doi: 10.1002/hec.881

Barsalou, L. W. (1985). Ideals, central tendency, and frequency of instantiation as determinants of graded structure in categories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11(4), 629-654. doi: 10.1037/0278-7393.11.1-4.629

Bartels, L. K., & Nordstrom, C. R. (2013). Too big to hire: Factors impacting weight discrimination. *Management Research Review, 36*(9), 868-881. doi: 10.1108/MRR-06-2012-0134

Bellizzi, J. A., Klassen, M. L., & Belonax, J. J. (1989). Stereotypical beliefs about overweight and smoking and decision-making in assignments to sales territories. *Perceptual and Motor Skills, 69*(2), 419-429. doi: 10.2466/pms.1989.69.2.419

Biernat, M. (2003). Toward a broader view of social stereotyping. *American Psychologist, 58*(12), 1019-1027. doi: 10.1037/0003-066X.58.12.1019

Bodenhausen, B. V., & Richeson, J. A. (2010). Prejudice, stereotyping, and discrimination. In R. Baumeister & E. Finkel (Eds.), *Advanced social psychology: The state of the science* (pp. 341-383). New York: Oxford University Press.

Brown, I. (2006). Nurses' attitudes towards adult patients who are obese: Literature review. *Journal of Advanced Nursing, 53*(2), 221-232. doi: 10.1111/j.1365-2648.2006.03718.x

Brown, R. (2011). *Prejudice: Its social psychology*. John Wiley & Sons.

Brown, I., Stride, C., Psarou, A., Brewins, L., & Thompson, J. (2007). Management of obesity in primary care: nurses' practices, beliefs and attitudes. *Journal of Advanced Nursing, 59*(4), 329-341. doi: 10.1111/j.1365-2648.2007.04297.x

Brownell, K. D. (1991). Personal responsibility and control over our bodies: When expectation exceeds reality. *Health Psychology, 10*(5), 303-310. doi: 10.1037/0278-6133.10.5.303

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk a new source of inexpensive, yet high-quality, data?. *Perspectives on Psychological Science, 6*(1), 3-5. doi: 10.1177/1745691610393980

Bukszar, E., & Connolly, T. (1988). Hindsight bias and strategic choice: Some problems in learning from experience. *Academy of Management Journal, 31*(3), 628-641. doi: 10.2307/256462

Campbell, K., & Crawford, D. (2000). Management of obesity: Attitudes and practices of Australian dietitians. *International Journal of Obesity*, *24*(6), 701-710. doi: 10.1038/sj.ijo.0801226

Carels, R. A., & Musher-Eizenman, D. R. (2010). Individual differences and weight bias: Do people with an anti-fat bias have a pro-thin bias?. *Body Image*, *7*(2), 143-148. doi: 10.1016/j.bodyim.2009.11.005

Carton, A. M., & Rosette, A. S. (2011). Explaining bias against black leaders: Integrating theory on information processing and goal-based stereotyping. *Academy of Management Journal*, *54*(6), 1141-1158. doi: 10.5465/amj.2009.0745

Cawley, J. (2004). The impact of obesity on wages. *Journal of Human Resources*, *39*(2), 451-474. doi: 10.3368/jhr.XXXIX.2.451

Cawley, J., & Danziger, S. (2005). Morbid obesity and the transition from welfare to work. *Journal of Policy Analysis and Management*, *24*(4), 727-743. doi: 10.1002/pam.20135

Center for Disease Control and Prevention (2012). Defining Adult Overweight and Obesity. Retrieved June 13, 2016, from http://www.cdc.gov/obesity/adult/defining.html

Centers for Disease Control and Prevention (2013). Body mass index: Considerations for practitioners. Department of Health and Human Services.

Chambliss, H. O., Finley, C. E., & Blair, S. N. (2004). Attitudes toward obese individuals among exercise science students. *Medicine & Science in Sports & Exercise*, 36(3), 468-474. doi: 10.1249/01.MSS.0000117115.94062.E4

Chrisler, J. C., Golden, C., & Rozee, P. D. (Eds.). (2012). *Lectures on the psychology of women*. Waveland Press.

Chung-Herrera, B. G., & Lankau, M. J. (2005). Are we there yet? An assessment of fit between stereotypes of minority managers and the successful-manager prototype. *Journal of Applied Social Psychology*, *35*(10), 2029-2056. doi: 10.1111/j.1559-1816.2005.tb02208.x

Coetzee, V., Chen, J., Perrett, D. I., & Stephen, I. D. (2010). Deciphering faces: Quantifiable visual cues to weight. *Perception*, *39*(1), 51-61. doi: 10.1068/p6560

Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, *64*(3), 170-180. doi: 10.1037/a0014564

Conley, D. & Glauber, R. (2007). Gender, body mass, and socioeconomic status: New evidence from the PSID. *Advances in Health Economics and Health Services Research*, *17*, 253-275. doi:10.1016/S0731-2199(06)17010-7

Cook, A., & Glass, C. (2014). Above the glass ceiling: When are women and racial/ethnic minorities promoted to CEO?. *Strategic Management Journal*, *35*(7), 1080-1089. doi: 10.1002/smj.2161

Corbett, C., & Hill, C. (2015). *Solving the Equation: The Variables for Women's Success in Engineering and Computing*. American Association of University Women. 1111 Sixteenth Street NW, Washington, DC 20036.

Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology*, *66*(5), 882-894. doi: 10.1037/0022-3514.66.5.882

Cumming, G. (2014). The new statistics: Why and how. *Psychological Science*, *25*(1), 7-29. doi: 10.1177/0956797613504966

Davison, H. K., & Bing, M. N. (2013). Obesity: Disability or public health crisis? *Industrial and Organizational Psychology*, *6*(01), 96-99. doi: 10.1111/iops.12016

Deal, J. J., & Stevenson, M. A. (1998). Perceptions of female and male managers in the 1990s. *Sex Roles*, *38*(3-4), 287-300. doi: 10.1023/A:1018741318216

DeBeaumont, R. (2009). Occupational differences in the wage penalty for obese women. *The Journal of Socio-Economics*, *38*(2), 344-349. doi: 10.1016/j.socec.2008.10.001

Decker, W. H. (1987). Attributions based on managers' self-presentation, sex, and weight. *Psychological Reports, 61(1),* 175-181. doi: 10.2466/pr0.1987.61.1.175

Den Hartog, D. N., House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Abdalla, I. A., ... & Akande, B. E. (1999). Culture specific and cross-culturally generalizable implicit leadership theories: Are attributes of charismatic/transformational leadership universally endorsed?. *The Leadership Quarterly, 10(2),* 219-256. doi: 10.1016/S1048-9843(99)00018-1

Derue, D. S., Nahrgang, J. D., Wellman, N. E. D., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology*, *64*(1), 7-52. doi: 10.1111/j.1744-6570.2010.01201.x

Ding, V. J., & Stillman, J. (2005). An empirical investigation of discrimination against overweight female job applicants in New Zealand. *New Zealand Journal of Psychology*, *34*(3).

Dixon, J. C., & Rosenbaum, M. S. (2004). Nice to know you? Testing contact, cultural, and group threat theories of anti-black and anti-Hispanic stereotypes. *Social Science Quarterly*, *85*(2), 257-280. doi: 10.1111/j.0038-4941.2004.08502003.x

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, *109*(3), 573-598. doi: 10.1037/0033-295X.109.3.573

Eagly, A. H., Karau, S. J., & Makhijani, M. G. (1995). Gender and the effectiveness of leaders: A meta-analysis. *Psychological Bulletin*, *117*(1), 125-145. doi: 10.1037/0033-2909.117.1.125

Eagly, A. H., Nater, C., Miller, D. I., Kaufmann, M., & Sczesny, S. (2019). Gender stereotypes have changed: A cross-temporal meta-analysis of US public opinion polls from 1946 to 2018. *American Psychologist*. doi: 10.1037/amp0000494

Eden, D., & Leviatan, U. (1975). Implicit leadership theory as a determinant of the factor structure underlying supervisory behavior scales. *Journal of Applied Psychology*, *60*(6), 736-741. doi: 10.1037/0021-9010.60.6.736

Ensari, N., & Murphy, S. E. (2003). Cross-cultural variations in leadership perceptions and attribution of charisma to the leader. *Organizational Behavior and Human Decision Processes*, *92*(1), 52-66. doi: 10.1016/S0749-5978(03)00066-9

Epitropaki, O., & Martin, R. (2004). Implicit leadership theories in applied settings: Factor structure, generalizability, and stability over time. *Journal of Applied Psychology*, *89*(2), 293-310. doi: 10.1037/0021-9010.89.2.293

Epitropaki, O., & Martin, R. (2005). From ideal to real: A longitudinal study of the role of implicit leadership theories on leader-member exchanges and employee outcomes. *Journal of Applied Psychology*, *90*(4), 659-676. doi: 10.1037/0021-9010.90.4.659

Feller, D. B., & Hatch, R. L. (2004). Do physicians take care of their health?. *Psychiatric Annals*, *34*(10), 762-768. doi: 10.3928/0048-5713-20041001-15

Festekjian, A., Tram, S., Murray, C. B., Sy, T., & Huynh, H. P. (2014). I see me the way you see me: The influence of race on interpersonal and intrapersonal leadership perceptions. *Journal of Leadership & Organizational Studies*, 21(1), 102-119. doi: 10.1177/1548051813486522

Finkelstein, L. M., Frautschy Demuth, R. L., & Sweeney, D. L. (2007). Bias against overweight job applicants: Further explorations of when and why. *Human Resource Management*, *46*(2), 203-222. doi: 10.1002/hrm.20157

Fiske, S. T., Neuberg, S. L., Beattie, A. E., & Milberg, S. J. (1987). Category-based and attribute-based reactions to others: Some informational conditions of stereotyping and individuating processes. *Journal of Experimental Social Psychology*, *23*(5), 399-427.

Fiske, S. T., & Taylor, S. E. (1984). Social cognition reading. *MA: Addison-Wesley*.

Flegal, K.M., Kruszon-Moran, D., Carroll, M.D., Fryar, C.D., & Ogden, C.L. (2016). Trends in obesity among adults in the United States, 2005 to 2014. *JAMA. 315(21)*, 2284-2291. doi: 10.1001/jama.2016.6458

Flint, S. W., Čadek, M., Codreanu, S. C., Ivić, V., Zomer, C., & Gomoiu, A. (2016). Obesity discrimination in the recruitment process: "You're not hired!" *Frontiers in Psychology, 7(647)*. doi: 10.3389/fpsyg.2016.00647

Fonda, S. J., Fultz, N. H., Jenkins, K. R., Wheeler, L. M., & Wray, L. A. (2004). Relationship of body mass and net worth for retirement-aged men and women. *Research on Aging*, *26*(1), 153-176. doi: 10.1177/0164027503258739

Foster, G. D., Wadden, T. A., Makris, A. P., Davidson, D., Sanderson, R. S., Allison, D. B., & Kessler, A. (2003). Primary care physicians' attitudes about obesity and its treatment. *Obesity Research*, *11*(10), 1168-1177. doi: 10.1038/oby.2003.161

Foti, R. J., Fraser, S. L., & Lord, R. G. (1982). Effects of leadership labels and prototypes on perceptions of political leaders. *Journal of Applied Psychology*, *67*(3), 326-333. doi: 10.1037/0021-9010.67.3.326

Gardner, R. M., Jappe, L. M., & Gardner, L. (2009). Development and validation of a new figural drawing scale for body-image assessment: The BIAS-BD. *Journal of Clinical Psychology*, *65*(1), 113-122. doi:10.1002/jclp.20526

Gawley, T., Perks, T., & Curtis, J. (2009). Height, gender, and authority status at work: Analyses for a national sample of Canadian workers. *Sex Roles*, *60*(3-4), 208-222.

Geier, A. B., Schwartz, M. B., & Brownell, K. D. (2003). "Before and after" diet advertisements escalate weight stigma. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, *8*(4), 282-288

Gerstner, C. R., & Day, D. V. (1994). Cross-cultural comparison of leadership prototypes. *The Leadership Quarterly, 5*(2), 121-134. doi: 10.1016/1048-9843(94)90024-8

Grant, S., & Mizzi, T. (2014). Body weight bias in hiring decisions: Identifying explanatory mechanisms. *Social Behavior and Personality: An International Journal*, *42*(3), 353-370. doi: 10.2224/sbp.2014.42.3.353

Greenberg, B. S., Eastin, M., Hofschire, L., Lachlan, K., & Brownell, K. D. (2003). Portrayals of overweight and obese individuals on commercial television. *American Journal of Public Health*, *93*(8), 1342-1348

Greenhaus, J. H., & Parasuraman, S. (1993). Job performance attributions and career advancement prospects: An examination of gender and race effects. *Organizational Behavior and Human Decision Processes*, *55*(2), 273-297. doi: 10.1006/obhd.1993.1034

Greenleaf, C., & Weiller, K. (2005). Perceptions of youth obesity among physical educators. *Social Psychology of Education*, *8*(4), 407-423.doi: 10.1007/s11218-005-0662-9

Haines, E. L., Deaux, K., & Lofaro, N. (2016). The times they are a-changing… or are they not? A comparison of gender stereotypes, 1983–2014. *Psychology of Women Quarterly*, *40*(3), 353-363. doi: 10.1177/0361684316634081

Hare, S. W., Price, J. H., Flynn, M. G., & King, K. A. (2000). Attitudes and perceptions of fitness professionals regarding obesity. *Journal of Community Health*, *25*(1), 5-21.

Hash, R. B., Munna, R. K., Vogel, R. L., & Bason, J. J. (2003). Does physician weight affect perception of health advice?. *Preventive Medicine*, *36*(1), 41-44. doi: 10.1006/pmed.2002.1124

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.

Hebl, M. R., & Heatherton, T. F. (1998). The stigma of obesity in women: The difference is black and white. *Personality and Social Psychology Bulletin*, *24*, 417-426. doi: 10.1177/0146167298244008

Hebl, M. R., & Turchin, J. M. (2005). The stigma of obesity: What about men?. *Basic and Applied Social Psychology*, *27*(3), 267-275. doi: 10.1207/s15324834basp2703_8

Heilman, M. E. (1983). Sex bias in work settings: The lack of fit model. *Research in Organizational Behavior*, *5*, 269-298.

Heilman, M. E. (1995). Sex stereotypes and their effects in the workplace: What we know and what we don't know. *Journal of Social Behavior and Personality*, *10*(6), 3-26.

Heilman, M. E. (2001). Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues*, *57*(4), 657-674. doi: 10.1111/0022-4537.00234

Heilman, M. E., & Haynes, M. C. (2005). No credit where credit is due: Attributional rationalization of women's success in male-female teams. *Journal of Applied Psychology*, *90*(5), 905-916. doi: 10.1037/0021-9010.90.5.905

Heilman, M. E., Martell, R., & Simon, M. (1988). The vagaries of sex bias: Conditions regulating the undervaluation, equivaluation, and overvaluation of female job applicants. *Organizational Behavior and Human Decision Processes, 41(1),* 98 – 110. doi: 10.1016/0749-5978(88)90049-0

Herrmann, E. E. (2016). *Effects of Weight Bias on Leader Categorization and Evaluation* (Unpublished master's thesis). University of Missouri, St. Louis.

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology, 53(1),* 575. doi: 10.1146/annurev.psych.53.100901.135109

Hogg, M. A., Hains, S. C., & Mason, I. (1998). Identification and leadership in small groups: Salience, frame of reference, and leader stereotypicality effects on leader evaluations. *Journal of Personality and Social Psychology,75*(5), 1248-1263. doi: 10.1037/0022-3514.75.5.1248

House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Javidan, M., Dickson, M., & Gupta, V. (1999). Cultural influences on leadership and organizations: Project GLOBE. *Advances in Global Leadership, 1*(2), 171-233.

Jasper, C. R., & Klassen, M. L. (1990). Stereotypical beliefs about appearance: Implications for retailing and consumer issues. *Perceptual and Motor Skills, 71*(2), 519-528. doi: 10.2466/pms.1990.71.2.519

Javidan, M., Dorfman, P. W., De Luque, M. S., & House, R. J. (2006). In the eye of the beholder: Cross cultural lessons in leadership from Project GLOBE. *The Academy of Management Perspectives, 20*(1), 67-90. doi: 10.5465/AMP.2006.19873410

Johnson, S. K., Murphy, S. E., Zewdie, S., & Reichard, R. J. (2008). The strong, sensitive type: Effects of gender stereotypes and leadership prototypes on the evaluation of

male and female leaders. *Organizational Behavior and Human Decision Processes*, *106*(1), 39-60. doi: 10.1016/j.obhdp.2007.12.002

Judge, T. A., & Cable, D. M. (2004). The effect of physical height on workplace success and income: preliminary test of a theoretical model. *Journal of Applied Psychology*, *89*(3), 428.

Judge, T. A., & Cable, D. M. (2011). When it comes to pay, do the thin win? The effect of weight on pay for men and women. *Journal of Applied Psychology*, *96*(1), 95-112. doi: 10.1037/a0020860

Junker, N. M., & van Dick, R. (2014). Implicit theories in organizational settings: A systematic review and research agenda of implicit leadership and followership theories. *The Leadership Quarterly*, *25*(6), 1154-1173. doi: 10.1016/j.leaqua.2014.09.002

Junker, N. M., Schyns, B., van Dick, R., & Scheurer, S. (2011). The importance of leader categorization for commitment, job satisfaction, and well-being with particular consideration of gender role theory. *Zeitschrift fur arbeits-und organisationspsychologie*, *55*(4), 171-179.

Kahneman, D., & Tversky, A. (1973). On the psychology of prediction. *Psychological Review*, *80*(4), 237-251. doi: 10.1037/h0034747

King, E. B., Rogelberg, S. G., Hebl, M. R., Braddy, P W., Shanock, L. R., Doerer, S. C., & McDowell-Larsen, S. (2016). Waistlines and ratings of executives: Does executive status overcome obesity stigma?. *Human Resource Management, 55(2),* 283-399. doi: 10.1002/hrm.21667

Klarenbach, S., Padwal, R., Chuck, A., & Jacobs, P. (2006). Population-based analysis of obesity and workforce participation. *Obesity*, 14(5), 920-927. doi: 10.1038/oby.2006.106

Klassen, M. L., Jasper, C. R., & Harris, R. J. (1993). The role of physical appearance in managerial decisions. *Journal of Business and Psychology,8*(2), 181-198

Knight, J. L., Hebl, M. R., Foster, J. B., & Mannix, L. M. (2003). Out of role? Out of luck: The influence of race and leadership status on performance appraisals. *Journal of Leadership & Organizational Studies*, *9*(3), 85-93. doi: 10.1177/107179190300900308

Koch, A. J., D'Mello, S. D., & Sackett, P. R. (2015). A meta-analysis of gender stereotypes and bias in experimental simulations of employment decision making. *Journal of Applied Psychology*, *100*(1), 128-161. doi: 10.1037/a0036734

Koenig, A. M., Eagly, A. H., Mitchell, A. A., & Ristikari, T. (2011). Are leader stereotypes masculine? A meta-analysis of three research paradigms. *Psychological Bulletin*, *137*(4), 616-642. doi:10.1037/a0023557

Kollée, J. A., Giessner, S. R., & van Knippenberg, D. (2013). Leader evaluations after performance feedback: The role of follower mood. *The Leadership Quarterly, 24*(1), 203-214. doi: 10.1016/j.leaqua.2012.10.00

Kunda, Z., & Spencer, S. J. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin, 129*(4), 522. doi: 10.1037/0033-2909.129.4.522

Latner, J. D., O'Brien, K. S., Durso, L. E., Brinkman, L. A., & MacDonald, T. (2008). Weighing obesity stigma: The relative strength of different forms of bias. *International Journal of Obesity*, *32*(7), 1145-1152. doi: 10.1038/ijo.2008.53

Levay, C. (2014). Obesity in organizational context. *Human Relations*, *67*(5), 565-585. doi: 10.1177/0018726713496831

Linville, P. W. (1982). The complexity–extremity effect and age-based stereotyping. *Journal of Personality and Social Psychology*, *42*(2), 193-211. doi: 10.1037/0022-3514.42.2.193

Linville, P. W., & Jones, E. E. (1980). Polarized appraisals of out-group members. *Journal of Personality and Social Psychology*, *38*(5), 689-703. doi: 10.1037/0022-3514.38.5.689

Lord, R. G., Brown, D. J., Harvey, J. L., & Hall, R. J. (2001). Contextual constraints on prototype generation and their multilevel consequences for leadership perceptions. *The Leadership Quarterly 12*, 311 – 388. doi: 10.1016/S1048-9843(01)00081-9

Lord, R. G., & Emrich, C. G. (2000). Thinking outside the box by looking inside the box: Extending the cognitive revolution in leadership research. *Leadership Quarterly, 11*(4), 551-579. doi: 10.1016/S1048-9843(00)00060-6

Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance*, *34*(3), 343-378 .doi: 10.1016/0030-5073(84)90043-6

Lord, R. G., Foti, R. J., & Phillips, J. S. (1982). A theory of leadership categorization. *Leadership: Beyond Establishment Views*, *104*, 121.

Lord, R. G., & Maher, K. J. (1991). Leadership and information processing: Linking perceptions and organizational performance. *Wellington, MA: Unwin Hyman*.

Major, B., Hunger, J. M., Bunyan, D. P., & Miller, C. T. (2014). The ironic effects of weight stigma. *Journal of Experimental Social Psychology*, *51*, 74-80. doi: 10.1016/j.jesp.2013.11.009

Maranto, C. L., & Stenoien, A. F. (2000). Weight discrimination: A multidisciplinary analysis. *Employee Responsibilities and Rights Journal*, *12*(1), 9-24.

Marini, M., Sriram, N., Schnabel, K., Maliszewski, N., Devos, T., Ekehammar, B., Wiers, R., HuaJian, C., Somogyi, M., Schnall, S., Neto, F., Bar-Anan, Y., Vianello, M., Ayala, A., Dorantes, G., Park, J., Kesebir, S., Pereira, A., Tulbure, B., Ortner, T., Stepanikova, R., Greenwald, A., & Nosek, B. (2013). Overweight people have low levels of implicit weight bias, but overweight nations have high levels of implicit weight bias. *PloS one*, *8*(12), e83543. doi: 10.1371/journal.pone.0083543

Meindl, J. R. (1990). On leadership-an alternative to the conventional wisdom. *Research in Organizational Behavior*, *12*, 159-203.

Meindl, J. R., Ehrlich, S. B., & Dukerich, J. M. (1985). The romance of leadership. *Administrative Science Quarterly, 30(1)*, 78-102.

Meindl, J. R., & Ehrlich, S. B. (1987). The romance of leadership and the evaluation of organizational performance. *Academy of Management Journal*, *30*(1), 91-109. doi: 10.2307/255897

Mercer (2013). Global performance management survey report: Executive summary. Retrieved from http://www.mercer.com/content/dam/mercer/attachments/global/Talent/Assess-BrochurePerfMgmt.pdf

Merritt, S. M., & Lynch, E. E. (under review). Weight bias in observer perceptions of organizational leadership: Effects of perceived leader prototypicality and organizational performance. *Journal of Applied Social Psychology*.

Miller, B. J., & Lundgren, J. D. (2010). An experimental study of the role of weight bias in candidate evaluation. *Obesity*, *18*(4), 712-718. doi: 10.1038/oby.2009.492

Mirvis, P. H. (1997). Human resource management: Leaders, laggards, and followers. *Academy of Management Perspectives*, *11*(2), 43-56. doi: 10.5465/ame.1997.9707132148

Morrison, A. M., White, R. P., & Van Velsor, E. (1987). *Breaking the glass ceiling*. Reading, MA: AddisonWesley.

National Center for Health Statistics US (2016). Health, United States, 2015: With special feature on racial and ethnic health disparities.

Nye, J. L. (2002). The eye of the follower: Information processing effects on attributions regarding leaders of small groups. *Small Group Research*, *33*(3), 337-360. doi: 10.1177/10496402033003003

Nye, J. L., & Forsyth, D. R. (1991). The Effects of Prototype-Based Biases on Leadership Appraisals A Test of Leadership Categorization Theory. *Small Group Research*, *22*(3), 360-379. doi: 10.1177/1046496491223005

Ogden, C. L., Carroll, M. D., Lawman, H. G., Fryar, C. D., Kruszon-Moran, D., Kit, B. K., & Flegal, K. M. (2016). Trends in obesity prevalence among children and adolescents in the United States, 1988-1994 through 2013-2014. *Jama*, *315*(21), 2292-2299. doi: 10.1001/jama.2016.6361

O'Brien, K. S., Latner, J. D., Puhl, R. M., Vartanian, L. R., Giles, C., Griva, K., & Carter, A. (2016). The relationship between weight stigma and eating behavior is explained by weight bias internalization and psychological distress. *Appetite*, *102*, 70-76. doi: 10.1016/j.appet.2016.02.032

Offermann, L. R., Kennedy, J. K., & Wirtz, P. W. (1994). Implicit leadership theories: Content, structure, and generalizability. *The Leadership Quarterly*, *5*(1), 43-58. doi: 10.1016/1048-9843(94)90005-1

Paraponaris, A., Saliba, B., & Ventelou, B. (2005). Obesity, weight status and employability: empirical evidence from a French national survey. *Economics & Human Biology*, *3*(2), 241-258. doi: 10.1016/j.ehb.2005.06.001

Paustian-Underdahl, S. C., Walker, L. S., & Woehr, D. J. (2014). Gender and perceptions of leadership effectiveness: A meta-analysis of contextual moderators. *Journal of Applied Psychology*, *99*(6), 1129. doi: 10.1037/a0036751

Pearl, R. L., & Puhl, R. M. (2016). The distinct effects of internalizing weight bias: An experimental study. *Body Image*, *17*, 38-42. doi: 10.1016/j.bodyim.2016.02.002

Pingitore, R., Dugoni, B. L., Tindale, R. S., & Spring, B. (1994). Bias against overweight job applicants in a simulated employment interview. *Journal of Applied Psychology*, *79*(6), 909. doi: 10.1037/0021-9010.79.6.909

Phillips, J. S., & Lord, R. G. (1982). Schematic information processing and perceptions of leadership in problem-solving groups. *Journal of Applied Psychology*, *67*(4), 486-492. doi: 10.1037/0021-9010.67.4.486

Polinko, N. K., & Popovich, P. M. (2001). Evil thoughts but angelic actions: Responses to overweight job applicants. *Journal of Applied Social Psychology*, *31*(5), 905-924. doi: 10.1111/j.1559-1816.2001.tb02655.x

Porr, D., & Fields, D. (2006). Implicit leadership effects on multi-source ratings for management development. *Journal of Managerial Psychology*, *21*(7), 651-668. doi: 10.1108/02683940610690196

Popovich, P. M., Everton, W. J., Campbell, K. L., Godinho, R. M., Kramer, K. M., & Mangan, M. R. (1997). Criteria used to judge obese persons in the workplace. *Perceptual and Motor Skills*, *85*(3 Pt 1), 859-866. doi: 10.2466/pms.1997.85.3.859

Powell, G. N., & Butterfield, D. A. (1979). The "good manager": Masculine or androgynous? *Academy of Management Journal*, 22, 395–403. doi: 10.2307/255597

Powell, G. N., Butterfield, D. A., & Parent, J. D. (2002). Gender and managerial stereotypes: Have the times changed?. *Journal of Management*, *28*(2), 177-193. doi: 10.1177/014920630202800203

Puhl, R. M., Andreyeva, T., & Brownell, K. D. (2008). Perceptions of weight discrimination: Prevalence and comparison to race and gender discrimination in America. *International Journal of Obesity*, *32*(6), 992-1000. doi: 10.1038/ijo.2008.22

Puhl, R., & Brownell, K. D. (2001). Bias, discrimination, and obesity. *Obesity Research*, *9*(12), 788-805. doi: 10.1038/oby.2001.108

Puhl, R. M., & Brownell, K. D. (2006). Confronting and coping with weight stigma: An investigation of overweight and obese adults. *Obesity*, *14*(10), 1802-1815. doi: 10.1038/oby.2006.208

Puhl, R. M., Gold, J. A., Luedicke, J., & DePierre, J. A. (2013). The effect of physicians' body weight on patient attitudes: Implications for physician selection, trust and adherence to medical advice. *International Journal of Obesity*, *37*(11), 1415-1421. doi: 10.1038/ijo.2013.33

Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: A review and update. *Obesity*, *17*(5), 941-964. doi: 10.1038/oby.2008.636

Puhl, R. M., Latner, J. D., O'Brien, K., Luedicke, J., Danielsdóttir, S., & Forhan, M. (2015). A multinational examination of weight bias: Predictors of anti-fat attitudes across four countries. *International Journal of Obesity*, *39*(7), 1166-1173. doi: 10.1038/ijo.2015.32

Puhl, R., Wharton, C., & Heuer, C. (2009). Weight bias among dietetics students: Implications for treatment practices. *Journal of the American Dietetic Association*, *109*(3), 438-444. doi: 10.1016/j.jada.2008.11.034

R Core Team (2018). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

Roehling, M. V. (1999). Weight-based discrimination in employment: Psychological and legal aspects. *Personnel Psychology, 52*(4), 969-1016. doi: 10.1111/j.1744-6570.1999.tb00186.x

Roehling, M. V., Pichler, S., & Bruce, T. A. (2013). Moderators of the effect of weight on job-related outcomes: A meta-analysis of experimental studies. *Journal of Applied Social Psychology, 43(2),* 237-252. doi: 10.1111/j.1559-1816.2012.00993.x

Roehling, P., Roehling, M., Brennan, A., Drew, A., Johnston, A., Guerra, R., & Sears, A. (2014). Weight bias in US candidate selection and election. *Equality, Diversity and Inclusion: An International Journal*, *33*(4), 334-346. doi: 10.1108/EDI-10-2013-0081

Roehling, M. V., Roehling, P. V., & Odland, L. M. (2008). Investigating the validity of stereotypes about overweight employees: The relationship between body weight and normal personality traits. *Group & Organization Management*, *33*(4), 392-424.

Roehling, M. V., Roehling, P. V., & Pichler, S. (2007). The relationship between body weight and perceived weight-related employment discrimination: The role of sex and race. *Journal of Vocational Behavior*, *71*(2), 300-318. doi: 10.1016/j.jvb.2007.04.008

Roehling, P. V., Roehling, M. V., Vandlen, J. D., Blazek, J., & Guy, W. C. (2009). Weight discrimination and the glass ceiling effect among top US CEOs. *Equal Opportunities International*, *28*(2), 179-196. doi: 10.1108/02610150910937916

Rooth, D. O. (2009). Obesity, attractiveness, and differential treatment in hiring a field experiment. *Journal of Human Resources*, *44*(3), 710-735. doi: 10.3368/jhr.44.3.710

Rosette, A. S., Leonardelli, G. J., & Phillips, K. W. (2008). The white standard: Racial bias in leader categorization. *Journal of Applied Psychology*, *93*(4), 758-777. doi: 10.1037/0021-9010.93.4.758

Rosette, A. S., & Tost, L. P. (2010). Agentic women and communal leadership: How role prescriptions confer advantage to top women leaders. *Journal of Applied Psychology*, *95*(2), 221. doi: 10.1037/a0018204

Rothblum, E. D., Miller, C. T., & Garbutt, B. (1988). Stereotypes of obese female job applicants. *International Journal of Eating Disorders*, *7*(2), 277-283. doi: 10.1002/1098-108X(198803)7:2<277::AID-EAT2260070213>3.0.CO;2-2

Rudolph, C. W., Baltes, B. B., Zhdanova, L. S., Clark, M. A., & Bal, A. C. (2012). Testing the structured free recall intervention for reducing the impact of bodyweight-based stereotypes on performance ratings in immediate and delayed contexts. *Journal of Business and Psychology*, *27*(2), 205-222. doi: 10.1007/s10869-011-9240-7

Rudolph, C. W., Wells, C. L., Weller, M. D., & Baltes, B. B. (2009). A meta-analysis of empirical studies of weight-based bias in the workplace. *Journal of Vocational Behavior*, 74(1), 1-10. doi: 10.1016/j.jvb.2008.09.008

Ruggs, E. N., Law, C., Cox, C. B., Roehling, M. V., Wiener, R. L., Hebl, M. R., & Barron, L. (2013). Gone fishing: I–O psychologists' missed opportunities to

understand marginalized employees' experiences with discrimination. *Industrial and Organizational Psychology*, *6*(1), 39-60. doi: 10.1111/iops.12007

Schein, V. E. (1973). The relationship between sex role stereotypes and requisite management characteristics. *Journal of Applied Psychology*, 57, 95–100. doi: 10.1037/h0037128

Schooler, D., Monique Ward, L., Merriwether, A., & Caruthers, A. (2004). Who's that girl: Television's role in the body image development of young white and black women. *Psychology of Women Quarterly*, *28*(1), 38-47. doi: 10.1111/j.1471-6402.2004.00121.x

Schyns, B., Meindl, J. R., & Croon, M. A. (2007). The romance of leadership scale: Cross-cultural testing and refinement. *Leadership*, *3*(1), 29-46. doi: 10.1177/1742715007073063

Schyns, B., & Sanders, K. (2007). In the eyes of the beholder: Personality and the perception of leadership. *Journal of Applied Social Psychology*, *37*(10), 2345-2363. doi: 10.1111/j.1559-1816.2007.00261.x

Scott, K. A., & Brown, D. J. (2006). Female first, leader second? Gender bias in the encoding of leadership behavior. *Organizational Behavior and Human Decision Processes*, *101*(2), 230-242. doi: 10.1016/j.obhdp.2006.06.002

Sczesny, S., Bosak, J., Neff, D., & Schyns, B. (2004). Gender stereotypes and the attribution of leadership traits: A cross-cultural comparison. *Sex Roles*, *51*(11-12), 631-645. doi: 10.1007/s11199-004-0715-0

Shapiro, J. R., King, E. B., & Quinones, M. A. (2007). Expectations of obese trainees: How stigmatized trainee characteristics influence training effectiveness. *Journal of Applied Psychology*, *92*(1), 239. doi: 10.1037/0021-9010.92.1.239

Sheets, V., & Ajmere, K. (2005). Are romantic partners a source of college students' weight concern?. *Eating Behaviors*, *6*(1), 1-9. doi: 10.1016/j.eatbeh.2004.08.008

Shinar, E. H. (1975). Sexual stereotypes of occupations. *Journal of Vocational Behavior*, *7(1)*, 99–111. doi: 10.1016/0001-8791(75)90037-8

Shondrick, S. J., Dinh, J. E., & Lord, R. G. (2010). Developments in implicit leadership theory and cognitive science: Applications to improving measurement and understanding alternatives to hierarchical leadership. *The Leadership Quarterly*, *21*(6), 959-978. doi: 10.1016/j.leaqua.2010.10.004

Smith, C. A., Schmoll, K., Konik, J., & Oberlander, S. (2007). Carrying weight for the world: Influence of weight descriptors on judgments of large-sized women. *Journal of Applied Social Psychology*, *37*(5), 989-1006. doi: 10.1111/j.1559-1816.2007.00196.x

Spahlholz, J., Baer, N., König, H. H., Riedel-Heller, S. G., & Luck-Sikorski, C. (2016). Obesity and discrimination–a systematic review and meta-analysis of observational studies. *Obesity Reviews*, *17*(1), 43-55. doi: 10.1111/obr.12343

Sprecher, S., Sullivan, Q., & Hatfield, E. (1994). Mate selection preferences: Gender differences examined in a national sample. *Journal of Personality and Social Psychology*, *66*(6), 1074-1080. doi: 10.1037/0022-3514.66.6.1074

Swami, V., Chan, F., Wong, V., Furnham, A., & Tovée, M. J. (2008). Weight-Based Discrimination in Occupational Hiring and Helping Behavior 1. *Journal of*

Applied Social Psychology, *38*(4), 968-981. doi: 10.1111/j.1559-1816.2008.00334.x

Swami, V., Furnham, A., Amin, R., Chaudhri, J., Joshi, K., Jundi, S., Miller, R., Mirza-Begum, J., Begum, F.N., Sheth, P. and Tovee, M.J. (2008). Lonelier, lazier, and teased: The stigmatizing effect of body size. *The Journal of social psychology*, *148*(5), 577-594. doi:10.3200/socp.148.5.577-594

Swami, V., Pietschnig, J., Stieger, S., Tovee, M. J., & Voracek, M. (2010). An investigation of weight bias against women and its associations with individual difference factors. *Body Image*, *7*(3), 194-199. doi: 10.1016/j.bodyim.2010.03.003

Sy, T., Shore, L. M., Strauss, J., Shore, T. H., Tram, S., Whiteley, P., & Ikeda-Muromachi, K. (2010). Leadership perceptions as a function of race–occupation fit: The case of Asian Americans. *Journal of Applied Psychology*, *95*(5), 902-919. doi: 10.1037/a0019501

Taynor, J., & Deaux, K. (1973). When women are more deserving than men: Equity, attribution, and perceived sex differences. *Journal of Personality and Social Psychology*, *28*(3), 360-367. doi: 10.1037/h0035118

Taynor, J., & Deaux, K. (1975). Equity and perceived sex differences: Role behavior as defined by the task, the mode, and the actor. *Journal of Personality and Social Psychology*, *32*(3), 381-390. doi: 10.1037/h0077096

Teachman, B. A., & Brownell, K. D. (2001). Implicit anti-fat bias among health professionals: is anyone immune?. *International Journal of Obesity & Related Metabolic Disorders*, *25*(10). doi: 10.1038/sj.ijo.0801745

Thuan, J. F., & Avignon, A. (2005). Obesity management: Attitudes and practices of French general practitioners in a region of France. *International Journal of Obesity, 29*(9). doi: 10.1038/sj.ijo.0803016

Trautner, M. N., Kwan, S., & Savage, S. V. (2013). Masculinity, competence, and health: The influence of weight and race on social perceptions of men. *Men and Masculinities*, *16*(4), 432-451. doi: 10.1177/1097184X13502667

Tunceli, K., Li, K., & Williams, L. (2006). Long-term effects of obesity on employment and work limitations among US adults, 1986 to 1999. *Obesity*, *14*(9), 1637-1646. doi: 10.1038/oby.2006.188

United States Census Bureau. (2018, July 1). *Quick facts-United States-population estimates*. [Table]. Retrieved from https://www.census.gov

Vanhove, A., & Gordon, R. A. (2014). Weight discrimination in the workplace: A meta-analytic examination of the relationship between weight and work-related outcomes. *Journal of Applied Social Psychology*, 44(1), 12-22. doi: 10.1111/jasp.12193

Van Quaquebeke, N., & Brodbeck, FC (2008). Development and initial validation of two instruments for detecting executive's categorization in German speaking countries. *Journal of Occupational and Organizational Psychology A & O, 52* (2), 70-80.

Van Quaquebeke, N., Graf, M. M., & Eckloff, T. (2014). What do leaders have to live up to? Contrasting the effects of central tendency versus ideal-based leader prototypes in leader categorization processes. *Leadership*, *10*(2), 191-217. doi: 10.1177/1742715013476081

Wang, S. S., Brownell, K. D., & Wadden, T. A. (2004). The influence of the stigma of obesity on overweight individuals. *International Journal of Obesity, 28*(10), 1333-1337. doi: 10.1038/sj.ijo.0802730

Weber, R., Camerer, C., Rottenstreich, Y., & Knez, M. (2001). The illusion of leadership: Misattribution of cause in coordination games. *Organization Science, 12*(5), 582-598. doi: 10.1287/orsc.12.5.582.10090

White, M. (2019). processr: R Implementation of the PROCESS Macro. R package version 0.0.0.9000

White, S. E., Brown, N. J., & Ginsburg, S. L. (1999). Diversity of body types in network television programming: A content analysis. *Communication Research Reports, 16*(4), 386-392. doi: 10.1080/08824099909388740

Wigton, R. S., & McGaghie, W. C. (2001). The effect of obesity on medical students' approach to patients with abdominal pain. *Journal of General Internal Medicine, 16*(4), 262-265. doi: 10.1046/j.1525-1497.2001.016004262.x

Wyer Jr, R. S. (Ed.). (2013). *Stereotype activation and inhibition: Advances in social cognition* (Vol. 11). Psychology Press.

Yu, Z. B., Han, S. P., Cao, X. G., & Guo, X. R. (2010). Intelligence in relation to obesity: A systematic review and meta-analysis. *Obesity Reviews, 11*(9), 656-670. doi: 10.1111/j.1467-789X.2009.00656.x

Appendix A
Study 1 Stimulus Materials

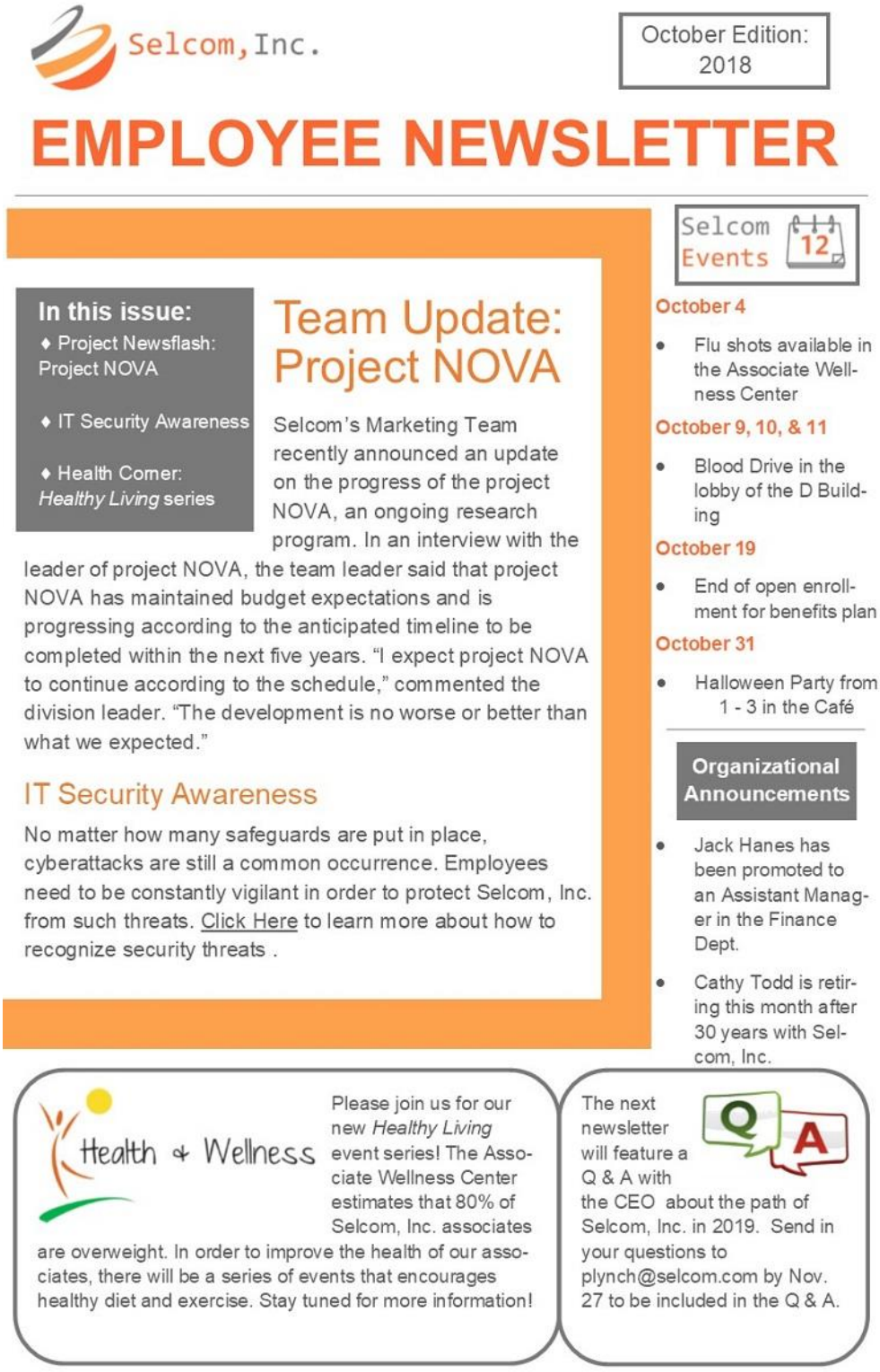


Figure A1. Employee Newsletter read by participants in the leader, 80% overweight condition in Study 1

Appendix B

Study 1 Measures

Attention Check

Items marked with (*) are only included in the "80% overweight" and "20% overweight" conditions (omitted from the "no information" control condition). Each item and the responses within each item will be randomized.

1. The name of the project described in the *Team Update* article was _____.
    a. Project NOVA
    b. Project TEMO
    c. Project NNTM
    d. Project COVA
2. The *Team Update* article included an interview with _____.
    a. The project leader
    b. A member of the team
    c. The primary client of the team
    d. The wife of a team member
3. *In the *Health & Wellness* article, Selcom, Inc was described as____% overweight.
    a. 20
    b. 40
    c. 60
    d. 80
4. The next Employee Newsletter will feature a Q & A section with _____.
    a. the CEO of Selcom, Inc.
    b. the longest tenured employee of Selcom, Inc.
    c. the new Assistant Manager of the Finance Department
    d. retiring employees

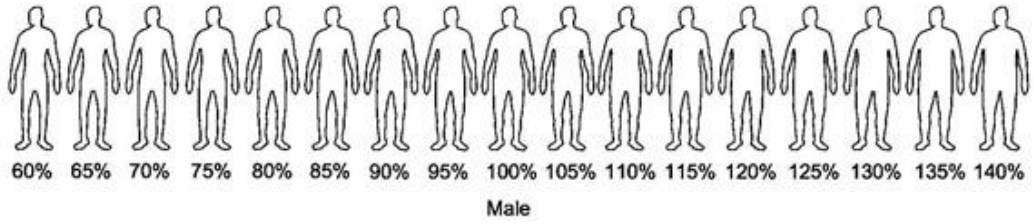
Primary Measure & Distractor Measures

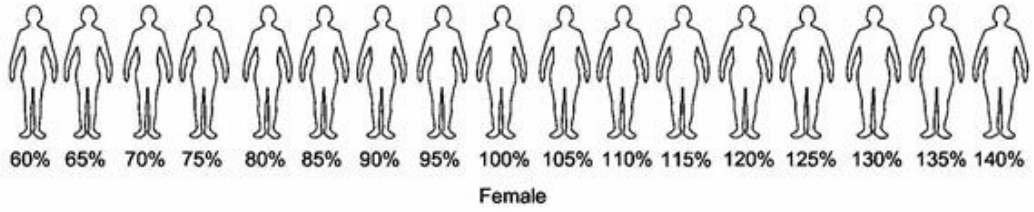
Created by author

Please answer the following questions about the Project NOVA, described in the *Team Update* article.

5. Imagine what you think the company Selcom, Inc is like. Please describe characteristics of the organization such as the culture of the organization, the kinds of people who work there, and the physical workspaces.
6. Imagine what you think the person in the article's characteristics are. Please describe the physical characteristics (e.g., age, sex, weight, race, and other physical characteristics) and personality characteristics (e.g., charismatic, determined, lazy) of the interviewee.
7. What do you think is the race of the person interviewed?
    a. Hispanic/Latin American
    b. Asian/Asian American/Pacific Islander
    c. White/Caucasian American
    d. Black/African American
    e. Native American/Alaskan Native

8. What do you think is the gender of the person interviewed?
    a. Male
    b. Female
9. What do you think is the approximate age of the person interviewed?
    a. 25
    b. 35
    c. 45
    d. 55
    e. 65
10. What do you think is the body size of the person interviewed?





11. What is the likelihood that the interviewee is (percentages must add up to 100):
    a. Normal weight? _____%
    b. Overweight/Obese? _____%

Demographics

12. Please indicate your biological sex:
    a. Male
    b. Female
13. What is your race?
    a. Caucasian
    b. Latino/a
    c. African-American
    d. Asian-American
    e. Multiracial
    f. Other: _____
    g. I prefer not to say
14. Please indicate your height:
    _____ feet, _____ inches
15. Please indicate your current weight:
    _____ pounds
16. Are you currently employed?
    a. Yes
        i. Full-time

ii. Part-time

b. No

i. Full time student
ii. Retired
iii. Seeking employment
iv. Not seeking employment

17. Please indicate your age

_____ years

Appendix C
Study 1 Demographic Information

Table C1

Race Demographics of the Sample

Race	Frequency	Percent
White/Caucasian American	216	71.5
Black/African American	37	12.3
Asian/Asian American/Pacific Islander	17	5.6
Hispanic/Latin American	12	4.0
Multiracial	10	3.3
Native American/Alaskan Native	7	2.3
Prefer not to say	3	1.0
Total	302	100

Table C2

Gender Demographics of Sample

Gender	Frequency	Percent
Male	183	60.6
Female	117	38.7
Missing	2	0.7
Total	302	100

Table C3

Height and Weight of Sample

	Male			Female			Total		
Variable	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Height (in.)	69.4	5.4	183	65.4	4.3	117	67.8	5.3	302
Weight (lbs.)	167.1	56.7	183	146.7	47.6	117	159.1	56.2	302
BMI	24.7	7.4	183	24.5	7.8	117	24.6	7.5	302

Table C4

Fixed-Effects ANOVA results using Body Size Categorization as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	partial η^2	partial η^2 90% CI [LL, UL]
(Intercept)	1863.76	1	1863.76	138.68	.000		
Participant Race	42.17	6	7.03	0.52	.791	.01	[.00, .01]
Error	3789.78	282	13.44				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table C5

Descriptive statistics for Body Size Categorization as a function of Participant Race

Participant Race	*N*	*M*	*SD*
Asian/Asian American/Pacific Islander	17	10.50	3.20
Black/African American	37	10.30	3.97
Hispanic/Latin American	12	10.80	4.25
Multiracial	10	9.40	4.01
Native American/Alaskan Native	7	10.90	2.79
Prefer not to say	1	7.00	-
White/Caucasian American	216	9.73	3.62

Note. M and *SD* represent mean and standard deviation, respectively.

Table C6

Independent Samples t Test using Body Size Categorization as the criterion

	Weight Categorization			
Participant Gender	*M*	*SD*	*t*	*p*
Male	9.91	3.48	-0.14	.89
Female	9.85	3.91		

Note. M and *SD* represent mean and standard deviation, respectively.

Table C7

Fixed-Effects ANOVA results using Body Size Categorization as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	partial η^2	partial η^2 90% CI [LL, UL]
(Intercept)	23380.35	1	23380.35	1762.72	.000		
Employment Status	51.78	3	17.26	1.30	.274	.01	[.00, .03]
Error	3780.18	285	13.26				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table C8

Descriptive statistics for Body Size Categorization as a function of Participant Employment Status

Employment Status	*N*	*M*	*SD*
Full Time	243	10.04	3.62
Unemployed	19	10.21	3.75
Other	6	9.25	4.11
Part Time	34	8.76	3.69

Note. M and *SD* represent mean and standard deviation, respectively.

Appendix D
Study 1 Results

Table D1

Race Categorization of Interviewee by Condition

	Race Categorization					
Condition	Hispanic/ Latin Am	Asian/Asian Am/Pacific Islander	White/ Caucasian Am	Black/ African Am	Native Am/Alaskan Native	Total
Leader/No Information	2	0	38	4	1	45
Leader/80% Overweight	1	0	40	5	1	47
Leader/20% Overweight	1	0	47	5	0	53
Member/No Information	3	4	38	4	2	51
Member/80% Overweight	7	2	40	2	2	53
Member/20% Overweight	1	5	42	4	0	52
Total	15	11	245	24	6	301

Table D2

Gender Categorization of Interviewee by Condition

	Gender Categorization		
Condition	Male	Female	Total
Leader/No Information	31	14	45
Leader/80% Overweight	39	9	48
Leader/20% Overweight	44	9	53
Member/No Information	44	7	51
Member/80% Overweight	43	10	53
Member/20% Overweight	48	4	52
Total	249	53	302

Table D3

Age Categorization of Interviewee by Condition

	Age Categorization					
Condition	25	35	45	55	65	Total
Leader/No Information	7	16	14	7	1	45
Leader/80% Overweight	5	19	14	8	1	47
Leader/20% Overweight	8	16	25	4	0	53
Member/No Information	8	27	12	4	0	51
Member/80% Overweight	13	25	12	3	0	53
Member/20% Overweight	8	26	12	6	0	52
Total	49	129	89	32	2	301

Table D4

Fixed-Effects ANOVA results using Body Size Categorization as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	partial η^2	partial η^2 90% CI [LL, UL]
(Intercept)	873.09	1	873.09	65.93	.000		
Race Categorization	71.19	4	17.80	1.34	.254	.02	[.00, .04]
Error	3760.77	284	13.24				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table D5

Descriptive statistics for Body Size Categorization as a function of Race Categorization.

Race Categorization	*M*	*SD*
Asian/Asian American/Pacific Islander	8.91	3.08
Black/African American	10.78	3.73
Hispanic/Latin American	10.57	3.94
Native American/Alaskan Native	12.17	2.79
White/Caucasian American	9.75	3.65

Note. M and *SD* represent mean and standard deviation, respectively.

Table D6

Independent Samples t Test using Body Size Categorization as the criterion

	Weight Categorization			
Gender Categorization	*M*	*SD*	*t*	*p*
Male	9.90	3.64	-0.14	0.89
Female	9.82	3.74		

Table D7

Fixed-Effects ANOVA results using Body Size Categorization as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	partial η^2	partial η^2 90% CI [LL, UL]
(Intercept)	905.54	1	905.54	69.12	.000		
Age Categorization	72.04	1	72.04	5.50	.020	.02	[.00, .05]
Error	3759.91	287	13.10				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table D8

ANOVA Comparisons of Body Size Categorization from Age Categorization

			Tukey's HSD Comparisons *p value*				
Age Categorization	Mean	*SD*	25	35	45	55	65
25	9.88	3.95					
35	9.28	3.45	.87				
45	10.19	3.73	.99	.38			
55	11.42	3.29	.34	.03	.48		
65	11.50	4.95	.97	.91	.99	.99	

Note. M and *SD* represent mean and standard deviation, respectively.

Appendix E
Study 2 Example Stimulus Materials

Figure E1. Vignette read by participants in the black, man, high weight, deteriorating performance condition in Study 2

Figure E2. Vignette read by participants in the white, woman, high weight, stable performance condition in Study 2

Figure E3. Vignette read by participants in the black, woman, low weight, improving performance condition in Study 2

Appendix F

Study 2 Measures

Leader Prototype/Implicit Leadership Measure

Adapted from Rosette et al. (2008)

7-point response scale (1 = strongly disagree to 7 = strongly agree)

1. I think the COO is charismatic.
2. I think the COO is intelligent.
3. I think the COO is strong.
4. I think the COO is attractive.
5. I think the COO is dedicated.

Created by author

6. I think the COO is feminine

Leadership Effectiveness

Adapted from Heilman & Haynes (2005)

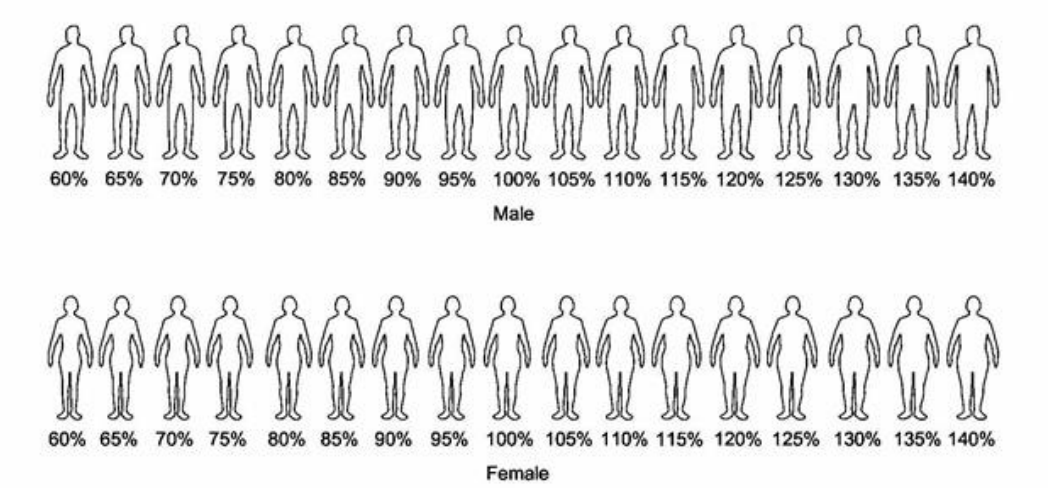
Rated on a 9-point scale anchored by the antonyms listed

7. competent…incompetent
8. productive…unproductive
9. effective…ineffective

Perceived Leader Body Weight

Body Image Assessment Scale-Body Dimensions (Gardner et al., 2009)

10. Please select the closest body size to the COO.



Attention Checks

Created by author.

11. Please select the race of the COO.
    a. Hispanic/Latin American
    b. Asian/Asian American/Pacific Islander
    c. White/Caucasian American
    d. Black/African American
    e. Native American/Alaskan Native
12. Please select the gender of the COO.

f. Male
g. Female

Control Measures

Romance of Leadership
Influence of a Leader Subscale (Schyns et al., 2007)
5-point response scale (1 = *strongly disagree* to 5 = *strongly agree*)

13. When it comes right down to it, the quality of leadership is the single most important influence on the functioning of an organization
14. Sooner or later, bad leadership at the top will show up in decreased organizational performance
15. High-versus low quality leadership has a bigger impact on a firm than a favorable versus unfavorable business environment
16. It is impossible for an organization to do well unless it has high-quality leadership at the top
17. With a truly excellent leader, there is almost nothing that an organization can't accomplish
18. Even in a bad economy, a good leader can prevent a company from doing poorly
19. When a company is doing poorly, the first place one should look to is its leaders
20. When the top leaders are good, the organization does well; when the top leaders are bad, the organization does poorly
21. There's nothing as critical to the "bottom line" performance of a company as the quality of its top-level leaders
22. Leadership qualities are among the most highly prized personal traits I can think of
23. When faced with the same situation, even different top-level leaders would end up making the same decision
24. Many times, it doesn't matter who is running the show at the top, the fate of an organization is not in the hands of its leaders
25. You might as well toss a coin when trying to choose a leader
26. So what if the organization is doing well; people who occupy the top level leadership positions rarely deserve their high salaries
27. In many cases, candidates for a given leadership position are pretty much interchangeable with one another
28. The majority of business failures and poor organizational performance are due to factors that are beyond the control of even the best leaders
29. There are many factors influencing an organization's performance that simply cannot be controlled by even the best of leaders

Demographics

30. Please indicate your biological sex:
    a. Male
    b. Female
31. What is your race?
    a. Caucasian
    b. Latino/a

c. African-American
d. Asian-American
e. Multiracial
f. Other: _____
g. I prefer not to say

32. Please indicate your height:
_____ feet, _____ inches
33. Please indicate your current weight:
_____ pounds
34. Are you currently employed?
a. Yes
i. Full-time
ii. Part-time
b. No
i. Full time student
ii. Retired
iii. Seeking employment
iv. Not seeking employment
35. Please indicate your age
_____ years

Appendix G
Study 2 Descriptive Statistics

Table G1

Descriptive Statistics of Key Study Variables by Condition Grouping

Condition			Body Size		Prototypicality		Effectiveness	
Grouping	Group	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Leader Race	Black	633	10.8	4.01	5.31	1.03	7.80	1.13
	White	627	12.2	4.06	4.74	1.14	7.62	1.12
Leader Gender	Male	628	11.1	4.04	4.93	1.05	7.67	1.10
	Female	632	11.8	4.12	5.12	1.18	7.75	1.16
Leader Weight Category	High	631	14.6	2.14	4.86	1.15	7.65	1.15
	Low	629	8.3	3.03	5.19	1.06	7.77	1.11
Organizational Performance	Deteriorating	418	11.6	4.19	4.40	1.23	7.13	1.10
	Stable	421	11.5	4.05	5.28	0.88	7.89	1.06
	Improving	421	11.4	4.03	5.38	0.94	8.12	0.98

Note. *N*, *M*, and *SD* are used to represent sample size, mean, and standard deviation, respectively.

Table G2

ILT Scale means, standard deviations, and correlations with confidence intervals

Variable	*M*	*SD*	1	2	3	4
1. Charismatic	4.96	1.38				
2. Intelligent	5.58	1.22	.61** [.58, .65]			
3. Strong	5.14	1.39	.65** [.61, .68]	.71** [.68, .73]		
4. Attractive	3.87	1.67	.51** [.46, .55]	.38** [.33, .42]	.41** [.36, .45]	
5. Dedicated	5.57	1.31	.62** [.58, .65]	.77** [.75, .79]	.70** [.67, .73]	.35** [.30, .40]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table G3

Leader Effectiveness Scale means, standard deviations, and correlations with confidence intervals

Variable	*M*	*SD*	1	2
1. Incompetent: Competent	7.72	1.23		
2. Unproductive: Productive	7.65	1.23	.82** [.80, .84]	
3. Ineffective: Effective	7.76	1.18	.78** [.76, .81]	.80** [.78, .82]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table G4

Romance of Leadership – Influence of Leader Subscale means, standard deviations, and correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. ROL_1	3.57	0.96																
2. ROL_2	4.12	0.81	.22**															
3. ROL_3	3.48	0.93	.38**	.21**														
4. ROL_4	3.69	0.96	.36**	.25**	.32**													
5. ROL_5	3.64	0.94	.41**	.19**	.38**	.35**												
6. ROL_6	3.49	0.95	.32**	.18**	.33**	.23**	.36**											
7. ROL_7	4.03	0.78	.31**	.32**	.24**	.32**	.30**	.26**										
8. ROL_8	3.78	0.85	.37**	.31**	.33**	.40**	.39**	.31**	.38**									
9. ROL_9	3.56	0.93	.44**	.22**	.36**	.33**	.35**	.25**	.33**	.35**								
10. ROL_10	3.60	1.00	.39**	.12**	.31**	.25**	.37**	.27**	.23**	.32**	.29**							
11. ROL_11R	3.20	1.01	-.09**	.08**	-.02	-.02	-.08**	-.03	.09**	-.02	-.04	-.13**						
12. ROL_12R	3.45	1.03	.13**	.16**	.17**	.17**	.17**	.13**	.20**	.17**	.16**	.10**	.28**					
13. ROL_13R	4.08	1.02	.07*	.20**	.04	.07*	.09**	.06*	.17**	.14**	.06*	.04	.36**	.45**				
14. ROL_14R	3.01	1.12	.15**	.04	.11**	.07*	.09**	.05	.00	.07**	.12**	.17**	.11**	.28**	.31**			
15. ROL_15R	3.36	1.05	.05	.15**	.04	.05	.00	.07*	.05	.05	.04	-.02	.35**	.41**	.46**	.31**		
16. ROL_16R	3.25	0.99	.03	.14**	.06*	.10**	.10**	.11**	.16**	.12**	.09**	-.02	.37**	.42**	.36**	.20**	.37**	
17. ROL_17R	2.69	0.98	.18**	.09**	.17**	.16**	.23**	.13**	.12**	.18**	.17**	.09**	.19**	.40**	.21**	.22**	.24**	.39**

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

Appendix H
Study 2 - Supplemental Analyses

Table H1

Body Size, Gender, and Race 3-Way Interaction Regression Results with Prototypicality as the criterion

Predictor	*b*	*b* 95% CI [LL, UL]	SE_b	β	sr^2	sr^2 95% CI [LL, UL]	Fit
(Intercept)	5.95**	[5.65, 6.26]	.16				
Body size	-0.05**	[-0.08, -0.03]	.01	-.20	.01	[.00, .02]	
Gender	-0.42	[-0.91, 0.06]	.25	-.19	.00	[-.00, .01]	
Race	0.12	[-0.43, 0.66]	.28	.05	.00	[-.00, .00]	
Body size: Gender	0.03	[-0.02, 0.07]	.02	.10	.00	[-.00, .00]	
Body size: Race	-0.04	[-0.08, 0.00]	.02	-.02	.00	[-.00, .01]	
Gender: Race	-0.48	[-1.22, 0.26]	.38	-.22	.00	[-.00, .00]	
Body size: Gender: Race	0.02	[-0.04, 0.08]	.03	.08	.00	[-.00, .00]	
							R^2 = .115** 95% CI[.08,.14]

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. β represents the standardized regression weights. sr^2 represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.
* indicates $p < .05$. ** indicates $p < .01$.

Table H2

Hypothesis 4 Regression Results with Effectiveness as the criterion, controlling for Romance of Leadership level

Predictor	*b*	*b* 95% CI [LL, UL]	SE_b	β	sr^2	sr^2 95% CI [LL, UL]	Fit
(Intercept)	5.41**	[4.88, 5.93]	0.27				
Romance of Leadership	0.43**	[0.32, 0.54]	0.06	0.43	.03	[.02, .05]	
Prototypicality	0.05	[-0.03, 0.12]	0.04	0.05	.00	[-.00, .00]	
Performance (Stable-Deteriorating)	-2.36**	[-3.01, -1.72]	0.33	-1.71	.03	[.01, .04]	
Performance (Improving-Deteriorating)	-1.36**	[-1.98, -0.74]	0.32	-0.57	.01	[.00, .02]	
Prototypicality* Performance (Stable-Deteriorating)	0.58**	[0.45, 0.71]	0.06	0.42	.04	[.03, .06]	
Prototypicality* Performance (Improving-Deteriorating)	0.42**	[0.30, 0.54]	0.06	0.18	.03	[.01, .04]	
							R^2 = .325**
							95% CI[.28,.3

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. β represents the standardized regression weights. sr^2 represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.
* indicates p < .05. ** indicates p < .01.

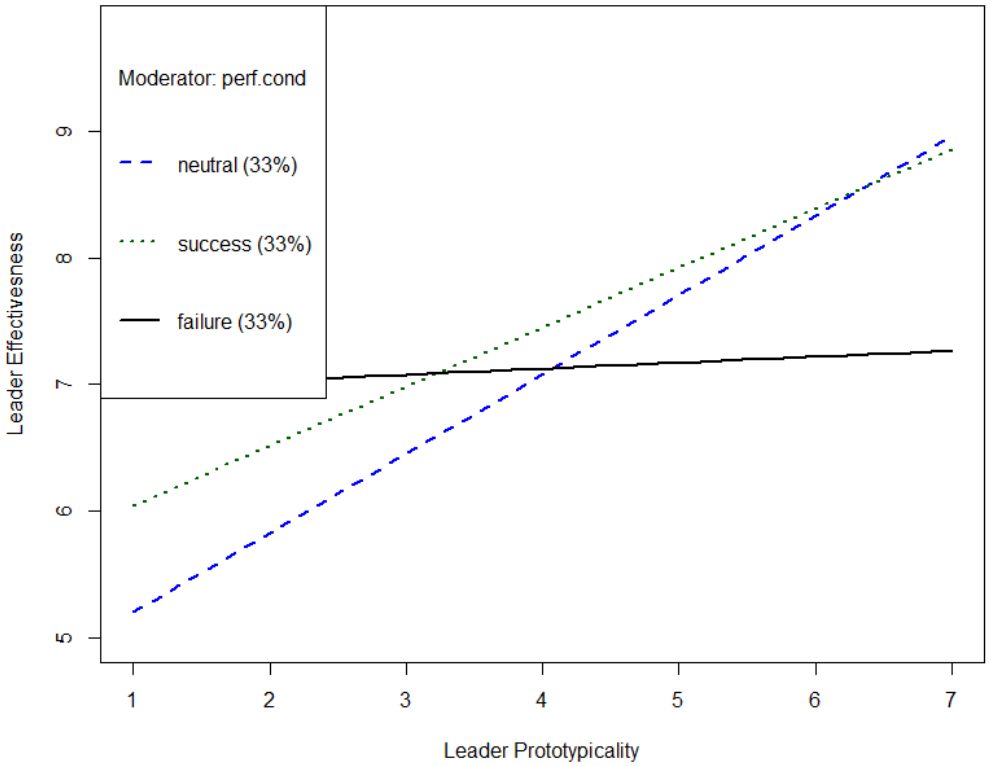


Figure H1. Interaction plot of the performance moderation for Hypothesis 4 controlling for Romance of Leadership level