



# WAISTLINES AND RATINGS OF EXECUTIVES: DOES EXECUTIVE STATUS OVERCOME OBESITY STIGMA?

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*Top executives hold positions that convey power, prestige, and competence as predicted by status characteristics theory. Nevertheless, the impressions generated through this status characteristic may be vulnerable when executives also possess characteristics that reflect a devalued social identity, such as obesity. Data from health examinations and multisource evaluation surveys of 757 CEOs, vice presidents, and upper managers suggest that the observable cue of umbilical waist circumference is negatively associated with evaluations of leaders across hierarchical levels, even after controlling for Body Mass Index, physical activity, personality, and demographic characteristics. Thus, hierarchically based status characteristics are insufficient in overcoming the stigma of obesity: even CEOs are subject to the pernicious effects of obesity stigma. © 2014 Wiley Periodicals, Inc.*

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A few months after devouring doughnuts on the popular *Late Show with David Letterman*, admittedly obese New Jersey Governor Chris Christie confirmed that he underwent gastric band surgery. The *Wall Street Journal* described this decision as a “move that comes amid concerns about his health as he emerges as a national player in the Republican Party” (Haddon & Winslow, 2013). Beyond physical health concerns, party strategists may also be aware that obesity is associated with negative interpersonal perceptions that might impede political success.

According to the National Institutes of Health (NIH), two thirds of the American population is overweight or obese (NIH, 2010). Despite the prevalence of obesity, Americans’ attitudes toward and perceptions of heavy individuals are

typically more negative than those toward other targets of stigma (Crandall & Martinez, 1996). Whereas members of many social identity groups derive positive self-image and support from their in-groups, even the parents of obese children (Crandall, 1994) and obese individuals themselves often stigmatize obesity (Crandall & Biernat, 1990; Crocker, Cornwell, & Major, 1993). Heavy individuals are evaluated more negatively than thin individuals in both selection (Finkelstein, Demuth, & Sweeney, 2007) and training contexts (Shapiro, King, & Quiñones, 2007), and increases in weight are associated with decreases in income (Judge & Cable, 2011). Indeed, reviews of evidence on employment discrimination toward obese workers yield similar conclusions of general stigmatization (Roehling, 1999; Rudolph, Wells, Weller, & Baltes, 2008). However, the extent to which such

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findings extend to the highest levels—one that conveys substantial social status—is unclear.

According to status characteristics theory, valued attributes (i.e., status characteristics) give rise to positive performance expectations and impressions of competence (Berger, Cohen, & Zelditch, 1966). In addition, positive interpretations of behavior can be associated with status characteristics that are valued (Gerber, 1996). Being a member of the C-suite, much like occupying a high-level political office, conveys wealth, power, prestige, and competence (Ravlin & Thomas, 2005). Indeed, leaders have greater influence and are rated more positively with regard to power and competence than are lower status group members (Harvey, 1953; Hollander, 1961; Sherif, White, & Harvey, 1955; Torrance, 1955). Though expectations of individuals are typically derived from more than a single characteristic (Humphreys & Berger, 1981), it is difficult to conceive of characteristics that reduce the status conveyed by a top executive job title in the workplace. Nevertheless,

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*The negative status associated with the stigma of obesity may overshadow the powerful status characteristic of a top management position.*

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these positive expectations and impressions of competence may be vulnerable when top executives also possess characteristics that reflect a devalued (i.e., stigmatized) social identity—especially when the devalued attribute is highly visible as in the case of obesity.

We propose that the negative status associated with the stigma of obesity may overshadow the powerful status characteristic of a top management position, considered here as CEOs or company presi-

dents. This study addresses meaningful internal and external validity limitations of the existing body of research on obesity discrimination in the workplace (Puhl & Heuer, 2009; Rudolph et al., 2008). First, conclusions about employment discrimination toward obese individuals are primarily based on experiments that assess bias toward fictitious targets (i.e., “paper-people”; see Rudolph et al., 2008) that can inflate relationships found in authentic samples (see Murphy, Herr, Lockhart, & Maguire, 1986). Second, laboratory studies generally fail to account for preexisting relationships that occur between raters and ratees in real-world settings, raising questions about the generalizability of existing findings in light of evidence that biases are less likely to emerge when raters know more about targets (Fiske & Neuberg, 1990). Third, these laboratory studies tend to focus on analyses contrasting narrow job types, such as positions involving high and low levels of contact with the public, and thus may not apply to

high status positions. Fourth, studies outside of the laboratory rely nearly exclusively on self-report survey data or perceived discrimination (Roehling, 1999), which is subject to perceptual biases (Crosby, 1984; Elgar, Roberts, Tudor-Smith, & Moore, 2005). Fifth, while field studies typically control for or explore the role of gender and ethnicity on weight discrimination, they rarely include other characteristics (such as personality) that may influence indices of bias (M. V. Roehling, Roehling, & Odland, 2008). Sixth, both laboratory and field studies are limited in their operationalization of obesity by relying on judgments of “overweight” versus “not overweight” body sizes as a function of photographs or body mass index (BMI) that may not fully account for cues that give rise to the stigma of obesity. Finally, nearly every study previously conducted on the stigma of obesity has focused on employees in or applicants for low- to midlevel positions. Thus, while it is clear that fictitious individuals who appear to be obese are stigmatized in low- and midlevel jobs, it is not yet known whether individuals at the highest levels of organizations are subjected to bias.

These limitations, taken with the predictions of status characteristics theory, give rise to questions about the boundary conditions and generalizability of obesity discrimination in the workplace. The central question addressed in this paper is, does the stigma of obesity eclipse the positive outcomes resulting from status associated with a top management position? Thus, this research makes four contributions to the literature. First, we uniquely integrate sociological and psychological perspectives by drawing from status characteristics and stigma theories to understand whether devalued physical characteristics can overwhelm positive hierarchical status cues. Second, by examining multisource ratings of actual top executives (rather than self-ratings, evaluations of strangers, or “paper-people” in a lab setting) and upper managers, we offer novel empirical evidence addressing the question of whether bias affects those who have attained hierarchical status using raters who have existing relationships with the executives. Third, we build understanding of the cues that give rise to stigma by considering umbilical waist circumference, which was assessed by a third-party health care professional as a specific, observable cue that triggers negative expectations. We also test the robustness of our findings by considering additional factors—personality, physical activity, and demographic characteristics—that could impinge on the relationship between upper managers’ weight and their performance ratings. Fourth, in considering obesity stigma as it intersects with age and gender, this work addresses

understudied aspects of identity intersectionality. As a result, this research addresses many of the substantive validity concerns of previous research and provides one of the most theoretically comprehensive examinations of obesity bias to date. Overall, this article will contribute to the literature on status characteristic theory and executive evaluation. We begin by providing a brief overview of status characteristics theory before arguing that both hierarchical level and obesity are important status characteristics in organizational settings with implications for performance ratings.

### Status Characteristics Theory

Status characteristics theory (SCT) describes and explains the process through which individuals form performance expectations and impressions regarding themselves and others that guide their behavior when working together (Berger et al., 1966). In addition, the theory specifies that categorical distinctions between individuals (e.g., gender) emerge as status characteristics when there are socially shared beliefs that one state of the category is associated with greater value or desirability (e.g., male) than another state of the category (e.g., female; Ridgeway, 2001; Ridgeway & Correll, 2004). Theoretically, these status characteristics provide the basis for inferring individuals' capabilities (Berger, Cohen, & Zelditch, 1972) and to affect patterns of social interactions (Humphreys & Berger, 1981). Consistent with this, empirical research has confirmed that status characteristics such as ethnicity, gender, and occupation affect social influence processes (Kalkhoff & Thye, 2006) and the allocation of rewards (Berger, Ridgeway, Fisek, & Norman, 1988).

Several formal propositions have been derived from SCT that clarify the processes affected by status characteristics (Ridgeway & Correll, 2004). One critical proposition states that when multiple status characteristics are present, expectations are derived from a summation or aggregate of the positive and negative status characteristics that are weighted with regard to their relevance in the situation. These aggregate expectations are argued to directly influence behaviors and evaluations. Indeed, possession of a valued state of a characteristic is associated with positive expectations and impressions that lead to behavioral patterns that reflect subordination. For example, status yields behaviors such as deference, appointment of group leaders, and evaluations related to respect and esteem toward the individual with advanced status (Webster & Driskell, 1983). Using this framework, we consider hierarchical position as a status characteristic that influences performance ratings.

### Upper Management Position as a Status Characteristic

Characteristics have status when they are associated with value (Ridgeway, 1991). More specifically, an attribute is considered to be a status characteristic when different states of the attribute are evaluated differently by social consensus (Berger et al., 1972). Logical inference and empirical research support the notion that being a member of upper management of an organization is a highly valued attribute or, in other words, that an executive position is a positive status characteristic especially as one moves up the hierarchy. Upper managers earn more money, have more power, and influence others to a greater extent than individuals at other levels of the organization (Berger et al., 1972; Caudill, 1958). Upper managers signal value; indeed, their appointment can be a strategy for immediately improving impressions of an organization (Chen, Hambrick, & Pollock, 2004; Higgins & Gulati, 2003). Although formal leadership positions are not uniformly indicative of status (Ravlin & Thomas, 2005; Shelly & Webster, 1997), it is a well-established finding that those who are of higher status are generally perceived by others to possess more positive traits/characteristics (Sherif & Sherif, 1953). For example, in their classic research on boys at summer camp, Sherif and colleagues (Sherif, White, & Harvey, 1955) found that the peers of boys who acted as group leaders expected those leaders to perform better at a novel physical task than lower-status group members. Similarly, Barnard (1951) argued that individuals with higher organizational status would be presumed to have more abilities than those with lower organizational status. Consistent with this, Bunderson (2003) demonstrated that characteristics such as educational degrees and years of company experience were associated with perceived expertise and positive performance expectations.

Thus, we propose that members of upper management hold a unique position that is a positive status characteristic. According to status characteristics theory, by possessing a characteristic of great value, members of the upper echelons should enjoy favorable expectations and evaluations. Importantly, however, individuals are not typically defined by a single attribute and instead can embody multiple attributes that represent both positive and negative status characteristics.

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### *Inconsistent Status Characteristics*

The manner in which inconsistent status characteristics are aggregated has been a question of interest to sociologists for decades (see Blalock, 1967). In examining this in the laboratory, for instance, Berger, Norman, Balkwell, and Smith (1992) asked participants to take part in a task with an ostensible teammate who had various (and sometimes inconsistent) status characteristics. The results of their experiment support the idea that positive and negative cues are considered in combination; participants' evaluations of their ostensible teammates depended on the total sum of positive and negative characteristics. Moreover, a recent review of the status literature suggests that "research provides most support for a model in which all negative factors are evaluated, weighted for relevance to performance, and then subtracted from the weighted sum of the positive attributes to ultimately produce a single status value for an individual" (Ravlin & Thomas, 2005, p. 973). This suggests that positive status characteristics must be viewed in conjunction with negative status characteristics, or more specifically, that the positive expectations generated from the cue of hierarchical status may be attenuated when less favorable status characteristics are present. The question that arises is, Can stigmatized characteristics overshadow the powerful status cues of executive positions?

### **Does Executive Level Moderate the Obesity Stigma?**

Personal characteristics can be imbued with such shame and disgrace that they mark the bearer as stigmatized (Goffman, 1963) and thus convey socially devalued characteristics that detract from expectations and impressions (see Hebl & Dovidio, 2005). Stigmatized individuals are targets of negative stereotypes, economic disadvantage, social rejection, and discrimination (Crocker, Major, & Steele, 1998). By definition, then, targets of stigma possess status characteristics that are devalued in a particular context (Ridgeway, 2001).

A common stigmatized characteristic in the United States is obesity. It is interesting to note that, at points in American history when resources were scarce, weight was associated with wealth and privilege and thinness was indicative of poverty (see Caballero, 2007). In contemporary American society, common assumptions include beliefs that heavy individuals are lazy, sloppy, and lack conscientiousness (e.g., Hebl & Heatherton, 1998; Hebl & Mannix, 2003; Polinko & Popovich, 2001). In addition, they are perceived to be less outgoing, energetic, and active (Popovich et al., 1997;

Rothblum, Miller, & Garbutt, 1988; Schwartz, Vartanian, Nosek, & Brownell, 2006). These stereotypes are maintained by beliefs that obesity is a controllable condition and therefore heavy individuals are responsible for their stigma (Crandall & Eshleman, 2003; King, Shapiro, Hebl, Singletary, & Turner, 2006). It is important to note that there is no evidence of difference in personality traits as a function of body weight (M. V. Roehling et al., 2008), suggesting that commonly held stereotypes about obese individuals' personalities are inaccurate. It follows that the general explanation for obesity discrimination is that stereotypic expectations of obese individuals as lazy and inactive lead to biased evaluations.

Moreover, obese individuals may find it particularly challenging to reach the highest levels of organizations, much like other low status groups such as women and ethnic minorities (P. V. Roehling, Roehling, Vandlen, Blazek, & Guy, 2009). Examination of photographs of CEOs in the Fortune 500 suggested that heavy individuals face a glass ceiling in organizations; obese men and women were underrepresented among CEOs relative to the general population (P. V. Roehling et al., 2009). It is clear that, in line with stigma theory, the attribute of obesity affects the experiences of obese individuals at work. What is not yet known, however, is whether the negative status characteristic of obesity will affect evaluations of those who have earned positions in the highest levels of organizations.

Some evidence suggests that, like others with negative status characteristics, obese targets may receive less biased evaluations when they hold positive status characteristics than when they do not. Theory and evidence regarding the role of individuation in reducing discrimination suggests that bias will not exist when highly competent targets are known to their evaluators personally (Landy, 2008). The implication of this reasoning is that as hierarchical level increases, upper managers—whose very positions represent powerful status characteristics that are associated with expectations and impressions of competence—should be immune to stereotypic biases that would otherwise arise through devalued status characteristics. These notions are based on experiments that show that providing information about positive status characteristics, such as evidence of competence (Heilman & Haynes, 2005; Singletary & Hebl, 2009) or stereotype-inconsistent information (Fiske & Neuberg, 1990; King & Ahmad, 2010), can reduce discrimination. For example, a mock interview experiment showed that high levels of job qualifications (often perceived as a positive status characteristic relative

to others) improved ratings of obese targets' hireability, performance capacity, adaptability, and interpersonal skills (Finkelstein et al., 2007). However, a study on sales territory assignments found that prior sales success did not improve evaluations of obese sales recruits compared to nonobese recruits (Bellizzi & Hasty, 2000). These equivocal findings imply that positive status characteristics, such as demonstration of task-relevant competence, may not always be sufficient for overcoming the negative status characteristic of obesity.

Moreover, limited evidence suggests that biases based on other stigmatized identities can emerge at the highest levels of organizations. For example, archival information on a matched comparison of male and female executives in the financial services industry suggest that female executives have less authority and fewer stock options than their male counterparts (Lyness & Thompson, 1997). As another example, providing advice, information, and flattery to top management team members increased the likelihood that white men—but not ethnic minorities or women—receive appointments to boards of directors (Westphal & Stern, 2007). These preliminary findings are important because they provide some indication that stigmatized characteristics can affect expectations of targets even if they are able to achieve the highest organizational positions. This suggests that even though they have achieved some degree of success, executives may not be immune to derailment due to biases of others.

This rationale points to two primary possibilities. First, it could be that obesity stigma overwhelms perceptions of even those at the highest levels of organizations. In other words, performance ratings could be negatively related to body size across hierarchical levels. However, the second possibility is that the status associated with a top executive position protects individuals from the stigma of obesity. If hierarchically based status cues buffer targets from the stigma of obesity, the effect of body size on performance should diminish as organizational level increases. We will test this possibility and its alternative:

*Hypothesis 1a: Performance ratings are negatively related to body size across hierarchical levels.*

*Hypothesis 1b: The negative relationship between body size and performance ratings is moderated by hierarchical level such that performance ratings are most strongly related to body size for individuals at lower, rather than higher, hierarchical levels.*

## The Intersection of Obesity, Age, and Gender

In addition to hierarchical level, the characteristic of obesity intersects with several social identity characteristics. Intersectionality theory, which was derived from critical race and feminist theoretical perspectives (Crenshaw, 1988), highlights the meaning and experience of being a member of multiple social categories simultaneously (Cole, 2009). The pattern of oppression encountered by members of one stigmatized group can be compounded when these individuals hold additional stigmatized identities. When considering African American women, for example, Crenshaw (1988) described three ways in which the intersection of gender and race might operate: African American and Caucasian women might have similar experiences, African American women might be doubly disadvantaged, or African American women might have a unique set of experiences. Supporting a “double jeopardy” perspective, Berdahl and Moore (2006) examined men and women of different racial backgrounds and found that women reported more sexual harassment than men, and that minorities reported more ethnic harassment than did whites, leading to the conclusion that minority women experience more harassment overall.

Negative biases associated with obesity likely vary with the demographic attributes of gender and age. Though the effects are not always consistent, the majority of evidence on the stigma of obesity suggests that the stigma may be more severe for women than men; women tend to be judged and stigmatized on the basis of weight and appearance more than men (e.g., Jackson, 1992; Puhl & Brownell, 2001; Puhl & Heuer, 2009; Roehling, 1999). Recent work by P. V. Roehling and colleagues (2009) suggests that overweight women are proportionally less represented in upper-level leadership positions than overweight men. Despite the distinctions between biases toward women and toward obese people in general, such as the fact that obesity is perceived to be a controllable condition, the intersection of these identities appears to yield particularly negative reactions. These findings are consistent with role congruity (Eagly & Karau, 2002) and lack of fit (Heilman, 2001) theories of gender and leadership, which suggest that because the female gender role is inconsistent with typical “leader” roles, women are viewed as less appropriate for and less effective in leadership roles than men (Heilman, Wallen, Fuchs, & Tamkins, 2004). Women who are heavy may be seen as a particularly poor fit with leadership roles, suggesting that obese women

may be doubly disadvantaged at the highest levels of organizations.

It is unclear from existing research whether being old will amplify the negative effects of obesity. On the one hand, preliminary studies suggest that younger workers may be held to more stringent body size standards than their older counterparts. For example, ratings of a range of experimentally manipulated photographed targets showed that obese targets who were young received lower ratings than older obese targets (Hebl, Ruggs, Singletary, & Beal, 2008). In addition, data from the National Survey of Midlife Development found that younger people were more likely to report weight discrimination than older people. These effects may be explained by stronger social expectations and norms of attractiveness in youth

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(Hebl et al., 2008); body size may be associated with fewer stereotypes as age increases. However, there is a substantial body of research demonstrating negative stereotypes associated with older workers (for a review, see Posthuma & Campion, 2008). If double jeopardy applies to the intersection of age and body size, this would imply that heavy older workers will be denigrated based on both characteristics. Moreover, it is possible that the status associated with an executive position is particularly salient for young people, suggesting that youth could protect executives from the stigma of obesity. Consistent with double jeopardy theory and evidence, we predict that:

*Hypothesis 2: The negative relationship between body size and upper managers' performance evaluations will be stronger for women than men (Hypothesis 2a) and older workers than younger workers (Hypothesis 2b).*

The intersection of all three characteristics—age, gender, and body size—could lead to “triple” jeopardy. Although some evidence suggests that young women may be particularly susceptible to the stigma of obesity (Hebl et al., 2008; Rand & Wright, 2001), the lower status associated with each characteristic could accumulate into a greater disadvantage. That is, executives who are women, older, and heavy may face a compounding of negative stereotypes. From the perspective of intersectionality theory and research on double jeopardy, we propose that:

*Hypothesis 3: The negative relationship between body size and upper managers' performance evaluations will*

*be stronger for older women than younger women and men.*

These hypotheses are tested using data from participants in a leadership development program. These data included diagnostic information ascertained by health professionals, demographic data collected from upper managers themselves, personality ratings by a subset of the upper managers, and performance ratings provided by peers, direct reports, and supervisors. In addition to considering the features of waist circumference, age, and gender, we will test the robustness of the waist size–performance rating relationship by exploring the influence of personality and physical fitness. By fully exploring these factors that impinge on any relationship between obesity and evaluations, we address substantive potential confounding variables in a proactive way. Overall, the physical examinations and multisource evaluations of top leaders will shed light on the question of whether stereotypic expectations about obesity affect performance evaluations at the highest levels of organizations.

## Method

### Participants

The participants in the study were 757 attendees of a five-day leadership development program between 2006 and 2010. This program is primarily designed for senior executives (the top three tiers of their organizations) who have responsibilities for 500 or more employees and who have 15 or more years of management experience. The sample was comprised of 17.3 percent female leaders. The majority of participants indicated that their ethnic background was Caucasian (73.8 percent), while others indicated Asian (1.8 percent), Hispanic (1 percent), African American (3.3 percent), Native American (.1 percent), and other ethnic backgrounds (20 percent). The participants ranged in age from 32 to 67 years, with a median age of 48. These individuals represented top leadership in a wide range of sectors, including for-profit (66 percent), private nonprofit (11 percent), and public organizations (23 percent). Almost all participants (93 percent) worked for companies that were larger than 100 employees and the majority (70.1 percent) worked in companies with more than 1,000 employees.

### Procedure

Approximately six weeks prior to attending their leadership development program, participants were asked to complete electronic survey measures of their performance (Executive Dimensions®;

Center for Creative Leadership, 2006), personality (the Workplace Big Five; Howard & Howard, 2006), health-related behaviors, and demographics. Given that the performance measure, or Executive Dimensions®, is a 360-degree survey, electronic copies of this assessment were also sent to (and completed by) the direct reports, peers, and bosses that participants chose to serve as raters of their performance in this program. Participants were encouraged to choose raters who were likely to be honest and who knew them well enough to provide accurate ratings. In our sample, executives chose between 1 and 6 bosses ( $M = 1.18$ ), 1 and 16 peers ( $M = 3.79$ ), and 1 and 16 direct reports ( $M = 4.40$ ). The final ratings for each source represented the average scores across raters because there was a high degree of correspondence in these ratings and the pattern of effects that emerged did not vary as a function of rating source.<sup>1</sup> In addition to completing these assessments, participants were required to take part in a physical exam conducted by medical and certified fitness professionals on the morning of the first day of their five-day leadership development program. During this exam, certified professionals verified participants' responses on the health survey regarding participants' physical activity, height, and weight. Also, as described next, certified professionals recorded objective measures of participants' waist size.

## Measures

### Performance Evaluations

Each of the raters assessed the target leader's effectiveness using a response scale anchored with 1(*Deficient*) and 5(*Exceptional*). We focused on 60 of 92 items that were designed to assess competencies based on taxonomies of leader performance (Borman & Brush, 1993; Yukl, 1981). We conducted a principal axis exploratory factor analysis using a promax rotation to examine the underlying structure of the ratings.<sup>1</sup> To identify the factor structure that best characterized our data, we examined a scree plot, percentages of item variance explained by several plausible factor solutions, and the interpretability of the factor loadings in each of these factor solutions. For a factor structure to be considered highly interpretable, items had to load above .40 on only one factor, and the pattern of factor loadings had to make sense from a conceptual standpoint (e.g., items loading on factor 1 should reflect a common theme but should be different from the theme reflected by items comprising factor 2; Hatcher, 1994).

Based on the preceding criteria, the factor analytic procedure revealed that a two-factor solution best represented our data. Of the 60 total

items used in the factor analysis, 48 of these items cleanly loaded onto one of the two factors. As such, we dropped the 12 items that exhibited high cross-loadings and re-ran the factor analysis with the remaining 48 items. The revised two-factor solution accounted for the majority (69.8 percent) of the item variance. The first factor had an eigenvalue of 30.35 (explaining 63.23 percent of the variance), and the second factor had an eigenvalue of 3.16 (explaining 6.59 percent of the variance). This solution also exhibited relatively good simple structure. The average factor loadings on factors 1 and 2 were .73 and .78, respectively, while the average cross-loadings of items on factors 1 and 2 were only .12 and .16, respectively. The items subsumed by the first factor addressed ratings of *Task Performance* ( $\alpha = .98$ ). Example items for this factor included "translates his/her vision into realistic business strategies" and "acts decisively to tackle difficult problems." The items subsumed by the second factor dealt with *Interpersonal Performance* ( $\alpha = .98$ ). Example items for this factor included, "wins concessions from others without harming relationships" and "publicly praises others for their performance." These two dimensions of performance are common across most theoretical and empirical taxonomies of leader performance (e.g., Motowidlo & Van Scotter, 1994) and leader behavior (Fleishman, 1953; Halpin & Winer, 1957; Yukl, 2001). Thus, the analyses reported in the results section rely on average ratings of Task and Interpersonal Performance.

### Body Size

A yet-unexplored aspect of obesity as a (stigmatized) status characteristic is identifying the specific cues that engender negative expectations of heavy individuals. Popular methods of operationalizing obesity are subject to meaningful, systematic biases. Experimental research typically involves photographs of targets that do or do not appear to be obese (e.g., Finkelstein et al., 2007; Hebl & Heatherton, 1998). In such studies, judgments of body size are made by the experimenters or through pilot studies that confirm intended manipulations. Survey research typically relies on self-report indicators of height and weight that are combined into a measure of BMI (see M. V. Roehling et al., 2008) for the purpose of categorizing them as "underweight," "normal," "overweight," or "obese." Overreliance on the BMI has been met with criticism within some medical communities, as it may

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not adequately capture weight-related risk factors among some groups (e.g., athletes; Ode, Pivarnik, Reeves, & Knous, 2007). The pertinent question here is, How do observers judge body size? Weight stigma is likely a result of visual cues that are immediately observable. According to the NIH, a high waist circumference is associated with risk for diabetes, hypertension, and cardiovascular disease (particularly for individuals who are high in BMI). Waist circumference is known as a practical tool for assessing body composition and may be a better indicator of health risk than BMI alone (NIH, 2010). In addition to its implications for health, waist circumference may be the most easily observed weight cue. Stigma, by definition, is an attribute or mark of shame that prevents an individual from full social acceptance (Goffman, 1963). In the case of weight, the visible attribute of waist circumference—more so than the obscure measure of BMI—may cue the stigma of obesity and drive any negative evaluative outcomes. We included measures of waist circumference and BMI to explore both predictors.

Certified fitness professionals measured each executive's waist size in centimeters using a Gulick Tape Measure, which ensures standard tension for measurement at the level of the umbilicus (see Klein et al., 2007).

During a physical exam of all participants, a certified fitness professional verified target executives' height and weight. Using a standard procedure (weight in pounds \* 703 / height in inches<sup>2</sup>), the body mass index was calculated.

### Physical Activity

A correlate of health and body size that has been associated with performance evaluations (McDowell-Larsen, Kearney, & Campbell, 2002; Neck, Mitchell, Manz, Cooper, & Thompson, 2000) is the amount of physical activity in which an executive engages. It is possible that observers have some level of awareness of the physical activity of their colleagues through discussions of exercise or training regimens. We considered activity as a control variable in analyses to ensure that any effects of waist circumference on performance ratings are due to body size rather than the tendency for heavier people to be less active. Participants indicated the number of hours per week that they engage in aerobic exercise, the intensity of this exercise, and the frequency that they engage in non-structured active behaviors. The set of activities were derived using the Compendium of Physical Activity (Ainsworth et al., 1993). They included activities such as golf, bicycling, swimming, walking, weight lifting, and aerobics classes. Metabolic equivalent levels were obtained for each activity using the Compendium of Physical

Activity (Ainsworth et al., 1993). Subsequently, physical activity was calculated as the number of kilocalories the individual expended in physical activity in a typical week.

### Personality

In a subset of the sample ( $N = 331$ ) that completed the survey before 2008, the target executive also completed a measure of the Big Five personality traits (Howard & Howard, 2009). These participants indicated the degree to which statements were true of them using a scale anchored with  $-2$  (*The Opposite Is Clearly True*) and  $+2$  (*Definitely True*). Of focus in the current research (for the purpose of creating control variables that could correlate with leader performance) are the average responses to items reflecting Conscientiousness ( $\alpha = .74$ ; e.g., "organizes for work effectively" and "is always prepared") and Extraversion ( $\alpha = .70$ ; e.g., "prefers to work in solitude" and "thrives on working with people").

### Hierarchical Level

Our primary measure of hierarchical level was participants' self-classification. Namely, participants indicated their level by classifying themselves as "upper middle" (coded as 1), "executive" (coded as 2), or "top" level (coded as 3). Individuals with job titles such as "CEO" and "President" classified their position level as "top" (39 percent). Individuals with job titles such as "Vice President" classified themselves as "executive" level (55.3 percent). Finally, individuals who held job titles such as "Managing Director" and "Assistant Vice President" indicated that they were in the "upper middle" level (5.8 percent).

Two additional, less direct indices of hierarchical level were also used. First, participants indicated their total annual income in dollars, which ranged from \$40,000 to \$300 million, with a median level of \$325,000. Second, participants indicated their span of control, or the number of employees who directly report to them, which ranged from 1 to 2,400 with a median of 7.

### Demographics

The target executive indicated their gender, age, and ethnicity. Given a small number of ethnic minorities in each ethnic category, ethnicity was coded as "white" and "nonwhite." The year in which participants completed the program was also recorded.

## Results

Descriptive statistics and intercorrelations among study variables are provided in Table I. Participants

**TABLE I** Scale Descriptive Statistics and Zero-Order Correlations

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Waist	94.75	12.80													
2. BMI	26.56	3.87	.84												
3. Activity	1833.62	1655.69	.02	.01											
4. Task Performance	3.89	.41	-.11	-.10	.08										
5. Interpersonal Performance	3.81	.46	-.10	-.08	.07	.82									
6. Gender	.17	.38	-.54	-.29	-.21	.01	.03								
7. Age	48.48	6.24	.12	.06	.06	.20	.25	-.01							
8. Race	.23	.42	-.05	-.01	.00	-.12	-.16	-.02	-.09						
9. Year	2.97	1.28	-.04	-.02	.21	.09	.06	.05	.04	.11					
10. Level	2.33	.58	.06	.00	.05	-.04	-.08	-.11	.02	.04	.04				
11. Income	325000 <sup>a</sup>	1123k	.02	.00	-.05	.02	.01	-.02	-.01	-.02	-.07	-.02			
12. Number of Reports	7 <sup>a</sup>	4245	.05	.01	.05	.11	.12	-.04	.09	-.03	.00	.05	-.01		
13. Conscientiousness <sup>b</sup>	50.91	6.79	-.05	-.09	.03	.05	-.04	-.04	.01	.13	.01	.11	-.08	.06	
14. Extraversion <sup>b</sup>	52.6	5.73	.03	-.01	.14	.06	.12	-.05	-.04	-.03	.07	.12	.05	.12	.17

<sup>a</sup>Indicates median value reported rather than mean.

<sup>b</sup>Indicates sample size of 331; all other values based on a sample size of 757.

Note: Correlations > ± .10 are significant, *p* < .05. Correlations > ± .12 are significant, *p* < .01.

Gender coded as 0 = Female, 1 = Male. Race coded as 0 = Ethnic Minority, 1 = Nonminority. Year coded as 1 = 2006, 2 = 2007, 3 = 2008, 4 = 2009, 5 = 2010. Level coded as 1 = "upper middle," 2 = "executive," and 3 = "top" level.

in this study had a median BMI of 26, suggesting that approximately half of the sample would classify as being overweight (BMI > 25). Approximately 18 percent of the sample had a BMI that would be considered to be obese (BMI > 30). Consistent with previous research (e.g., Klein et al., 2007), waist circumference and BMI were highly correlated (*r* = .84, *p* < .01). In addition, both waist circumference and BMI were negatively correlated with each performance dimension.

**Exploring the Relationship between Body Size and Performance Ratings**

To explore the relationship between body size and performance ratings, we used hierarchical regression analyses in which covariates were entered in the first step of a regression equation and additional predictors were entered in sequential steps (Aiken & West, 1991; see Table II). For both Task and Interpersonal Performance (aggregated across peer, supervisor, and subordinate sources), the sequence of variable entry was (1) covariates, (2) BMI, and (3) waist circumference.<sup>2</sup>

Specifically, we began by controlling for gender, race, age, job level, and physical activity. Significant main effects for age, ethnicity, and physical activity suggest that older leaders, white

**TABLE II** Hierarchical Regression Analyses Testing the Robustness of the Obesity-Performance Ratings Relationship

	Task Performance		Interpersonal Performance	
	b	Δ <i>R</i> <sup>2</sup>	b	Δ <i>R</i> <sup>2</sup>
Step 1:				
Gender	.03	.07**	.05	.10**
Age	.20**		.25**	
Race	-.11**		-.13**	
Level	-.06		-.08*	
Activity	.09*		.07	
Year	.05		.04	
Step 2:				
BMI	-.13**	.01**	-.12**	.01**
Step 3:				
Waist	-.20*	.01*	-.26**	.01**
Step 4:				
Waist × Age	-1.07*	.01*	-2.98**	.02**
Waist × Gender	-.48		-.19	
Age × Gender	-1.03**		-3.11**	
Step 5:				
Waist × Age × Gender	.22	.00	-.02	.00

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

leaders, and leaders who were physically active were evaluated more positively than younger, ethnic minority, and less physically active leaders. Interestingly, leaders at higher organizational levels were rated more negatively with regard to interpersonal (but not task) performance than leaders at lower organizational levels.

After controlling for these variables, BMI was negatively related to both Task and Interpersonal Performance ratings. In addition, waist circumference was a significant predictor of both performance dimensions over and above the effect of BMI ( $ps < .01$ ,  $\Delta R^2s = .01$ ). Together, providing initial support for Hypothesis 1a, these analyses suggest that both BMI and waist circumference are inversely related to performance ratings.

In a separate analysis on the subset of the sample ( $N = 331$ ) that completed the development program before 2008 (and thus had personality scores available), we further tested the robustness of the effect of waist circumference on performance ratings by controlling for the effects of conscientiousness and extraversion. It has been argued that stereotypes about obese individuals as lazy and solitary are based on a “kernel of truth” or, in other words, that heavy individuals may actually be less conscientious or extraverted than thinner individuals (see M. V. Roehling et al., 2008). Since conscientiousness and extraversion are characteristics that can enhance performance evaluations (Barrick & Mount, 1991) that could arguably be linked with smaller body sizes, it is important to determine the effects of body size on ratings independent of personality. Consistent with previous research (M. V. Roehling et al., 2008), however, body size was not significantly correlated with conscientiousness or extraversion in the current study ( $ps > .05$ ). Beyond the effects of these personality variables and other covariates, waist circumference was significantly negatively associated with each of the performance outcomes ( $\Delta R^2s = .04$ ).

#### *Hierarchical Level as a Moderator of the Body Size–Ratings Relationship*

The aforementioned analyses included organizational level (classified as “top,” “executive,” or “upper middle”) as a control variable. To more directly test the hypotheses, we also considered the effects of organizational level as a moderator of the relationship between waist circumference and performance ratings. We included all covariates and the main effects of both predictor variables before entering the multiplicative interaction of waist circumference and organizational level in the regression model. The results suggested that the interaction between waist circumference and

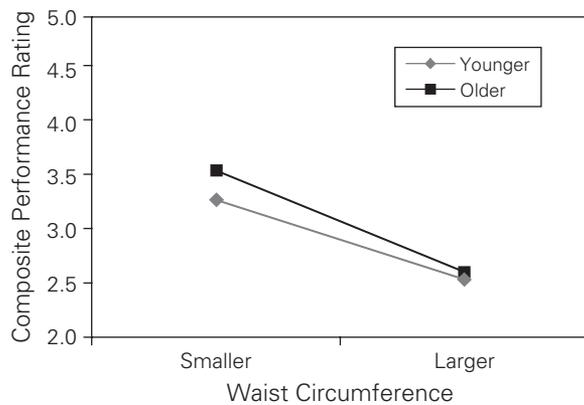
organizational level did not account for incremental variance in either Task ( $\beta = -.14$ ,  $\Delta R^2 = .00$ ,  $p > .10$ ) or Interpersonal Performance ( $\beta = -.04$ ,  $\Delta R^2 = .00$ ,  $p > .10$ ).

We conducted a parallel analysis to test the moderating effects of income on the relationship between waist circumference and performance as an additional indicator of hierarchical level. The results suggested that this interaction term did not account for incremental variance above the covariates and main effects of waist circumference and income in either Task ( $\beta = .37$ ,  $\Delta R^2 = .00$ ,  $p > .10$ ) or Interpersonal Performance ( $\beta = .92$ ,  $\Delta R^2 = .00$ ,  $p > .10$ ).

Span of control was a final indicator of hierarchical level that was tested as a potential moderator of the relationship between waist circumference and performance ratings. Number of direct reports did not influence the relationship between waist circumference and Task ( $\beta = -.29$ ,  $\Delta R^2 = .00$ ,  $p > .10$ ) or Interpersonal Performance ratings ( $\beta = -.08$ ,  $\Delta R^2 = .00$ ,  $p > .10$ ). Together, these findings suggest that the relationship between waist circumference and performance ratings is comparable in magnitude and direction across hierarchical levels, supporting Hypothesis 1a and refuting Hypothesis 1b.

#### *The Intersection of Body Size, Gender, and Age*

We also considered gender and age as moderators of the waist circumference–performance ratings relationship (H2). We computed relevant interaction terms and added them sequentially to the regression models (Table II). The two-way interactions (but, contrary to H3, not the three-way interaction) contributed significant incremental variance to Task and Interpersonal Performance ( $\Delta R^2 = .01$  and  $.02$ , respectively,  $ps < .01$ ). Contrary to our prediction (H2a), the interaction between waist circumference and gender was not statistically significant. However, the two-way interaction between waist circumference and age (H2b) was significantly related to each of the performance dimensions. The effects were interpreted first by graphing the full set of relations (all variables standardized, plotted at  $\pm 1$  SD). Figure 1 demonstrates that the negative relationship between waist circumference and the performance ratings was stronger for older than younger workers, suggesting that being younger for those in upper management positions buffers some of the negative effects of obesity. The direction of this effect was consistent with a double jeopardy hypothesis: the relationship between waist circumference and performance ratings was stronger for older (+1 SD;  $r_{\text{task}} = -.23$ ,  $r_{\text{interpersonal}} = -.20$ ,  $ps < .01$ ) than younger



**FIGURE 1.** The Interaction between Waist Circumference and Age

workers ( $-1$  SD;  $r_{\text{task}} = -.11$ ,  $r_{\text{interpersonal}} = -.12$ ,  $ps > .05$ ). A two-way interaction between age and gender, irrelevant to the current hypotheses but consistent with double jeopardy theory, also emerged and suggested that age was more detrimental for female than male organizational leaders.

## Discussion

Integrating the traditions of status characteristics and stigma theories, we examined whether the devalued status conveyed by obesity could trump the substantial positive status associated with upper management positions in terms of its potential influence on performance ratings. In perhaps one of the most empirically comprehensive examinations of obesity bias conducted to date (e.g., medical examinations and performance evaluations of actual upper managers rather than “paper people”), the results of this study support a stigma perspective and suggest that bias affects evaluations of even those who hold the greatest status in organizations; a weight-related negative status characteristic may affect the ratings of even CEOs and presidents as assessed by their subordinates, peers, and supervisors who should know them well and not be vulnerable to stereotypic beliefs. Specifically, the size of executives’ waistlines was negatively associated with others’ evaluations across hierarchical levels (job level, income, and span of control), even after accounting for BMI, physical activity, extraversion, conscientiousness, and demographic variables.

### Theoretical Implications

The findings of the present study have implications for both of the theoretical traditions that we have discussed in this article. To begin, stigma theory and research suggest that some characteristics convey a severely discredited social identity and are associated with stereotypes, discrimination,

and social disadvantage (Crocker, Major, & Steele, 1998). Previous research has demonstrated that stigma can affect perceptions of low- and midlevel employees in selection, training, and performance appraisal contexts (see Leslie, King, Bradley, & Hebl, 2008), but has not yet explored the implications of stigma for the upper echelons of organizations. Finding that obesity cues are negatively related to evaluations of upper-middle, middle, and top executives suggests that stigmatized characteristics can infect perceptions of even the most powerful organization leaders in society. This extension beyond previous research has particular theoretical meaning in light of status characteristics theory, which implies that top executives hold strong and positive status cues.

Indeed, these findings—that obesity stigma affects even top executives—could be interpreted as opposing status characteristics theory (Kalkhoff & Thye, 2006). However, as discussed earlier with regard to status characteristics theory, it is possible to interpret the current findings in light of the notion that positive and negative status attributes can be considered simultaneously. That is, multiple attributes may be evaluated based on relevance to the task at hand and aggregated (Berger et al., 1992). Supporting contemporary perspectives of status characteristics theory, results suggest that personal characteristics that are irrelevant to successful task completion contribute to evaluations (e.g., Ridgeway, 2001; Ridgeway & Correll, 2004). That is, these findings suggest that even characteristics unrelated to a given task (i.e., obesity) are incorporated in status-based evaluations. Overall, negative status characteristics derived from stigmatized identities may not be counterbalanced by a high-status position.

The current research also has direct implications for addressing Landy’s (2008) statement that “there is ample reason to question the extent to which laboratory research examining the effect of stereotypes on employment decisions and evaluations would appear to have little relevance for the effect of stereotypes in real-world employment decisions and evaluations” (p. 383). The basis for this claim is that previous research on discrimination involves experiments in which little individuating information is available about the target. The evidence presented here directly refutes this

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*The size of executives’ waistlines was negatively associated with others’ evaluations across hierarchical levels (job level, income, and span of control), even after accounting for BMI, physical activity, extraversion, conscientiousness, and demographic variables.*

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claim by demonstrating that expectations arising from negatively valued status characteristics affect evaluations of a range of leadership competencies by workers who know the target best. Indeed, although the effect sizes for body size in this study are small (.01–.03) after controlling for demographics, personality, and physical activity, this is generally consistent with laboratory research findings that include small to moderate effect sizes regarding the effect of obesity on hypothetical employment decisions (Rudolph et al., 2008) and effect sizes found in studies of bias toward other groups about which management scholars and practitioners are concerned (such as gender; e.g., Eagly, Makhijani & Klonsky, 1992). Importantly, however, these small effect sizes can accumulate over time into substantial differences. A district manager who receives even slightly lower performance ratings because of his or her body size (or

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*Obesity could be a barrier not only to the accurate evaluation of performance but also to the effective identification of high-potential employees.*

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gender or ethnicity) might not be promoted or compensated at the same level as his or her counterparts. This problem is likely exacerbated in conditions in which variance in performance ratings is negatively skewed due to positivity biases. Moreover, because these decisions often influence future decisions (i.e., getting one promotion helps you get another), even small effect sizes can have large consequences (see Martell, Lane, & Emrich, 1996; Valian, 1998).

Thus, this evidence suggests that demonstration of competence that is presumably associated with formal positions of status, which have been shown to help to reduce discrimination (e.g., Finkelstein et al., 2007; Heilman, Block, & Martell, 1995; Heilman & Haynes, 2005), may be insufficient in overcoming pervasively devalued identities. Even those who were selected for the most critical organizational positions on the basis of demonstrated competence are subject to weight-related stereotypes. Thus, the current findings suggest that, despite the limitations of existing laboratory research, the stigma of obesity can generalize to field settings and that individuating information in the form of familiarity or competence will not eliminate bias.

In addition to these substantive contributions, the current study also provides novel evidence regarding the cues and conditions that give rise to weight-related stereotypes. First, the results suggest that waist circumference contributes to weight-related stereotyping above and beyond the effects of BMI, personality, and physical activity. This finding suggests that waist size is a meaningful status

characteristic of body size, and that observers may be attending to body shape more than reflected by weight-height ratios to a greater extent than previously recognized. Second, the findings from supplementary analyses suggest that the negative relationship between waist circumference and ratings is similar for men and women. These findings imply that the inconsistent effects of gender in previous obesity research could be attributed to the limited amount of information available about targets to participants. The effect of gender may be stronger in these (primarily experimental) studies because evaluators do not have access to information about targets beyond their social identity categories and thus rely more closely on these characteristics. However, the effect of obesity on performance evaluations was stronger for older workers than for younger workers, suggesting that future research on the intersection between social identity characteristics may benefit from consideration of multiple age groups (see also Hebl et al., 2008). These effects may be attributable to the lower status associated with being older as compared to younger; the status characteristic of age may be aggregated with the cue of obesity. This pattern is in line with the double jeopardy perspective derived from intersectionality theory. Consideration of the intersection of age and obesity stigma may be particularly critical given the increasing proportion of older individuals in the workplace.

### *Practical Implications*

From the perspective of organizations, executive performance management systems can be useful tools for organizations that struggle to balance the need to retain upper managers with the need to justify skyrocketing executive compensation packages to stakeholders (e.g., Wade, Porac, Polluck, & Meindl, 1997). In addition, performance evaluations allow organizations to ensure that they are employing, promoting, and retaining individuals who perform well in their jobs. The results presented here raise some question about the objectivity and fairness of these evaluations; if stereotype-driven bias influences evaluations of upper managers even to a small extent, compensation packages may be unjustified and high potential individuals might be dismissed from or overlooked for positions in which they could succeed. That is, obesity could be a barrier not only to the accurate evaluation of performance but also to the effective identification of high-potential employees. Indeed, like other targets of stigma (e.g., women; Biernat & Fuegen, 2001; Foschi, 2009), obese executives may face double standards in evaluations; executives may be subject to

higher evaluation standards as their waist circumference increases (Foschi, 2000). A more general issue is whether 360-degree systems are appropriate for administrative decisions; perhaps such measurement approaches are more appropriate for development than decision making.

In any case, subjective evaluations should be considered in conjunction with additional indicators of effectiveness. This is consistent with best practices in performance management and the notion of a balanced scorecard (e.g., Kaplan & Norton, 1996). In much the same way that organizations should be evaluated holistically, it is critical that evaluations of upper managers identify areas of effectiveness and development in a holistic fashion. Depending on the nature of the leader's business, a more balanced evaluation system would potentially also consider financial indicators, quality indices associated with production, indicators of subordinate effectiveness, and customer evaluations. Even if it is successfully implemented, however, this more comprehensive approach will not eliminate obesity bias. It will, however, increase the chances that the complete executive assessment contains some indices that should be free of such bias. Thus, a more complete and accurate picture is ascertained.

From the perspective of upper managers themselves, the current findings reinforce the importance of interpersonal impressions and highlight the role of appearance. This was found to be true across indicators of hierarchical status, including job level, income, and span of control.<sup>3</sup> Irrespective of its fairness or utility, body size is associated with important evaluative outcomes for the most publicly visible top executives and the lower-level executives where public visibility is largely irrelevant. Individuals who are or who hope to become top executives, or perhaps even who hope to run for elected office such as Chris Christie, should be aware that their body size affects interpersonal impressions. Leaders with larger waistlines who would like to proactively counteract such biases might choose to compensate for stereotypes of laziness (e.g., Miller, Rothblum, Felicio, & Brand, 1995) by losing weight or emphasizing their drive, ambition, and energy in their interactions with others (see Singletary & Hebl, 2009). Of course, such a decision implies that the burden of reducing discrimination is on its target more so than the society in which prejudices are perpetuated. Why should Chris Christie, for example, have to lose weight to demonstrate his capability as a governor? An alternative approach for executives might be to put in place structures or practices that reduce biased evaluations toward stigmatized targets in general (e.g., behaviorally anchored

rating scales, frame of reference training). An altogether different approach might be to institute wellness initiatives that, in line with the changing emphasis on preventative care associated with the Affordable Care Act, encourage a holistic wellness paradigm that shifts the focus from weight to a broader conceptualization of health of all workers.

### *Limitations and Future Research Directions*

Our conclusions must be interpreted in light of a few methodological limitations. One potential constraint of the generalizability of the findings is that the multisource evaluations in this study were made in a developmental capacity rather than for administrative purposes. Because ratings made for developmental purposes can be more negative than ratings that are used for administrative purposes (Jawahar & Williams, 1997), particularly when made by subordinates (Greguras, Robie, Schleicher, & Maynard, 2003), we do not know whether performance evaluations for compensation or selection purposes would reflect similar biases. However, this concern may be partially mitigated given the consistency of the current findings with laboratory-based studies.

A second limitation of the data is that we do not have any information about the raters themselves. It is likely that rater characteristics (including, for example, age, gender, and body size) have some influence on ratings of executives, but we were unable to account for these sources of variance. In addition, we could not directly assess the raters' perceptions of the executive ratees' status, which would allow a more direct assessment of the moderator of interest. Another factor that we could not account for is ethnicity of the executive as a potential moderator. Although we would have liked to integrate ideas from previous research which has demonstrated that ethnicity can play a role in perceptions of obese targets (e.g., Hebl & Heatherton, 1998; Hebl, King, & Perkins, 2009), there were simply not enough minorities in the sample to obtain stable estimates of these effects. Thus, this is certainly an important area for future research. Finally, we were not able to account for individual differences in intelligence or experience, variables which typically account for substantial variance in performance ratings. However, it is likely that there would be little variance on these variables for the participants in this study given that they have all achieved relatively high-level jobs in their organizations. Also, we are not aware of any previous research that empirically links body size to either construct, alleviating concerns that intelligence and experience might be unmeasured confounds. The current findings suggest that the effect of obesity on ratings is robust

with regard to previously unexplored conditions, but future research should explore rater characteristics in relation to administrative evaluations of minority and nonminority executives to determine the generalizability of the current findings.

## Conclusion

This article describes a unique and robust test of the emergence of bias toward obese executives. Specifically, we provide empirical evidence from multisource ratings of actual executives to explore waist circumference as a stigmatized characteristic that affects evaluations of individuals who otherwise possess substantial status. The current findings highlight the perniciousness of weight-related bias and suggest that negative expectations associated with the stigma of obesity cannot be entirely overcome through formal status characteristics. Instead, powerful stereotypes permeate the upper echelons of organizations.

## Notes

1. The results presented here are based on a factor analysis of the aggregated ratings provided by peers, direct reports, and supervisors. We examined the factor structure of the items separately within each rater source separately and obtained similar results. There was a high level of consistency across the supervisor, peer, and subordinate ratings (in line with Fecteau & Craig, 2001); ICCs based on one-way mixed model consistency estimates were .70 and .74 for the performance dimensions supported by the factor analysis, suggesting sufficient reliability to justify aggregation (see LeBreton & Senter, 2007). For exploratory purposes, we also conducted all inferential tests using data from each rater independently and found identical patterns across rating sources.
2. Given the high correlation between waist circumference and BMI, we also conducted alternative analyses in which waist circumference was entered before BMI in the regression models. The results of these analyses suggest that the effect of waist circumference is similar in direction and magnitude, but show that BMI does not contribute incremental variance in explaining performance ratings over and above waist circumference. Thus, these results lend support to the notion that waist circumference, rather than BMI, may be an observable cue triggering the obesity stigma. It is also worth noting that we conducted separate analyses using only one of the indicators of obesity (without the other) and found comparable patterns.
3. Furthermore, we explored the role of organizational type (“business sector” versus “public” and “non-profit”) as a moderator to determine whether biases are greater for upper management when they are more likely to represent their company to external stakeholders (i.e., in the business sector). The results of these analyses (which yielded a nonsignificant effect of the interaction term) suggest that the effect of waist size on ratings does not vary significantly as a function of the type of organization.

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