This study examined sex differences in calculated and perceived weights and weight-based stigmatization. 371 African Americans (females=258) responded to a health and wellness survey. Body mass index (BMI) was calculated from self-reported height and weight and categorized as underweight (7.0%), normal (48.2%), overweight (29.9%), and obese (14.8%). Perceived weight was measured by asking participants, “Do you consider yourself to be overweight?” Responses were then dichotomized as accurate or inaccurate. Stigmatization was constructed from 16 statements regarding perceived treatment due to weight status. Males and females differed in their perceptions of their weights. More than 20% of the participants had inaccurate perceptions of their weights, with the majority of the inaccurate participants (82.5%) perceiving their weight status lower than their actual weight status. More overweight or obese males than overweight or obese females did not perceive themselves as overweight (60.3% vs 28.3%, respectively, P<.001). While male and female perceptions of weight-based stigmatization were not statistically different (P=.071), participants who accurately perceived themselves to be overweight had higher perceived weight-based stigma scores than inaccurate participants who were overweight (P=.001). Males and females who were inaccurate were less likely to perceive weight-based stigmatization. (Ethn Dis. 2010;20[Suppl 1]:S1-196–S1-200)

Key Words: Weight Bias, Weight-based Stigmatization, Misperception of Weight, African American, Sex Differences

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African American males between the ages of 20 and 39 years have the highest prevalence of obesity (40%); White males between the ages of 40 and 59 years have the highest prevalence of obesity (40%). Recent reports show that Black individuals have a 51% higher prevalence of obesity than White individuals; Hispanic individuals have a 21% higher prevalence of obesity than White individuals. Identifying factors that reduce the prevalence of obesity and the negative impact on health outcomes continues to be one of the greatest health challenges in the United States.

Addressing the health impact of obesity is complicated by the social stigmatization and weight bias against overweight and obese individuals. Weight stigma or bias is defined as “negative attitudes and beliefs that are manifested by stereotypes, rejection and prejudice toward individuals because they are overweight or obese.”

Weight-based stigmatization and discrimination has been well established in the literature. Unlike other health issues, weight is seen as controllable, thus creating a negative social dynamic that stigmatizes and blames the individual for being overweight and obese. Overweight and obese individuals are stigmatized and are perceived as lacking in self-control, failures in taking personal responsibility, and lazy. This social stigmatization leads to neglect because society blames them for their problems. Pomeranz suggests that as long as weight bias and weight-based stigmatization remain socially acceptable, addressing the problems faced by overweight and obese individuals and the related health disparities as well as solving the obesity crisis remain elusive.
The impact of weight-based stigmatization on psychological well-being and social participation begins with teasing in childhood and adolescence\(^{16,14}\) and continues throughout adulthood.\(^{4,5,7,15,16}\) Wang and her colleagues\(^7\) demonstrated that not only does the overweight and obese individual internalize negative perceptions imposed by society but they also devalue themselves and other overweight and obese individuals. Women report greater weight-based stigmatization and are judged more negatively than males of similar weight categories.\(^{7,8,15,17}\) Regardless of age, pictures of heavier individuals were rated as less attractive than normal weight individuals. Heavier females were rated as the least attractive.\(^{15}\)

In addition to differences in self- and other-perception of weight bias and stigma, research also examined differences in self- and other-perception of stigma based on race and ethnicity.\(^{8,12,14,18}\) As compared to overweight and obese White adolescent girls, overweight and obese Black adolescent girls (23% and 56%, respectively) were less troubled by weight-related teasing by peers and family members.\(^{14}\) Obese Hispanic girls reported the greatest percentage of peer teasing (79%). Overweight and obese adolescent Black and obese Asian American boys reported the least amount of teasing from peers and family members. Obese Hispanic White and racially mixed boys receive the most teasing from peers. Latner and her colleagues\(^8\) reported that African American women view other overweight and obese individuals more favorably than did African American men, White men, and White women. White males were more likely to stigmatize obese persons than Black females. African American males were just as likely to attribute negative stereotypes toward obese persons as White males.\(^8\) According to the results reported by Carr and her colleagues,\(^18\) obese II/III White men perceive greater levels of teasing and harassment and disrespectful treatment than normal weight White men. Extremely obese Black men perceive lesser levels of teasing and harassment or disrespect than normal weight Black men. For women, perception of negative interpersonal treatment did not vary by race or weight status.

Self-perception of weight bias may in part be related to self-perception of weight status. Individual who fail to perceive themselves as overweight or obese may also inaccurately categorize them as overweight or obese. van den Berg et al\(^{14}\) reported that non-Hispanic Blacks were bothered less by teasing from peers and family members. One reason for being less bothered could be that they did not perceive weight bias or stigma. While Sanderson, Darley, and Messinger\(^7\) suggest that the self-categorization theory promotes perceptual inaccuracy in weight, Roccas and Brew er’s\(^{20}\) social complexity theory is equally as plausible. Self-categorization theory, developed by Turner, Hogg, Oakes, Reicher, and Wetherell,\(^{21}\) suggests that overweight and obese individuals fail to see themselves within that group, which is socially stigmatized by weight, particularly when bias or discrimination may be perceived because of race or sex. Thus, accuracy and perceptions of weight categorization can greatly affect perceptions of stigmatization. Pom eranz\(^9\) suggested that social stigmatization and efforts to promote self-control of eating may be used to motivate individuals to lose weight. When overweight and obese individuals mis-categorized themselves, social stigma fails to motivate changes in behavior and become an ineffective and maladaptive health strategy.

Paeratakul and colleagues\(^{22}\) and Gross et al\(^{23}\) reported racial/ethnic differences in the perception of weight and weight status. According to Paeratakul,\(^{22}\) African American males and females are less likely to perceive themselves as overweight. Overweight males are more likely than overweight females to classify themselves as normal weight. Additionally, overweight African American males are particularly inaccurate in categorizing their weights.\(^{22,23}\) Gross et al\(^{23}\) examined actual and perceived weight status and body satisfaction of college-age African Americans and demonstrated that if the 50.4% male participants who were categorized by their reported weights as overweight or obese (OW/O), 59.7% inaccurately perceived themselves as normal weight and chose ideal weights and healthy weights that were heavier than males with accurate weight perceptions. Inaccurate overweight and obese males desired larger upper torsos and larger body parts (ie, arms, legs, chest area). In regarded to health and perceptions of social status, inaccurate overweight and obese males were less likely to agree that losing weight supported healthiness or that losing weight would make them more social.

This study examined sex differences in calculated and perceived weight and weight-based stigmatization among African Americans. We hypothesized that males, compared to females, would be less accurate in their perceived weight status and would perceive less negative perceptions of weight-based stigmatization.

**METHODS**

Participants were 371 African American young adults (258 females) graduating in spring 2003 from a historically Black university in the mid-Atlantic region.

**Weight status**

Body mass index (BMI) was calculated in kg/m\(^2\) using self-reported height and weight; participants were categorized according to NIH guidelines\(^8\): underweight \(\leq 18\), acceptable 19–24, overweight 25–29, obese 30–34, or extreme obesity (obesity II) \(\geq 35\) at both baseline and follow-up surveys.
Self-Perception of Body Size Variables

Self-perception as overweight and/or obese was measured using two questions: “Do you consider yourself now to be overweight?” and “Do you consider yourself now to be obese?” A dichotomous summary variable was constructed to represent all individuals who responded, “yes” to either of these items.

Accuracy of Weight Perception

A variable representing accuracy of self-perception of overweight or obese was constructed by comparing self-perception items with current weight status. Those who were underweight or had acceptable weight and misclassified themselves as overweight or obese were categorized as inaccurate. Those who were overweight, obese or extremely obese and did not classify themselves as at least overweight were also categorized as inaccurate.

Perceived Weight-based Stigmatization (PWSS)

The Perceived Weight-based Stigmatization Scale (PWSS) was operationalized with a set of sixteen items adapted from previous studies, mostly related to social interactions of young adults.23 Factor analysis confirmed that the items formed one 16-item scale, which assessed the respondent’s perceptions of potentially negative weight-based attitudes and impressions by family, friends and peers such as “Because of my weight people think I am lazy” or “Because of my weight people often treat me differently.” Respondents indicated the extent of agreement with each item using a Likert scale of five anchored points, which included “Strongly agree”, “Agree”, “Undecided”, “Disagree” or “Strongly disagree.” Individual scores were calculated by summing the answers of the sixteen items. The total score for the scale ranged from 16 to 80, with lower scores indicating greater perceptions of stigmatization and negative perceptions of weight. The mean score for the stigma scale for this group was 34.3 ±4.9 with a median score of 36.0 and the range was from 17 to 40. The standardized alpha for a subscale using these 16 items was 0.89.

Statistical Analysis

Sociodemographic, weight-related, self-perception of body size and weight-related stigma variables were summarized using means and frequencies. All variables were stratified by sex and χ² tests and t tests were used to determine if there was a statistically significant difference between males and females. A sex comparison of self-perception of body size by weight status was examined in a weight-stratified analysis of respondents with a BMI ≥ 25. For each weight status category (overweight, obese and extremely obese), χ² tests and t tests were used to compare variables by sex. In addition one way ANOVA tests and Pearson correlations were used to test for linear associations between continuous variables and increasing weight status.

RESULTS

Of the 58 males who were at least overweight, only 39.6% (n=23) classified themselves as overweight. Of the 22 males who were obese (BMI ≥30) only 18.2% (n=4) classified themselves as obese. Of the 106 females who were at least overweight, 72.6% (n=77) accurately classified themselves as overweight. Of the 33 females who were obese (BMI ≥30) only 30% (n=10) accurately classified themselves as obese. Body mass index (BMI) was calculated in kg/m² using self-reported height and weight and were categorized as underweight (7.0%), normal (48.2%), overweight (29.9%), and obese (14.8%). As hypothesized, males had higher average BMI than females (26.20±5.15 vs 25.05±5.82, respectively, P<.005).

Approximately 47.7% of the participants were overweight or obese. Males were more likely to be obese (BMI, 30–34) than female respondents. Females were more likely to perceive themselves as overweight or obese compared with males (51.3% vs 41.4%, respectively, P=.08). Males were more likely than females to inaccurately misclassify their weight status. Males and females differed in their perception of weights. More than 20% of participants had an inaccurate perception of their weight, with the majority of inaccurate participants (82.5%) perceiving that their weight status was lower than their actual weight status. Only 4% (n=1) of the underweight participants perceived themselves as overweight in this sample and 11% (n=13) of participants of normal weight perceive themselves as overweight. More overweight or obese males than overweight or obese females did not perceive themselves as overweight (60.3% vs 28.3%, respectively, P<.001).

The results demonstrated that regardless of the accuracy of perceived weight status, there are significant sex differences in perceived weight-based stigmatization, with females having greater perceptions of weight-based stigma (lower stigma scale scores indicate greater stigma) than the males (33.8±5.3 vs 34.6±4.8, respectively; F(4,370)=4.7, P=.001). Morbidly obese males had the greatest perception of weight-based stigmatization (30.8±5.4), with underweight males having the least negative perceptions of stigma (39.5±0.7). As predicted, there were significant differences in perceived weight-based stigmatization between inaccurate and accurate males (35.5±4.8 vs. 33.1±4.3, respectively; F(1,112)=5.1, P=.026).

For males, who are accurate in categorizing their weights, as BMI increases so did perception of weight-based stigma (r=-.35, P<.01). Inaccurate overweight, obese, and morbidly obese males have more positive percep-
tions about their weight than do their overweight and obese counterparts (34.9±4.9 vs 29.3±4.8). For females, there are no significant differences in perceived stigmatization regardless of the accuracy (or inaccuracy) in categorizing their weights. Like accurate males, for all females as BMI increased perception of weight-based stigmatization increased (r=−0.274, P<.001).

**DISCUSSION**

As predicted, we found sex differences in perceived and calculated weight status. The results also confirm previous findings regarding the inaccuracy of perceived weight status by males. Research suggests that perceived stigmatization is consistent with perceptions of weight. That is, the more self recognition and acknowledgement of one’s weight, the greater the perception of stigmatization and the greater the negative impact on social interactions. We confirmed predictions that females would be more accurate in categorizing their weights and would perceive greater stigmatizations. Conversely, males were more inaccurate in categorizing their weights and desired increased sizes in their extremities (eg, arms, legs, and thighs) and engaged in fewer weight loss behaviors. Females perceived greater levels of stigmatizations and, thus, societal pressures. Males and females who inaccurately categorized their weights have similar, positive perceptions of weight. However, males who accurately categorized their weights have greater perceptions of weight-based stigmatization. Overweight and obese males who inaccurately categorized their weights were less likely to perceive weight-based stigmatization, similarly to underweight and optimal weight males.

**Implications**

If social stigma is used to motivate overweight and obese individuals to lose weight and when overweight and obese individuals fail to perceive themselves as such, other strategies should be used. As suggested by Pomeranz, blaming the victim, in this case those who are overweight and obese, does not address factors that influence weight, such as lack of available exercise options, food environments that lack affordable fresh fruits and vegetables, and access to fast foods with high fat and carbohydrate content. In order to effectively address and develop appropriate, culturally sensitive interventions for African Americans, especially males, researchers and health practitioners must examine perceptual, cognitive, and psychosocial factors related to overweight and obesity and resulting negative health outcomes. This study provides evidence that if African American males are to develop healthier lifestyles and improved health outcomes, accurate perceptions related to weight must be recognized and acknowledged.

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