



# Body Size Perception Among African American Women

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## ABSTRACT

**Objective:** To assess body size perception among African American women using cultural definitions of body size terms.

**Methods:** Sixty-nine African American women classified Body Image Scale figures as overweight, obese, and too fat, and independently selected the figure they considered closest to their current body size.

**Results:** Body size classifications of figures did not vary by participant weight status. Overweight figures were not considered too fat. For 86% of overweight (body mass index [BMI], 25–29.9) women and 40% of obese (BMI > 30) women, the self figure was not defined as overweight, obese, or too fat. Among participants with BMI  $\geq$  35, 65% did not classify their self figure as obese and 29% did not classify their self figure as overweight.

**Conclusions and Implications:** The difference between cultural (folk) and medical definitions of body size terms may serve as a barrier to effective communication between patients and providers about health effects of excess adiposity.

**Key Words:** overweight, body mass index, body image, weight perception, African American women (*J Nutr Educ Behav.* 2014;46:412–417.)

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## INTRODUCTION

The prevalence of obesity is significantly higher among non-Hispanic African American women than white women,<sup>1,2</sup> but African American women are more likely to underestimate their body weight.<sup>3–9</sup> Underestimation of weight is associated with poor weight management behavior,<sup>10</sup> greater weight gain over time,<sup>11</sup> and an underestimation of health risk.<sup>9</sup> Weight underestimation may serve as an important barrier to effective weight management and prevention of obesity-related chronic diseases in African American women.

Most evidence for weight underestimation in African American women comes from studies in which women are asked to judge their own weight. Overweight and obese African American women are almost twice as likely as overweight and obese white women to respond that they are “about the right weight” or “underweight.”<sup>4–7</sup> Assessments of body image that rely on women judging their own weight

are vulnerable to self-preservation bias.<sup>12</sup> African American women may be more prone to self-preservation bias, and thus display more weight underestimation. Alternatively, weight underestimation may be higher in African American women than in white women owing to different cultural norms about body size. The current study was designed to distinguish between these 2 explanations for weight underestimation. If women agree about the meaning of body size terms independent of their own weight, this suggests that body size judgments may be driven by a common set of cultural norms rather than by self-preservation bias. Another question that has not been addressed by prior research regards the colloquial meaning of the terms overweight and obese. This was assessed by comparing body sizes that women define as overweight and obese with body sizes that women define as being too fat.

The main goal of this study was to understand how African American women define colloquial and medical

body size terms independent of judgments about their own weight. African American women were targeted in this study because they and their female children have the highest obesity prevalence of any demographic group.<sup>2</sup>

## METHODS

### Study Design

The current study was a cross-sectional survey design conducted in an individual interview format.

### Participants and Recruitment

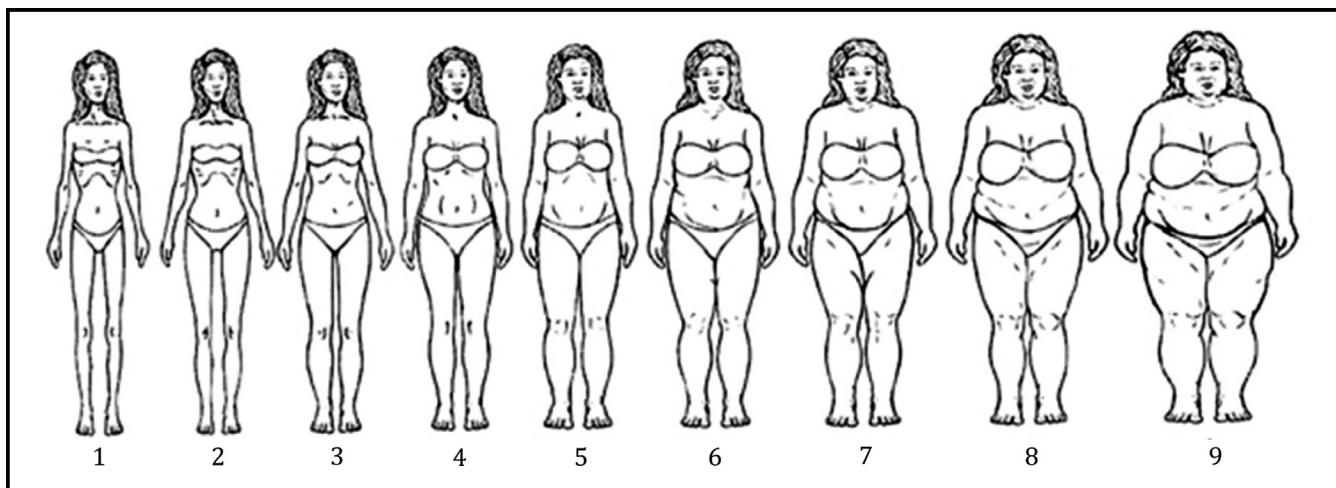
Participants were a convenience sample recruited by flyers posted in a low-income African American neighborhood in Chicago. Inclusion criteria were that participants: (1) self-identified as African American, (2) were female, (3) resided in the North Lawndale neighborhood of Chicago, and (4) were full-time caretakers of at least 1 child. All participants provided informed consent and all procedures followed guidelines of the Northwestern University Institutional Review Board.

### Instruments

Participants were asked to define body size terms using the Body Image Scale,

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**Figure.** Body Image Scale. Adapted with permission from Macmillan Publishers, Ltd. Obesity. Pulvers, et al. (2004). Development of a culturally relevant body image instrument among urban African Americans. *Obesity Res.* 2004;12:1641–1651.

a figure-rating scale that consists of 9 drawings of female figures, ranging from very thin to very obese<sup>13</sup> (Figure). This scale has excellent inter-rater reliability (Cronbach  $\alpha = .95$  across 3 observers) and validity, and researchers found that African Americans preferred this scale over 2 other popular body image instruments.<sup>13</sup> The scale was designed to span a body mass index (BMI) range from 16 to 40 in increments of approximately 3 BMI units, but when women rated themselves using the scale, their ratings did not correspond to the BMI assignments intended by the researchers.<sup>13</sup> The figure rating scale is a subjective rather than an objective measure of BMI.

### Measures

Demographics were measured by questionnaire. Body mass index was calculated from self-reported weight and height. Definitions of body weight terms and self body size were measured using the Body Image Scale.

### Procedures

Women were asked to use the Body Image Scale to complete 2 distinct tasks: (1) classify figures on the scale as overweight, obese, or too fat; and (2) select self body size. First, women were asked to classify the Body Image Scale figures using these 3 weight categories. The following question was used to elicit classification of figures as overweight and obese: “Doctors use the word

‘overweight’ (obese) to describe body sizes that are too large for the health of the body. Please tell me which figures you think are overweight (obese).” The question was asked separately for overweight and obese. Participants were also asked to select the “figures you think are too fat.” After classifying the Body Image Scale figures, women were asked to select “the figure that looks most like you currently.”

Self-classification of body size was determined indirectly by assessing how each participant had previously classified the figure she selected as her current body size. For example, if a woman selected Figure 7 as her current body size and previously had classified Body Figure 7 as overweight, she was considered to have (indirectly) classified herself as overweight. Participants were never directly asked to classify their own body size. This method allowed every participant to define body size terms independently of her own body, and used participants' own definitions of body size terms to indirectly classify their own body size.

### Data Analysis

For each figure, the researchers calculated the proportion of participants who classified that figure as overweight, obese, and too fat. Each participant could select multiple figures as corresponding to each of the body size classifications. The authors used McNemar exact test to compare pairwise proportions of participants

who selected Figures 5–9 as overweight, obese, and too fat.

The researchers used ANOVA (parametric or nonparametric, as appropriate) to assess the relationship between the weight class of the participant (normal, overweight, obese class 1 and obese class 2) and the figures classified as overweight, obese, and too fat. The distribution of model residuals was assessed graphically (scatterplots, histograms, and QQ-plots) as well as formally via the Shapiro–Wilk test. A mean of all figures selected for each body size term was calculated for each participant. Separate ANOVAs were performed for each body size term to assess the relationship between the body size of the participant and the mean, smallest, and largest figures selected as definitions of that body size term. An ANOVA was also performed to assess the relationship between the weight class of the participant and the figure selected as self body size. All analyses were repeated using simple linear regression with BMI as a continuous predictor variable where appropriate. Results were the same as analyses using weight class as a variable, so results are reported using the weight class variable only. Indirect classification of self body size as overweight, obese, or too fat was analyzed with Fisher exact test owing to small sample sizes.

### RESULTS

A total of 69 African American women participated. Table 1 shows

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