Body image distortion (BID), or the discrepancy between perceived and actual weight, is related to a variety of cofactors, including eating disorders (Roy & Meilleur, 2010) and extreme weight control strategies (Leitchy, 2010). Gardner (1996) suggests that body image is comprised of both perceptual and attitudinal components. For this investigation, perceptual BID is defined as the over- or under-estimation of actual body size relative to BMI; attitudinal BID is defined as inaccurate self-classification as “overweight,” “normal weight,” or “underweight.”

### Methods

Using Wave 1 data collected from 323 undergraduate college students in the Fall 2010 semester, a quantitative measure of perceptual BID was developed by assigning BMI anchors to the Stunkard Figure Rating Scale (SFRS; Stunkard, Sorensen, & Schlusinger, 1983). Using online survey methodology, participants reported their height and weight, and identified which SFRS figure they believed best corresponded to their current body size. Average BMI was computed for each silhouette. Wave 2 data, collected from 324 undergraduates in Winter and Spring 2011 semesters, was used to validate this measure of perceptual BID. Wave 2 data was used to calculate perceptual BID by subtracting actual (self-reported) BMI from the Wave 1 BMI anchor associated with the selected silhouette. Attitudinal BID classifications were based on actual BMI and answers to one item (Cash, 2000; Saules et al., 2009) that asked, “I think I am: Very underweight, somewhat underweight, normal weight, somewhat overweight, very overweight,” yielding four groups: 1) BMI < 25, believes self not overweight (Normal Weight, No Distortion [NWD]); 2) BMI ≥ 25, believes self not overweight (Overweight, Distortion [OWD]); 3) BMI < 25, believes self overweight (Normal Weight, Distortion [NWD]); and 4) BMI ≥ 25, believes self overweight (Overweight, No Distortion [OWND]).

### Results

Mean BMI was 25.52 (SD = 5.91) BMI anchors were assigned to gender specific SFRS figures (see Figures 1 and 2). BMI anchors were comparable to those identified in previous research (see Bulk, Wade, Heath, Martin, Stunkard, & Eaves, 2001).

Perceptual BID is significantly related to attitudinal aspects of body image, $\chi^2 = 50.14$, $p < .001$, thus providing convergent validity for our measure of perceptual BID. Although both evidencing BID, 59% of those classified as OWD underestimate body mass, while 60% of those classified as NWD overestimate body mass. Those classified as NWND were more likely to report a normal degree of distortion (40%). Overweight status was significantly related to the directionality of perceptual BID, $\chi^2 = 39.30$, $p < .001$, as those who are overweight were more likely to underestimate body size. Conversely, those who are not overweight were more likely to overestimate size. There were no significant gender differences in the degree of perceptual BID.

### Discussion

Convergent validity for this model was supported as BMI anchors affixed to each silhouette were comparable to those derived from previous research (see Bulik et al., 2001). Perceptual BID and attitudinal BID were associated in the direction expected, and overweight status predicted directionality of perceptual BID. Typically, body image research has focused on BID in the direction of overestimating body mass, ignoring the implications of the converse situation of underestimating size. Although there are a number of long-term health consequences associated with obesity (Kopelman, 2000), results suggest that overweight individuals may actually underestimate the magnitude of their weight problem, and thus, may be less receptive to weight-related health promotion messages.

Traditionally, the SRFS has been used to assess attitudinal aspects of body image (e.g., body image dissatisfaction; Bulik et al., 2001), however, this investigation validated that this figure rating scale can also be used to measure a perceptual dimension of body image (i.e., magnitude of BID). As BID has been linked to a variety of factors including eating disorders (Cash & Deagle, 1997; Roy & Meilleur, 2010) and extreme weight control strategies (Leitchy, 2010), future research should focus on broader application and use of this figure rating scale to compute a perceptual index of BID. Future research is also needed to assess features associated with heightened perceptual BID.