



# The development and initial validation of a new measure of male body dissatisfaction

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## ABSTRACT

The purpose of this research was to develop, and establish the initial psychometric properties of, the Male Body Dissatisfaction Scale (MBDS). Ninety-five male students were recruited over three phases. An item-remainder analysis was performed in phase I, convergent and discriminant validity assessed in phase II, and test–retest reliability and factor structure assessed in phase III. The MBDS achieved an alpha level of 0.93 and was inversely related to body esteem ( $p=0.02$ ) and self-esteem ( $p=0.03$ ), and positively related to how much participants' opinion of themselves was based on their body shape and weight ( $p<0.01$ ). The MBDS was not related to measures of affect, and was able to distinguish between males endorsing, and not endorsing, elevated body shape and weight concerns ( $p<0.05$ ). Finally, the MBDS displayed a test–retest reliability coefficient of 0.96 ( $p<0.01$ ). Findings suggest that the MBDS may fill the need for a reliable and valid measure of body dissatisfaction that allows men to weight particular aspects of their body image according to personal importance.

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## 1. Introduction

The prevalence of obesity, obesity surgery, and certain eating disorders has risen substantially in recent decades (Hedley et al., 2004; ASBS, 2007; Hay, Mond, Buttner, & Darby, 2008). Accordingly, research on body shape and weight has also increased. Until recently it was assumed that body dissatisfaction was primarily a concern for women (McCreary, 2007) and the majority of past research has focused on women's drive for thinness, which has been shown to predict the development of eating disorders (McCreary, 2007). Several authors, however, have shown that men share body image concerns to a degree similar to that found in women (Furnham, Badmin, & Sneade, 2002; Pope, Phillips, & Olivardia, 2000) and evidence suggests that both men and women are growing increasingly dissatisfied with their bodies (Adams, Turner, & Bucks, 2005). Despite similarities in degree, the focus of body dissatisfaction differs significantly for men and women (Gray & Ginsberg, 2007).

Research demonstrates that men typically do not exhibit a strong drive for thinness, and are equally as likely to want to gain, and lose, weight (Olivardia, 2007; Furnham et al., 2002). In fact, Olivardia, Pope, Borowiecki, and Cohane (2004) found that men experienced greater psychological distress if they perceived their bodies to be too thin, as opposed to overweight. On average, males desire to gain more lean muscle and maintain a lean but muscular build, known as the "mesomorphic" body type (Olivardia, 2007). This drive for muscularity

likely reflects the internalization of Western ideals of male attractiveness (Gray & Ginsberg, 2007; McCreary, 2007) which, taken to excess, can lead to muscle dysmorphia (Olivardia, 2007) and depression (Olivardia et al., 2004).

The realization that men and women differ in their areas of body dissatisfaction has led to an increase in research focused on male body image and differences in body dissatisfaction between men and women (Adams et al., 2005). Nevertheless, the vast majority of available body image/dissatisfaction measures remain centered around typically feminine ideals, assessing areas of common displeasure for women (e.g., hip and thigh width). Such items are less relevant, and of less concern, to men (Grogan, 1999).

Scales attempting to measure body image/dissatisfaction are typically presented in the form of either figure, or statement, rating scales. Figure measures contain drawings of human figures of varying body shapes and sizes. Subjects choose figures that best represent their own, as well as their ideal, body. The difference between the two is then considered to reflect that individual's body dissatisfaction (e.g., Thompson & Gray, 1995). With statement rating scales, individuals respond to a set of statements designed to reveal feelings about one's body. Body dissatisfaction is then quantified by summing the score of all items (e.g., Franzoi, 1994). Although attempts have been made to adapt both forms of assessment for males, frequent methodological concerns remain (Cafri & Thompson, 2007).

One common disadvantage of male-adapted drawing scales is the frequent absence of muscularity gradation, which is of primary importance to men (McCreary, 2007; Olivardia, 2007). Drawing measures that do include a gradation of muscularity do so by sacrificing overweight and obese figures (e.g., Tucker, 1982), which now represent

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the majority of men in the United States (Center for Disease Control and Prevention, 2006). Male-adapted rating scales also frequently contain noted limitations (Morrison, Morrison, Hopkins, & Rowan, 2004; Edwards & Launder, 2000; Cafri, Roehrig, & Thompson, 2003; Cafri & Thompson, 2007). Specific rating scale measures developed to assess male body image include the Swansea Muscularity Attitudes Questionnaire (SMAQ; Edwards & Launder, 2000), Drive for Muscularity Attitudes Questionnaire (DMAQ; Morrison et al., 2004), Somatomorphic Matrix (SM; Gruber, Pope, Borowiecki, & Cohane, 1999), and Drive for Muscularity Scale (DMS; McCreary and Sasse, 2000; McCreary, 2007). Each of these scales contain noted limitations (Cafri & Thompson, 2007), including the potential for response bias (Morrison et al., 2004), lack of validity data (Edwards & Launder, 2000), and poor test–retest and item reliability data (Cafri et al., 2003). Finally, all currently available male-oriented scales assume that each aspect of body image assessed is of equal relevance across individuals. That is, no prior measure designed for men allows the individual to weight different aspects of their body image according to personal importance.

The purpose of this study was to develop and establish a new measure focusing on male body dissatisfaction, the Male Body Dissatisfaction Scale (MBDS), with special emphasis placed on addressing the potential shortcomings of other rating scales and allowing each item to be weighted according to individual relevance. Test construction and preliminary validation consisted of three individual phases. The aims of Phase I were to perform an item-remainder analysis, establish a final version of the MBDS, and examine the internal consistency of the final measure. The aims of Phase II were to assess the convergent and discriminant validity of the MBDS. Finally, the aim of Phase III was to establish the test–retest reliability of the MBDS.

## 2. Methods

### 2.1. Participants

Ninety-five male undergraduate students ranging in age from 18 to 30 ( $M = 20.6 \pm 2.1$  [SD]) years and BMI from 18 to 32 ( $M = 24.1 \pm 3.2$ ) kg/m<sup>2</sup>, were recruited at a private college in the Mid-Atlantic region. The overall ethnic breakdown was 73% Caucasian, 16% African American, 6% Asian American, and 5% other. Baseline characteristics by study phase are presented in Table 1. Students received research credits for participating. Permission to conduct this study was obtained from the university IRB.

### 2.2. Measures

#### 2.2.1. Body Esteem Scale (BES)

The BES (Franzoi & Shields, 1984) is a measure of body esteem containing three sub-scales: upper body strength, physical attributes, and general health. Higher scores indicate more body esteem. The BES demonstrates adequate reliability and validity (Franzoi, 1994) and was used to test the convergent validity of the MBDS.

#### 2.2.2. Crude body satisfaction

Following the MBDS, all participants responded to one additional item; “On a scale from 1 to 100, how would you rate your overall body

satisfaction (1 being the least satisfied possible and 100 being perfectly satisfied)?”

#### 2.2.3. Eat-26

The EAT-26 (Garner, Olmsted, Bohr & Garfinkel, 1982) is a widely-used measure of symptoms and concerns characteristics of eating disorders and displays good psychometric properties (Garner et al., 1982; Dotti & Lazzari, 1998). The EAT-26 has been validated as both a dimensional and categorical measure (Garner et al., 1982; Orbitello et al., 2006), with scores  $\geq 20$  indicating elevated body shape and weight concerns (Orbitello et al., 2006).

#### 2.2.4. Positive and Negative Affect Schedule (PANAS)

The PANAS (Watson, Clark & Tellegen, 1988) consists of positive and negative mood scales shown to be highly internally consistent, largely uncorrelated, and stable at appropriate levels over a 2-month time period (Watson et al., 1998). Both scales of the PANAS also demonstrate good convergent and discriminant validity (Watson et al., 1988) and were used to examine the discriminant validity of the MBDS.

#### 2.2.5. Rosenberg Self-Esteem Scale (RSES)

The RSES (Rosenberg, 1965) is a widely-used measure with strong reliability and validity (Robins, Hendin, & Trzesniewski, 2001). Higher scores indicated a more positive sense of self. The RSES was used to test the convergent validity of the MBDS.

#### 2.2.6. Self-reported Body Mass Index (srBMI)

Self-reported height and weight were used to calculate srBMI.

#### 2.2.7. Shape and Weight Based Self-Esteem Inventory (SAWBS)

The SAWBS (Geller, Johnston, & Madsen, 1997) was designed to measure the extent of an individuals' opinion of themselves based on their body shape and weight. It differs from previous measures due to its contextual nature and its assessment of the importance of shape and weight to individual's self-esteem (Geller, Zaitsoff, & Srikaneswaran, 2002). The SAWBS was used to test the convergent validity of the MBDS.

#### 2.2.8. Male Body Dissatisfaction Scale (MBDS)

The final version of the MBDS contains 25 items scored on a 5-point Likert scale from “Always” to “Never” or from “Strongly Agree” to “Strongly Disagree” depending upon the item. Each item is scored 1 to 5, with balanced keying (items 4–7, 9, 10, 12, 13, 16, 17, 22, 24, and 25 are reverse-scored) in order to control for untrue responding. Participants additionally rate each item on “how important the item is to you” on a scale of 1 to 10. This number is divided by 10 to obtain a number from 0 to 1 (e.g., an item rated 9 would receive a .9 importance rating). The importance rating is then multiplied by the item response (1 to 5) to get an overall score for each item, ranging from 0.1 to 5. The importance rating adds weight to items participants deem as making greater contributions to their body image. An individual's total score on the MBDS can range from 2.5 to 125, with higher scores indicating more body dissatisfaction. A copy of the MBDS is found in Appendix A.

## 2.3. Procedure

### 2.3.1. Scale development

Twenty-nine items, relevant to male body image, were compiled based on expert consensus and extant literature on male physical ideals. Items targeted the lean but muscular male ideal (Olivardia, 2007), with special emphasis on the upper body region.

### 2.3.2. Pretesting

Prior to filling out the MBDS, 30 male participants recruited for Phase I responded to four pilot questions designed to crudely assess

**Table 1**  
Participant characteristics (mean  $\pm$  SD).

	n	Age		BMI		Ethnicity			
		years		kg/m <sup>2</sup>		Cauc (%)	Af Amer (%)	Asian (%)	Other (%)
Phase I	29	20.2 $\pm$ 1.7		23.4 $\pm$ 3.3		67	17	10	6
Phase II	36	20.5 $\pm$ 2.4		24.2 $\pm$ 3.6		74	18	3	5
Phase III	23	20.9 $\pm$ 1.9		24.8 $\pm$ 2.8		76	12	8	4

Note: participants did not differ in age or BMI between study phases.

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