



# Binge Eating Disorder and body image perception among university students

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## ABSTRACT

Binge Eating Disorder (BED) is characterized by recurrent episodes of compulsive eating, without any compensatory behavior to avoid possible gain weight. Individuals who suffer from eating disorders often show negative self-image.

The present paper aimed to assess BED prevalence and self-image disorders among university students in the city of São José do Rio Preto, State of São Paulo, Brazil.

The survey had the participation of 217 undergraduates. The following procedures were carried out: a personal data questionnaire, the Binge Eating Scale and a figure scale.

In the surveyed population, 12.90% showed BED. Most subjects (86.32%) chose larger figures when compared to their current BMI, overestimating their body size. Furthermore, BED individuals showed higher self-image inadequacy in comparison to people without the disorder.

Therefore, this is a public health problem to which undergraduates are exposed; forthcoming studies may be carried out to understand BED and associated comorbidities.

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## 1. Introduction

The predominant ideal beauty in Western societies relies on thin women and men with hypertrophied muscles. Individuals over the considered ideal weight are often prejudiced in schools, workplace and health institutions (Neighbors & Sobal, 2007).

Binge Eating Disorder (BED), described for the first time in 1950, is a syndrome characterized by recurrent episodes of compulsive eating, without any compensatory behavior to avoid a possible weight gain. BED may occur in obese and also normal weight individuals. Most of them have a long-term history of repeated attempts of diets and feel desperate regarding their difficulty at controlling food intake (Azevedo, Santos, & Fonseca, 2004).

Individuals with food disorders (or at risk of developing them) often show a negative perception of several parts of their own body and in some cases they avoid social situations which may expose their physical appearance (Berardis et al., 2007).

Excessive concern toward weight and appearance may trigger problems such as anxiety, depression and compulsive eating, decreasing life quality. Recent studies suggest that the prevalence of compulsive eating is on the rise and represents a significant health problem in the western world (Eapen, Mabrouk, & Bin-Othman, 2006).

A research carried out with 491 female university students in a private higher education institution in the city of São Leopoldo (State of Rio Grande do Sul, Brazil) revealed that 18.1% showed compulsive eating, according to the Binge Eating Scale (BES). There were not any significant differences among the varied fields of study (Vitolo, Bortonili, & Horta, 2006).

Thus, there is a relatively high prevalence of BED among university students. Nevertheless, studies involving Brazilian Nursing and Medicine students were not found in the specialized literature. Considering the impact in the life quality generated by compulsive eating, it is necessary to assess its prevalence and possible correlations.

This study aimed at assessing university students' perception of their body, as well as life and food habits, investigating the presence of BED. The protocol (0041/2008) was approved by the FAMERP Committee of Ethics in Research, and two copies of the informed consent were elaborated.

## 2. Material and methods

### 2.1. Participants

The surveyed population consisted of students from a public higher education institution, in the city of São José do Rio Preto (State of São Paulo, Brazil). The total number of enrolled students is 622 (168 [27.01%] males and 453 [72.99%] females), being 383 of the Medical School (154 [40.21%] males and 229 [59.79%] females) and 239 of the Nursing School (14 males [5.86%] and 225 [94.14%] females). This predominance of women is observed in these age range in Brazil with

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much more women than man. In the Nursing School, almost all students are women, caused by the kind of activity of nurses in Brazil, quite different from nursing jobs in North America and Europe.

The criteria of inclusion were: being enrolled between first and fourth year either in Medical or Nursing School; being over 18 years old. The fifth and sixth-year students (Medical School only) were excluded from the study due to their diverse features (accessibility, time availability, different routine, different food intake).

A total of 217 students participated in the study, being 110 of Medical School and 107 of Nursing School. In the sample, there were 176 females (81.11%) and 41 males (18.89%). Age ranged from 18 to 29 (median age 20.00 years). Weight ranged from 43.00 to 140.00 kg (median weight 60.00 kg). Height ranged from 1.47 to 1.96 m (median height 1.65 m).

## 2.2. Procedures

The survey was conducted at the beginning of classes; the self-report questionnaires (codified and anonymous, distributed in a dark envelope) were handled to all the students in the classroom. However, participation was spontaneous.

## 2.3. Body Mass Index (BMI)

They were questioned about age, gender, weight (kg), height (m) and also their ideal weight (kg). Both weight and height, mentioned by the participants, were used to calculate their current and ideal Body Mass Index (BMI), according to the formula: weight (kg)/height (m)<sup>2</sup>. The BMI categories are: low BMI (less than 18.5); suitable (from 18.5 to 24.9); and above normal (equal or higher than 25.0). Masheb and Grilo (2001) found that most BED subjects were accurate in reporting their weight in a university-based outpatient eating disorders program.

## 2.4. Binge Eating Scale (BES)

In order to evaluate compulsive eating, all participants answered the Binge Eating Scale (BES). BES was developed by Gormally, Black, Daston, and Rardin (1982) and validated in Brazil by Freitas, Lopes, Coutinho, and Appolinario (2001). It is a self-reported questionnaire that assesses and quantifies binge eating severity. Subjects were classified according to Marcus, Wing, and Lamparski (1985): scores less than or equal to 17 are considered no BED, scores between 18 and 26 are considered moderate BED and scores greater than or equal to 27 are considered severe BED.

## 2.5. Figure Rating Scale (FRS)

The Figure Rating Scale (Stunkard et al., 1983 *apud* Bulik et al., 2001) (FRS) was used to assess body perception. Silhouettes number 1 and 2 refer to a non-obese status (BMI equal or less than 24.9); silhouette number 3, overweight (BMI from 25.0 to 24.9); Figs. 4 and 5 silhouettes number 4 and 5, level I obesity (BMI from 30.0 to 34.9); silhouettes 6 and 7, level II obesity (BMI from 35.0 to 39.9); and silhouettes 8 and 9, level III obesity (BMI equal or higher than 40.0).

According to Fitzgibbon, Blackman, and Avellone (2000), a Body Image Discrepancy (BD) was derived from the self-reported FRS. Each of the nine silhouettes was scored from 1 to 9, with “1” representing the most slender figure and “9” representing the heaviest figure. Two items were used: current body image and ideal body image. The current body image item asked the respondent to identify which figure most accurately represented his current body shape. The ideal body image item asked which body shape the subject desired. Subtracting the ideal body image from the current body image yielded the BD rating. The BD rating could range from –8 to 8. Thus, a BD rating of >0 indicated that the participant's current body image was heavier than his ideal body image. A BD rating of <0 indicated that the participant's current body image was lighter than his ideal body image. No discrepancy between

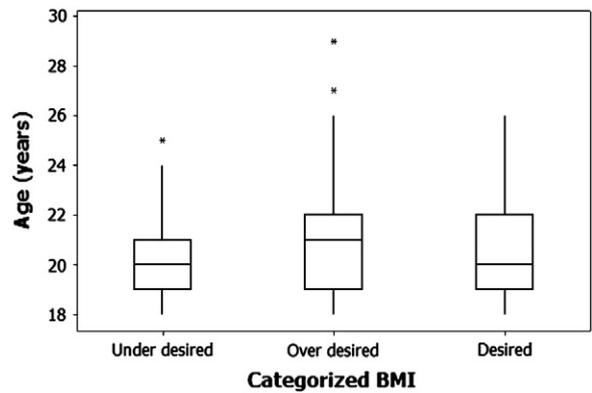


Fig. 1. Age × BMI boxplot.

the current and ideal body image indicated that he chose the same figure for both items and scored a zero for BD.

## 2.6. Statistics

The obtained data were stored in a spreadsheet and the statistical analysis was performed by Minitab ® software.

## 3. Results

### 3.1. Body Mass Index (BMI)

Real BMI scores ranged from 15.64 to 47.32 kg/m<sup>2</sup> (median 22.03 kg/m<sup>2</sup>). Ideal BMI scores ranged from 16.65 to 33.24 kg/m<sup>2</sup> (median 20.82 kg/m<sup>2</sup>).

Considering BMI scores, 49 individuals could be classified as too thin (BMI less than 18.5); 105 individuals as having normal weight (BMI from 18.5 to 24.9); 38 individuals as overweight (BMI from 25.0 to 29.9) and 25 as obese (BMI equal or higher than 30.0).

According to Table 1, 34.15% of males would like to gain weight, whereas only 13.07% of females would say that. However, most individuals (70.05%) wish to get thinner. On the other hand, 17.05% would like to gain weight. Only 12.90% of the individuals are satisfied with their body weight.

### 3.2. Binge Eating Scale

BED scores ranged from 0 to 36 points (median BED score 8 points).

In the surveyed population, 12.90% (28 people) showed BED, being 9.22% moderate BED (20 people) and 3.69% severe BED (8 people) (Table 2). Of the 28 individuals with BED, 12 belonged to Medical School (moderate BED, 7 people; severe BED, 5 people) and 16

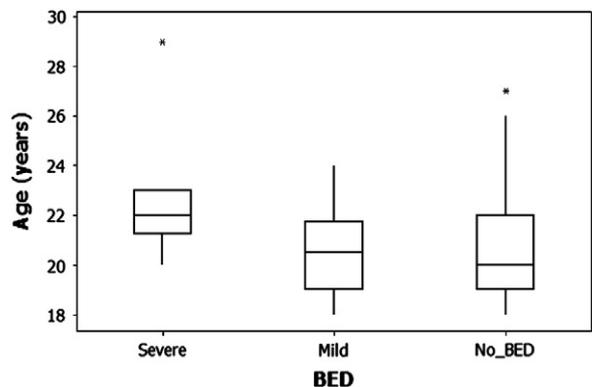


Fig. 2. Age × BED boxplot.

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