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## Correlation between BMI and disordered eating attitude among male University students

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### Abstract

This study was aimed to find out the relationship between BMI and Disordered eating attitude among male University students. A total of 71 male students participated in the study. They were tested for their height and weight and filled a questionnaire of Disordered Eating Attitude. BMI was computed with the height and weight data using the standard formula. Spearman's non parametric correlation of coefficient was applied to observe the relationship between the variables. Only one subscale "Feeling towards eating" showed correlation with BMI. The observed coefficient was weak and negative. However, rest of the parameters including overall score was not found to be correlated with BMI.

**Keywords:** Body mass index, disordered eating, BMI, university students

### Introduction

Disordered eating attitudes are associated with depressive symptoms, anxiety, low self-esteem, drug abuse (Weinberg & Gould, 2011; Croll *et al.*, 2002) [2, 3], and these may be even more prevailed in overweight young people unveiling high shape and weight concerns (Michelle *et al.*, 1999) [4]. Additionally, shape and weight apprehensions, unnatural weight management methods, and binge eating demonstrate clear relationship with overweight (Bonci *et al.*, 2008; Wolff *et al.*, 2011) [5, 6]. Likewise, binge eating and unnatural weight management behaviors have been observed to forecast rises in body fat in future researches (Del-Valle *et al.*, 2014) [7]. These deeds have also been recognized as risk factors for obesity (Gapin & Petruzzello, 2011), possibly indirectly subsidizing to the several adverse medical concerns related to adiposity in youth. Besides, disordered eating attitudes in young people seem to foresee the inception of full-syndrome EDs (Cook *et al.*, 2011) [9], which themselves are associated with various harmful physical health ailments. Assumed that overweight in juvenile is a risk factor for Eating Disorders (Garber *et al.*, 2011) [10], and is related with disordered eating attitudes and behaviors, which are also risk factors for eating disorders, it seems possible that overweight parallel with disordered eating signs may composite the risk for an eating disorder, as opposite to the occurrence of any of these variables individually.

Disordered eating attitudes in overweight adolescents can confound weight management programmes. Body-related distresses and mocking are common obstructions to physical activity in overweight adolescents, the averting of physical activity in adolescents can further propagate overweight with increased fatness and successive upsurges in body displeasure. As mentioned above, dieting and the use of means envisioned to cut down weight or check extra weight gain may unexpectedly stimulate weight gain; certainly, data advise that natural weight losing struggles in the form of self-instigated dieting and unnatural or risky weight control conducts envisage the inception of adiposity (Fairburn, 1995) [11]. Just two research projects have inspected the influence of binge eating on infantile weight reduction treatment outcome, and none of that observed a particular influence applicable to LOC and/or binge eating (Heinberg *et al.*, 2001) [12]. In spite of these results, binge eating, in consort with figure and weightiness distresses and prevailing weight reduction approaches, must be examined in medical practice to decide whether they should be addressed in weight loss treatment.

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**Methodology**

**Sample**

A total of 71 male students participated in the study. The participants were recruited from various departments of Guru Nanak Dev University, Amritsar. The age group of participants was 18 to 30 years. The convenience sampling method was adopted to approach the participants.

**Demographic variables**

Demographic data was taken including age, body height and body weight were self-reported by the participants. Body mass index was calculated from obtained data of body height and body weight by using the following formula:

$$BMI = \frac{\text{Weight in kg}}{(\text{Height in meters})^2}$$

Body Mass Index was categorized into levels:

- Underweight <18.5
- Normal weight 18.5-25
- Overweight 25-30
- Obese >30

**Disordered Eating Attitude**

Disordered eating attitude scale developed by Alvarenga *et al.* (2010) was used to assess eating behaviour. Higher scores means worse eating attitude; score in each question varies from 1 to 5;

**Statistical Procedure**

Demographic data were presented as descriptive statistic such

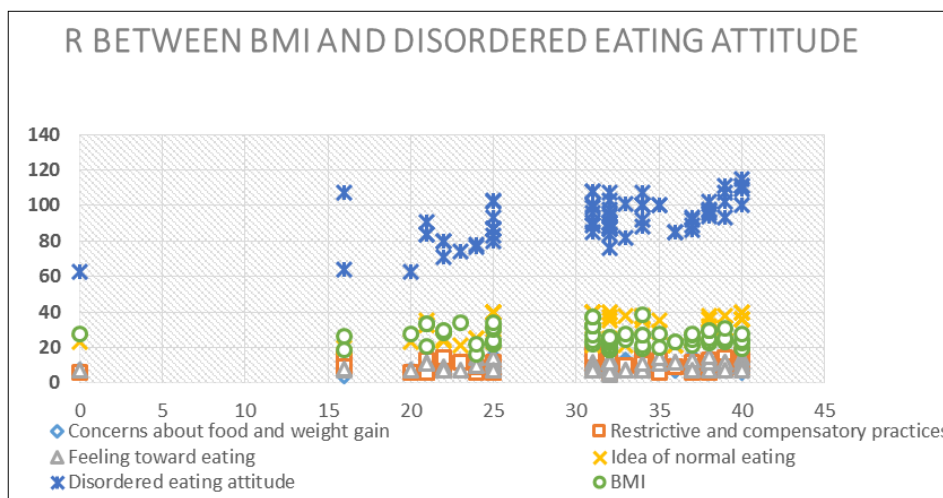
as mean and standard deviation. Normality of data was tested by creating a histogram. Since the data were not normally distributed, non-parametric Spearman’s rank order correlation was applied to observe the relationship between different variables. The significance level was put at 0.05.

**Results**

**Table 1:** Spearman’s correlation between Body mass index and disordered eating attitude and its subscales

Variable	Body Mass Index	
	Spearman’s rho	Sig.
Relationship with food	-.171	.153
Concerns about food and weight gain	-.086	.476
Restrictive and compensatory practices	-.123	.308
Feeling toward eating	-.247*	.038
Idea of normal eating	.099	.409
Disordered eating attitude	-.222	.063

Table 1 presents the relationship between body mass index and disordered eating attitude among male university students. It is evident from the table that correlation between BMI and subscale relationship with food was  $-.171 (p>.05)$ , Concerns about food and weight gain  $-.086 (p>.05)$ , Restrictive and compensatory practices  $-.123 (p>.05)$ , Feeling toward eating  $-.247 (p<.05)$ , Idea of normal eating  $.099 (p>.05)$  and overall Disordered eating attitude  $-.222 (p>.05)$ . It is obvious from the above results that the only significant relationship was found between BMI and “Feeling towards eating”. However, no other subscale exhibits significant relationship with BMI among University students.



**Fig 1:** Scatter diagram of correlation between the BMI and Disordered eating attitude

**Discussion**

The present study was aimed to find out the relationship between Body mass index and disordered eating attitude. Generally, disordered eating attitude did not exhibit any significant relationship with BMI ( $r_s = -.222, p>.05$ ). Meanwhile, only one subscale was significantly related to BMI i.e. “Feeling toward eating”, however, the correlation was weak. In a previous study, two groups of at-risk and not-at-risk for eating disorders in male students were compared where no difference was found between the two groups but when compared females, the disordered eating attitudes group was found to possess more body weight, BMI, Waist Perimeter, and waist-to-hip ratio than their counterparts. The results of the present study for males are consistent with the

said study. In a study on female dancers, (Torres-McGehee *et al.*, 2009) [13] findings revealed that at-risk had body weight, Hip perimeter and BMI group than the not-at-risk one for eating disorders. Another study suggested that overweight is associated to body dissatisfaction and weight concerns and can bring about eating disorders (Goldschmidt *et al.*, 2008). Moreover, disordered eating attitude is related to mental stress by triggering hypothalamic-pituitary-adrenal axis, secretion of cortisol is increased, finally ending up in development of visceral adiposity (Rosmond, 2003) [15]. Also, a positive correlation has been found in cortisol stress response and abdominal obesity among females with binge eating disorder (Gluck *et al.*, 2004) [16].

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