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Study of eating attitudes and social physique anxiety among university students

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Abstract
The primary aim of the study was to determine the relationship of eating attitudes and social physique anxiety with obesity among female university students. A sample of 119 female students was purposively selected from Guru Nanak Dev University Amritsar. The subject's eating attitudes were measured with the help of Eating Attitude Test. The social physique anxiety was assessed with the Social Physique Anxiety Scale. Body Mass Index (BMI) was calculated from the height and weight measurements of the subjects. The results revealed that 73.94% girls had disordered eating attitudes and 54.62% girls reported high levels of social physique anxiety. Independent samples t-test revealed that the physically inactive girls had significantly higher levels of social physique anxiety ($p=0.006$) than the physically active girls. Eating attitudes and social physique anxiety were significantly associated ($p<0.05$) with the weight of the girls.

Keywords: active girls, inactive girls, eating attitude, body mass index, social physique anxiety

Introduction
Eating is vital in life and a major determinant of health; it is thus important to study this subject from its different perspectives. Most studies in eating and nutrition have focused on physiological aspects, but if dissociated from their pertinent social environment is believed to produce only limited knowledge; for that reason, a cultural, psychological and social approach is necessary. Alvarenga *et al.* [1] defined eating attitudes as one's beliefs, thoughts, feelings, behaviors and relationship with food and many studies in this area of knowledge also use the term attitude to describe thoughts, feelings and beliefs regarding eating [1]. Therefore, the term eating behavior does not encompass the correct idea of one relationship with food because it does not include the beliefs, thoughts and feelings towards food, while the term "eating attitudes" does. Rosendahl *et al.* [2] claimed that different attitudes toward food may have an effect on overall health and contribute to differences in non-transmissible diseases. Different eating attitudes, especially regarding pleasure versus health concerns, can have an effect on overall health since pleasure apparently act as health promoters and worries can adversely affect health. It suggests that social and psychological components of eating, included in the concept of eating attitude, may be major health determinants [3]. It is believed that food choices would be culturally determined but few studies have so far assessed the difference of attitudes among countries or different regions [4]. Comparing eating attitudes among different environments could provide input for studying the association between attitudes and the prevalence of obesity, eating disorders among others.
Social physique anxiety being one of the concepts relating with one's anxiety over physical appearance-is identify as anxieties and tensions about how one's physical appearances is evaluated by others [5]. Those who want to leave positive impressions on others organize their behaviors accordingly [6]. SPA has been associated with certain exercise motives and behaviors, typically ones that induce less attention [7, 8, 9, 10, 11]. Thus SPA is an important variable in understanding exercise behaviors within the framework of self-objectification theory. Where their body is likely to be on display or where their physical attributes are emphasized [5, 12]. During adolescence many young people may feel some insecurity about their newly emerging adult-like figures and are thus particularly sensitive to the way others perceive their physical appearance. Therefore, when they doubt their ability to present an appearance that corresponds to the western socio cultural ideals standards (i.e., thin for girls, muscular for boys) [13, 14] or come to doubt that their physique could be positively perceived by others [15]. They may develop social physique anxiety (SPA) [5, 16]. The present study, therefore, aims to study the eating attitudes and social physique anxiety among the university female students and to determine the relationship of eating attitudes and social physique anxiety with obesity of the female university students.

Materials and Methods
The purpose of the study was to study the eating attitudes, social physique anxiety and body mass index of the university level female students. To achieve the purpose of the study, 119 female students from different departments of the Guru Nanak Dev University, Amritsar (69 from Department of Physical Education and 50 from other Departments of University) were selected purposively as subjects. The subjects from Department of Physical Education were

considered as physically active group, because these subjects participated regularly in various games and sports activities in their practical classes. The subjects from other departments were considered as physically inactive group because they did not participate in any regular physical activity program. The age of the subjects ranged from 18 to 28years. All subjects were asked to fill the Eating Attitude Test (EAT) developed by Garner and Garfinkel [17] and Social Physique Anxiety Scale (SPAS) designed by Hart *et al*. [5]. Body mass index of the subjects was calculated from the self reported height and weight.

Social physique anxiety

The Social Physique Anxiety Scale (SPAS) is a 12-item self-report inventory that was designed by Hart *et al.* [5] to assess the trait of social physique anxiety-anxiety associated with concerns that one's physique may be negatively evaluated by others.' Participants responded to a five-point Likert-type scale with anchors of not at all (l), slightly (2), moderately (3), very (4) and extremely (5). Scores can range from 12-60, with higher values indicating greater SPA. Hart *et al.* [5] provided evidence for the internal consistency of the scale (a = 0.90). Construct validity has also been demonstrated by Hart *et al*. [5], who showed SPAS scores correlated with other measures involving evaluative Concerns.

Eating attitudes

The Eating Attitude Test (EAT) is a 26-item inventory which was developed by Garner and Garfinkel [17] to assess a range of behaviors and attitudes closely related to eating disorders, specifically anorexia nervosa and bulimia nervosa. Participants rate their agreement with statements about weight and food (e.g. 'I find myself preoccupied by food'). A score of 30 and above is commonly used as a cut-off point to identify individuals with anorexia or bulimia [17, 18].

Statistical Analysis

Statistical analyses were conducted using SPSS 16.0 (Statistical Package for Social Science Inc., Chicago, Illinois USA). The data was presented as descriptive statistics such as percentages, mean, standard deviation etc. The t-test for independent samples was used to compare the physically active and physically inactive groups. The Karl Pearson Product Moment coefficient of correlation was used to identify the associations among various variables. The significance level adopted was 0.05.

Results

Table 1: Percentages of BMI, eating attitude and social physique anxiety among physically active and inactive female students

Variables		Physically Active Girls		Physically Inactive Girls		Combined Group	
		N	%	N	%	N	%
Body Mass Index (kg/m^2)	Under Weight	17	24.68	15	30.00	32	26.89
	Normal Weight	48	69.56	27	54.00	75	63.02
	Over Weight	4	5.79	8	16.00	12	10.08
Eating Attitudes	Disorder Eating	51	73.91	37	74.00	88	73.94
	Normal Eating	18	26.08	13	26.00	31	26.05
Social Physique Anxiety	High SPA	37	53.62	29	58.00	65	54.62
	Low SPA	32	46.37	21	42.00	54	45.37

Table 1 shows the percentages of BMI, eating attitude and social physique anxiety among physically active and inactive female students. In the physically active group of students, 24.68% girls were underweight, 69.56% were normal weight and 5.79% were overweight. 73.91% girls had disordered eating attitude, while the rest 26.08% belong to normal eating attitude category. 53.62% girls had high level of social physique anxiety whereas 46.37% girls were reported low level of social physique anxiety. On the other hand, in case of physically inactive group of students, 30.00% girls were underweight, 54.00% were normal weight and 16.00% were overweight. 74.00% girls had disordered eating attitude whereas 26.00% girls were reported normal eating attitude. 58.00% girls had high level of social physique anxiety while 42.00% girls were found to low level of social physique anxiety. In Combined group, 26.89% girls were underweight, 63.02% girls were normal weight and 10.08% girls were overweight. 73.94% girls had disordered eating attitudes and rest 26.05% girls were found to have normal eating attitudes. 54.62% girls reported high levels of social physique anxiety whereas 45.37% girls had low levels of social physique anxiety. Table 2 depicts the comparison of height, weight, BMI, eating attitudes and social physique anxiety among physically active and inactive girls. Independent samples t-test revealed that the physically inactive girls had significantly higher levels of social physique anxiety ($p=0.006$) than the physically active girls. Table 3 presents the relationship among the various variables in the combined group. Eating attitudes and social physique anxiety were significantly associated ($p<0.05$) with the weight of the girls.

Table 2: Comparison of Height, Weight, BMI, Eating Attitudes and Social Physique Anxiety among physically active and inactive girls

Variables	Physically Active Girls		Physically Inactive Girls		t- value	p- value
	Mean	SD	Mean	SD		
Height (cm)	161.95	8.70	160.65	13.70	0.628	0.531
Weight (kg)	53.37	7.30	54.55	8.93	0.787	0.433
Body Mass Index (kg/m^2)	20.54	2.64	21.36	3.96	1.488	0.140
Dieting Behavior	7.79	5.66	7.96	5.96	0.151	0.880

Bulimia Nervosa	3.33	2.55	2.68	3.22	1.232	0.220
Oral	4.66	3.46	4.34	3.42	0.510	0.611
Eating Attitudes	16.69	7.48	13.98	7.55	1.946	0.054
Social Physique Anxiety	29.97	5.51	33.20	6.96	2.820	0.006*

* indicates p<0.05

Tables 3: Correlations among height, weight, BMI, social physique anxiety and eating attitudes in combined group

	Weight (kg)	**Body Mass Index (kg/m^2)**	**Dieting Behavior**	**Bulimia Nervosa**	**Oral**	**Eating Attitudes**	**Social Physique Anxiety**
Height (cm)	0.484* 0.000	-0.530* 0.000	0.137 0.138	-0.063 0.494	0.090 0.332	0.109 0.238	0.146 0.114
Weight (kg)		0.466* 0.000	0.329* 0.000	-0.107 0.245	0.046 0.620	0.217* 0.018	0.226* 0.014
Body Mass Index (kg/m^2)			0.179 0.052	-0.022 0.812	- 0.058 0.530	0.092 0.320	0.083 0.371
Dieting Behavior				0.113 0.220	0.113 0.220	0.490* 0.000	0.171 0.062
Bulimia Nervosa					0.108 0.243	0.313* 0.001	-0.020 0.318
Oral						0.405* 0.000	-0.092 0.318
Eating Attitudes							-0.028 0.759

* Indicates p<0.05

Discussion

Physically inactive girls had significantly higher levels of social physique anxiety than the physically active girls. Eating attitudes and social physique anxiety were significantly associated with the weight of the girls. But there were no significant associations between eating attitude and social physique anxiety among the female students. These finding are in conformity with those reported by Bas and Kiziltan [19] on Turkish adolescents in which no correlation between social physique anxiety and eating attitudes was found. Grieve [20] reported the prevalence of peoples with risk for eating disorder like (oral, bulimia and diet) in various countries including Saudi Arabia 19.6%, Japan 5.4%, The USA 22%, Canada 16%, The U.K 4.92% and Spain 12.3% and in the present study risk of eating disorder is 73.94%. Physically active girls eating disorder symptoms at a greater ratio then inactive girls. These results are supported by other studies that has shown risk of eating disorder among physically active girls various types of sports like (physically activity, football, basketball etc) and that some sports show the little association with eating pathology [21]. Inactive girls had greater body dissatisfaction than physically active girls despite having roughly equal body size. Several other authors have also found that physically active girls in sports exhibit restrictive eating [22].

Conclusion

The results indicate a high level of dissatisfaction with their figure among university girls. Further, the results indicate that this population is indeed vulnerable to eating-disordered attitudes

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