

Physical and Physiological Correlates of Social Physique Anxiety in College Students

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Abstract The purpose of the present study was to explore the relationship among social physique anxiety, physical measures such as body fat and physical self-concept. 367 (226 male and 141 female) college students ranging in age from 21 to 33 participated in the study. Participants were randomly chosen among the healthy students without any metabolic and chronic illnesses and who do not take any pills from the departments of physical education and sport, education of sport coaching, recreation and spots management at the Faculty of Sport Sciences of a state university in Turkey called Sakarya University. This is a correlational study. And it is a descriptive study. Social Physique Anxiety Scale and Physical Self-Description Questionnaire were used to measure social physique anxiety and physical self-concept respectively. A Tanita (In Body 230), a digital scale, was used to measure participants' physical characteristics. Pearson moment correlation and linear regression with a stepwise fashion were carried out to analyze the obtained data set. Results showed that social physique anxiety is moderately correlated to both physical measures and physical self-concept.

Keywords Social Physique Anxiety, Physical Measures, Physical Self-concept

1. Introduction

Social physique anxiety which is defined as concern about others' negative evaluation of one's physique [1] may be recognized as a major problem, especially for young adult population, mainly due to its crucial role in the development of severe physical and psychological problems such as unhealthy eating behaviors [2] or low self-esteem [3]. Therefore, examination of social physique anxiety in young adult population is considered to be a matter of great importance.

In previous studies, social physique anxiety was generally examined in terms of age and gender [4, 5] exercise motive [6], and physical activity [7]. As can be understood from the

cited studies social physique anxiety was examined mainly in terms of its psychological correlates. However, despite the wealth amount of findings regarding the psychological correlates of social physique anxiety, less is known about the predictive ability of physical parameters for social physique anxiety. Interestingly, only few previous tried to examine physical correlates of social physique anxiety. For example, a study on body image change [8] showed that both perceived and objective physical qualities may be associated with body image. Similarly, another study on puberty and physical self-perceptions of competitive female figure skaters [9] demonstrated that certain physical anthropometrical measures may predict social physique anxiety in figure skating athletes. Taken together, it seems that there is a need to examine social physique anxiety in relation to both physical and psychological correlates. In the present study it is aimed to examine whether individuals' physical features such as body fat measured by objective methods and perceived physical self-description domains are related.

2. Materials and Methods

2.1. Participants

The sample included 367 (226 male, 141 female) healthy college students with mean age of 21, 64 ($s=3, 17$). None of the participants had a known acute or chronic illness at the time of the study. Participants were randomly chosen among the healthy students without any metabolic and chronic illnesses and who do not take any pills from the departments of physical education and sport, education of sport coaching, recreation and spots management at the Faculty of Sport Sciences of a state university in Turkey called Sakarya University. This is a correlational study.

2.2. Measures

2.2.1. Social Physique Anxiety Scale

The Social Physique Anxiety Scale (SPAS) is a 12-item self-report inventory that was designed by Hart et al. to

assess the trait of social physique anxiety, the anxiety associated with concerns that one's physique may be negatively evaluated by others [10]. The scale has two subscales, namely Feeling of Discomfort (FOD) and Expectation of Negative Evaluation (ENE). Participants responded on a 5-point Likert-type scale with anchors of not at all (1), slightly (2), moderately (3), very (4), and extremely (5). Scores can range from 12 to 60, with higher values indicating greater anxiety. The SPAS was adapted into Turkish by Mülazımoğlu-Ballı and Aşçı [11]. In the present sample the internal consistency score was .84.

2.2.2. Physical Self-Description Questionnaire

Physical self-concept was assessed through the 70-item Physical Self-Description Questionnaire (PSDQ) developed by Marsh et al. [12]. Respondents indicated the extent to which they agreed with each statement (1 = strongly disagree; 6 = strongly agree). Individual responses were summed and averaged to provide scores on eight specific components of physical self-concept (body fat, appearance, endurance, strength, coordination, flexibility, sports competence, and health) and two global measures of self-concept (Global Physical Self Concept and Global Self-Esteem).

2.2.3. Physical and Antropometrical Measures

A Tanita (In Body 230) was used to measure portico pants' Weight, Height, Total muscle weight, Total fat weight, Total water, Fat free weight, Body mass index (BMI), Body fat percentage (PBF), Waist-hip ratio (WHR) and Basal metabolic rate (BMR).

In this correlational study data collection process was as

follows. First, the social physique anxiety scale and physical self-description questionnaire were conducted to the participants. Next, the physical and anthropometrical measures for the same participants were performed at the Medico-Social Health Centre under the Directorate of Health, Culture and Sport by field experts. Before the measurement step, the participants were informed about that they should not take any kind of caffeine especially through tea, coffee or smoking at least in the last two hours. During the measurements, the participants were barefooted.

2.3. Statistical Analyses

First, Pearson correlation coefficients were calculated to examine whether social physique anxiety is associated with physical features measured by objective methods and PSDQ subscales. Afterwards, linear regression analyses in a stepwise fashion was carried out to explore whether PSDQ and physical features may have account for the social physique anxiety overall score.

3. Results

Table 1 shows the pearson correlation coefficients between social physical anxiety and physical features. The most notable correlation in Table 1 is the negative and significant association between social physique anxiety and total muscle weight (r = -.20)

Table 1. Correlation Coefficients among Social Physique Anxiety and Physical Measures

	Weight	Height	Total muscle weight	Total fat weight	Total water	Fat free weight	BMI	PBF	WHR	BMR
FOD	r= -.23** p= .000	r= -.13* p= .012	r= -.22** p= .000	r= .09 p= .071	r= -.22** p= .000	r= -.22** p= .000	r= -.01 p= .748	r= .25** p= .000	r= -.03 p= .527	r= -.08 p= .087
ENE	r= -.12* p= .027	r= -.11* p= .045	r= -.13* p= .011	r= -.002 p= .974	r= -.13* p= .011	r= -.14** p= .009	r= -.05 p= .309	r= .10 P= .066	r= .03 P= .625	r= .03 p= .584
SPA	r= -.19** p= .000	r= -.14** p= .009	r= -.20** p= .000	r= .04 p= .409	r= -.20** p= .000	r= -.20** p= .000	r= -.41 p= .383	r= .19** p= .000	r= -.03 p= .520	r= -.02 p= .677

Table 2. Correlation Coefficients among Social Physique Anxiety and Physical Self Concept

	Health	Health	Coordination	Physical Activity	Body Fat	Sport Competence	General Physical Concept	Appearance	Strength	Flexibility	Endurance /Fitness	Self Esteem
FOD	r P	-.06 .231	-.28** .000	-.26** .000	.33** .000	-.37** .000	-.58** .000	-.47** .000	-.29** .000	-.27** .000	-.26** .000	-.33** .000
ENE	r P	-.18** .000	-.31** .000	-.13* .010	-.29** .000	-.31** .000	-.45** .000	-.39** .000	-.28** .000	-.16** .003	-.16** .003	-.41** .000
SPA OVERALL	r p	r= -.16** p= .002	-.35** .000	-.22** .000	-.36** .000	-.39** .000	-.59** .000	-.49** .000	-.33** .000	-.24** .000	-.23** .000	.44** .000

Table 2 demonstrates the associations among social physique anxiety and physical self-concept dimensions. In this table, the most notable correlation was between social physique anxieties and body fat subscale of the PSDQ. Based on the significant associations of social physique anxiety to physical features measured by objective methods and physical self-concept, a linear regression analysis in a stepwise fashion was considered to be necessary to conduct.

Table 3. Predictive Ability of the Physical Measures and Physical Self Concept for Social Physique Anxiety

	B	Beta	t	P	R	R ²
Constant	68.78	---	24.80	.000	.649 ^e	.422
General Physical Sufficiency	-.57	-.38	-6.43	.000		
Fat Free Weight	-.11	-.18	-4.38	.000		
Body Fat	-.33	-.24	-4.79	.000		
View	-.27	-.17	-3.03	.003		
Body Fat Weight	-.14	-.18	-2.60	.010		

In this analysis dependent variable was the social physique anxiety overall score. Independent variables were physical self-concept sub dimensions and physical features measured by objective methods.

Results in Table 3 indicated that the final model containing solely PSDQ subscales of General Physical Sufficiency, Body Fat, View and objective physical measures of body fat weight was able to predict significant amount of variance in overall social physique score.

4. Discussion and Conclusions

The present study aimed to examine physical and psychological correlates of social physique anxiety in college students. Results indicated that social physique anxiety is mostly associated with perceived physical features. However, body fat weight measured by objective methods was also found to be associated with social physique anxiety.

This result documenting the link between social physique anxiety and body fat is in line with a recent study [3]. Koyuncu et al. found a positive correlation between body fat ratio and social physique in students. Taken together, results observed in this study as well as the previous ones suggest that body fat may be an important physical variable with a potential to understand individuals' social physique anxiety [3]. Based on this result, it is concluded that together with the general population, college students should be informed with regard to the appropriate eating habits to reduce the prevalence of overweight and even obesity which in turn may reduce prevalence of social physique anxiety.

An interesting point that must be dealt with is the relation of social physique anxiety to both actual body fat and perceived body fat measured by the self-report instrument. Thus, social physique anxiety was more strongly correlated to perceived body fat than actual body fat. This result let the researcher to conclude that researchers aiming to examine body image concerns in relation to physical characteristics should take into account both the actual and the perceived physical features.

Another result that should be addressed is the association of social physique anxiety with physical self-concept dimensions. In this respect, social physique anxiety was moderately and negatively correlated to self-esteem which means that concerns about physical appearance can give rise to low self-esteem and thus low psychological well-being. Previous results also provide support for the argument of this study regarding the link between body image concerns and self-esteem [13].

The present stud may have some implications for both researchers and practitioners. First, health practitioners should help college students as well as general population to develop healthy eating habits due to its potential to cause body image concerns or social physique anxiety. Further, researchers aiming to understand correlates of social physique anxiety should take into account both actual and perceived physical features.

Lastly, in future studies taking into account individuals eating behavior may lead for a better understanding of the relationship between social physique anxiety and physical self-concept.

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