

Social physique anxiety and nutritional attitude in athlete and non-athlete university students

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Abstract. *Study Objectives:* The present study aimed to investigate the differences in the perception of social physique anxiety and nutritional attitudes of athletes and non-athlete university students. Besides, analyzing the correlations between the phenomena was another aim. *Materials and Method:* The study was designed as a cross-sectional quantitative study, and 375 university students from Hatay Mustafa Kemal University participated in the study. In analyzes of the data, independent samples t-test and Pearson Correlation analyzes were used. *Results:* This study showed that non-athlete participants reported significantly higher scores in physical appearance anxiety, fear of negative evaluation, and malnutrition sub-dimensions. On the other hand, athletes reported significantly higher scores on positive nutrition sub-dimension. Besides, malnutrition and social physique anxiety were positively correlated, and there were negative correlations between positive nutrition and social physique anxiety for both groups. *Conclusion:* Further research is still recommended to explore these associations in more depth.

Key Words: University Students, Athlete, Social Physique Anxiety, Nutrition, Malnutrition

Introduction

Social physique anxiety (SPA) as a subtype of social anxiety is defined as “the fear of one’s physique being negatively evaluated by others” (1) and derived from the theories of self-presentation and impression management (2). Leary and Kowalski (1990) defined self-presentation as the attempts performed by an individual to selectively present and omit self-related information, generate a positive social impression or avoid an undesired reaction (3).

With roots in social anxiety and self-presentation, social physique anxiety is a commonly studied emotion that emanates from, or motivates, physical activity behaviors (4). For instance, in their study,

Crawford and Eklund (1994) reported significant and negative relationships between social physique anxiety and physical activity attitudes (5). Similarly, Brunet and Sabiston (2009) studied the associations between social physique anxiety and physical activity in a self-determined concept. According to their results, although social physique anxiety directly influences need satisfaction, it indirectly influences physical activity motivation and behavior (6). However, in a more recent study, Portman, Bradbury, and Lewis (2018) reported that there were no apparent links between social physique anxiety and objective physical activity behavior in terms of frequency, history (length of gym membership), or intensity of exercise (7).

Social physique anxiety represents an individual's degree of perceived anxiety in situations in which one's physique is deemed to be under evaluation by others, as stated before, this can affect the preferred type of physical activity (1). According to Spink (1992), an individual with a high level of social physique anxiety tends to make exercise alone (8). Besides, researchers suggested that individual athletes such as gymnasts, divers, figure skaters, or aerobic competitors exercise and compete in an environment where the physique is continuously under scrutiny (9).

Physique and physical appearance are essential in how people are viewed in their social environment (10). This situation is more or less the same for athletes. Because the athletes fear being negatively evaluated by coaches, teammates, competitors, fans, judges (11). This puts pressure on the athlete and can affect her/his lifestyle, such as nutritional attitude. In literature, the nutritional attitude was defined as the choices of an individual like what to eat and how much to eat. Besides, nutritional attitude is a concept that is not only structured within the framework of physiological needs and can change depending on psychological and social variables in individuals (12).

Social physique anxiety and nutritional attitude are among the commonly studied topics among sports-related research. For instance, Dunn, Turner, and Denny (2007) studied the nutrition knowledge and attitudes of college athletes. According to their results, significant differences in overall knowledge were noted between athletes' collegiate sports and genders. Besides, although the majority of athletes had healthy attitudes about eating behaviors, they had low knowledge scores (13). In another study, Nazni and Vimala (2010) investigated nutritional attitudes and knowledge of the athletes and found that most participants had good knowledge of nutrition and supplements (14). In a recent study, Devlin and Belski (2015) explored general and sports nutrition and food knowledge of elite Australian Football players. According to their results, nutrition messages and recommendations appear to be well understood; on the other hand, gaps in nutrition knowledge were

evident among participants (15). However, when we examine the literature, we can see that researchers not only reviewed the nutritional attitudes of athletes but also studied other sports people's nutritional attitudes, such as coaches and athletic trainers. For instance, in their study Torres-McGehee et al. (2012) compared the sports nutrition knowledge of collegiate athletes, coaches, athletic trainers, and strength and conditioning specialists. According to their results, athletic trainers and strength and conditioning specialists have adequate sports nutrition knowledge, whereas most coaches and athletes have inadequate knowledge (16).

The literature showed that social physique anxiety is one of the physiological factors affecting nutritional attitude and related concepts. According to Diehl et al. (1998), there were strong and positive relations between social physique anxiety and disordered eating attitudes of female collegiate students (17). Similarly, Haase and Prapavessis (1998) indicated significant correlations between the phenomena as well (18). Furthermore, although, Haase and Prapavessis (2001) did not find any significant difference in the social physique anxiety scores of athletic and non-athletic female university students, they found significant relations between social physique anxiety and eating attitude scores for all groups (19). Hence, in the present study, we aimed to examine the differences between social physique anxiety and nutritional attitude scores for athletes and non-athlete university students. Besides, analyzing the correlations between the variables was another aim.

Material and Methods

Study Design

The present study was designed as a cross-sectional quantitative study. According to this method, data is first collected from the study sample to identify relationships between the patterns and then generalized back to the population (20).

Participants

The study sample consisted of 375 university students from Hatay Mustafa Kemal University. Participants representing the athlete group of the study were selected according to the purposive sampling method. The criteria for selection were to be a licensed athlete and to compete in the inter-university competitions. The participants representing the non-athlete group were chosen according to the random sampling method.

Data Collection

Social Physical Anxiety Scale (SPAS)

The original scale was developed by Hart, Leary, and Rejeski in 1989 to measure the individuals' social physique anxiety level. The scale consisted of 2 sub-dimensions as physical appearance anxiety and fear of negative evaluation with 12 items (e.g., "Unattractive features of my physique/figure make me nervous in certain social settings"). The answers given to the scale are evaluated with a 5-point Likert type scale (1= not at all, 5= extremely). Items 1, 5, 8, and 11 are reverse scored. The scale was adapted to Turkish by Mülazımoğlu Ballı and Aşçı in 2006 (21).

Nutritional Attitude Scale

Participants completed two sub-dimensions (positive nutrition and malnutrition) from the nutritional attitude scale developed by Tekkurşun Demir and Cicioğlu in 2019. Each dimension contained five items. An example item of positive nutrition is "I eat protein-containing foods (meat, milk, eggs, etc.) every day," and an example item of malnutrition is "I eat different kinds of snacks every day." The answers given to the scale are evaluated with a 5-point Likert type scale (1 = strongly disagree, 5 = strongly agree). The items of the malnutrition sub-dimension are reverse scored (22).

Procedure

Self-reported measures from the participants were collected by the researcher using a face to face approach. The participants were informed about the study and completed all scales within 10-15 minutes. Informed consent had been obtained from all participants before any assessments were carried out.

Statistical Analysis

Descriptive statistics were presented as Mean \pm Standard Deviation (SD). Comparisons among the groups were performed using the independent sample t-test. The Pearson correlation analyses were conducted between the sub-dimensions of the scales. IBM SPSS 23.0 for Windows was used for statistical analysis.

Results

The descriptive statistics are given in Table 1. Table 2 shows the Pearson correlation analyses between nutritional attitude and social physique anxiety sub-dimensions.

Regarding group comparison, we found that non-athlete participants reported significantly higher scores in the physical appearance anxiety, fear of negative evaluation, and malnutrition sub-dimensions. On the other hand, athletes reported significantly higher scores on positive nutrition sub-dimension (Table 1).

Results showed that nutritional attitudes and social physique anxiety were positively correlated for the athletes ranging from .189 (malnutrition and fear of negative evaluation) to .203 (malnutrition and physical appearance anxiety). On the other hand, there was a negative correlation between positive nutrition and physical appearance anxiety ($r = -.294$) for the athletes. Pearson correlation results also showed that nutritional attitudes and social physique anxiety of the non-athlete participants were positively correlated between malnutrition and fear of negative evaluation

Table 1. Descriptive statistics and comparison between athlete and non-athlete subsamples

	Athletes (N=126)		Non-athletes (N=249)		p
	Mean	SD	Mean	SD	
Physical appearance anxiety	11.00	4.02	13.02	3.98	.000*
Fear of negative evaluation	15.85	5.82	17.79	5.90	.003*
Positive nutrition	18.29	4.10	17.00	3.91	.004*
Malnutrition	10.87	3.93	12.47	4.55	.001*

* $p < .05$

Table 2. Pearson correlations between the variables in the study for athlete and non-athlete subsamples

	1	2	3	4
1. Positive nutrition	1	-.233**	-.232**	-0.027
2. Malnutrition	-.365**	1	-0.009	.214**
3. Physical appearance anxiety	-.294**	.203*	1	.441**
4. Fear of negative evaluation	-0.12	.189*	.353**	1

Notes: Correlations under the diagonal are for athletes (N=126), the ones above the diagonal are for non-athlete participants (N=249).

* $p < .05$; ** $p < .01$

sub-dimensions ($r = .214$). However, positive nutrition and physical appearance anxiety were negatively correlated ($r = -.232$; Table 2).

Discussion

This study aimed to examine the differences of social physique anxiety and nutritional attitude scores as well as the correlations between these variables for athlete and non-athlete university students. Concerning purpose one, analyze results revealed that although non-athlete participants had higher scores in the social physique anxiety sub-dimensions and malnutrition, athletes had higher scores in positive nutrition. We think that this result is because the athletes have to pay attention to their physique and nutrition to continue active sports. If we consider this result in terms of social physique anxiety, we can say that it is consistent with the literature. For instance, a study conducted on female university students showed that participants who were dissatisfied with their body image and did

not participate in a regular exercise activity experienced higher social physique anxiety than those who exercise (23).

Similarly, Koyuncu et al. (2010) found that non-athletes had higher social physique anxiety in sub-dimensions and overall score than varsity athletes (24). In their study, Mülazımoğlu Ballı et al. (2010) found that competitive athletes and exercisers had lower social physique anxiety scores than non-exercisers (25). In a more recent study, Nugent (2020) found that both male and female non-athlete university students scored higher in social physique anxiety than athletes (11). However, when we consider this result in terms of nutritional attitude, it is possible to see studies with similar and different results. For instance, in their research, Süel et al. (2009) reported that when compared to sedentary counterparts, basketball players had better nutritional knowledge and attitude (26). However, according to Sedek and Yih's (2014) study results, although non-athlete university students displayed healthier dietary habits than athletes, no significant differences were found in nutritional attitude between

both groups (27). In a more recent study, Kostopoulos et al. (2020) found no significant difference between the elite and the professional athletes' nutritional attitudes. However, they found a significant difference between the basketball players and non-athlete physically active participants (28). In their study, Aktaş Üstün et al. (2020) reported no significant difference in the nutritional attitude of athletic and sedentary university students (29). In support of our result, studies have shown that the nutritional attitudes of the athlete university students are positive (30,31).

Concerning purpose two, analyze results revealed that malnutrition and social physique anxiety were positively correlated, and there were negative correlations between positive nutrition and social physique anxiety for both groups. However, these correlations were found to be statistically weak. When we examine the literature, we can see that social physique anxiety and nutritional attitude correlates. Studies showed mild to strong relationships with social physique anxiety and eating attitudes (17,18). According to Haase, Prapavessis, and Owens (2002) study findings, social physique anxiety is an additional psychosocial variable to consider in the relationship between negative perfectionism and disordered eating (32). In their study, Gargari et al. (2010) found that eating attitude scores of the female fitness participants were positively correlated with social physique anxiety (33). In a more recent study, Lanfranchi et al. (2014) found that the relationship between social physique anxiety and disturbed eating attitudes and behaviors did not differ according to adolescents' involvement in sports practice or their participation in organized, competitive, or leanness sports practice (34).

Conclusion

This study showed that varsity athletes had lesser social physique anxiety and more positive nutritional attitude than non-athlete university students. Besides, malnutrition and social physique anxiety were positively correlated, and there were negative correlations between positive nutrition and social physique anxiety for both groups.

Limitations and Future Research

The present study demonstrated original and new information on variations in social physique anxiety and nutritional attitudes of athletes and non-athlete university students. However, it is not without limitations. First, this research did not account for within-participant variables such as gender, age, and sport type. This precludes the use of multi-level analyses to examine variations. Second, the data collection tools were self-report measures, and research was designed as a cross-sectional study. They, therefore, do not reflect developmental changes. Future research may attempt to provide further support in a representative sample of athletes and non-athletes or sedentary subsamples to explore these associations in more depth.

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