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The Psychological Characteristics and Health Related Behavior of Adolescents: The Possible Roles of Social Physique Anxiety and Gender

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The purpose of this study was to examine whether or not the social physique anxiety level and gender have an influence on psychological characteristics and health related behavior of adolescents. Five hundred and ninety eight female (M_{age} = 14.95, SD = .70 years) and three hundred and eighty four male (M_{age} = 15.08, SD = .76 years) adolescents voluntarily participated in this study. The Social Physique Anxiety Scale (SPAS), three subscales of the Physical Self-Description Questionnaire, and the Multidimensional Perfectionism Scale as indicators of psychological characteristics were administered to all participants. The Eating Attitude Test and Physical Activity Assessment Questionnaire were used to determine health related behavior. It was found that adolescents with high levels of SPA (HSPA) had more unfavourable eating attitudes, higher scores in socially-prescribed perfectionism, negative global physical self-worth and negative body related perceptions than those with low levels of SPA (LSPA). Physical activity levels of adolescents did not differ in the two SPA groups (high/low level). In addition, male adolescents in the present study were more physically active and had favorable eating attitudes and more positive self-perceptions of body fat and general physical self-worth than their female counterparts.

Keywords: social physique anxiety, eating attitudes, perfectionism, physical self, physical activity.

El objetivo de este estudio fue investigar si el nivel de ansiedad física social y el género tienen o no, influencia sobre las características psicológicas y la conducta saludable de los adolescentes. En esta investigación participaron voluntariamente 598 chicas (M_{age} = 14.95, SD = 0.70 años) y 384 chicos (M_{age} = 15.08, SD = 0.76 años) en edad adolescente. Como indicadores de las características psicológicas, a todos los participantes se les aplicó la Escala de Ansiedad Física y Social (SPAS), tres subescalas del Cuestionario de Auto-percepción Física, y la Escala Multidimensional de Perfeccionismo. El Test de Actitudes Alimentarias y el Cuestionario de Valoración de Actividad Física fueron utilizados para determinar la conducta saludable. Se descubrió que los adolescentes con altos niveles de ansiedad física social (HSPA) poseían más actitudes alimentarias desfavorables, mayores puntuaciones en perfeccionismo socialmente prescrito, menor autoestima física y percepciones negativas en relación con su cuerpo, que aquellos con bajos niveles de ansiedad física social (LSPA). Los niveles de actividad física de los adolescentes no se diferenciaban en los dos grupos (alto y bajo nivel de ansiedad física social). Además, en el presente estudio, los varones adolescentes eran físicamente más activos, tenían buenas actitudes alimentarias, una más positiva auto-percepción de la grasa corporal y una mejor autoestima física general, que sus homólogas femeninas.

Palabras clave: ansiedad física social, actitudes alimentarias, perfeccionismo, yo físico, actividad física.

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Impression management is a pervasive part of any individual's life, and individuals try to create the desired impression in a variety of environmental and social settings - at a job interview, in the school environment, when buying clothes, going out to a party/dance, being next to someone with a good physique, being the center of attention, in exercise and sporting activities and so on. In addition, people who are particularly attuned to others' perception of them are concerned about behaving in accordance with situational norms, worried about social approval and disapproval, or anxious about other people's perceptions and evaluations of them, or they are anxious about the evaluation of their own physique. Within the self-presentation framework, an affective response reflecting concerns with how one's body is judged by others is known as Social Physique Anxiety (Leary, 1992). In other words, this response is defined as an anxiety that people experience in response to others' evaluations of their physiques (Hart, Leary, & Rejeski, 1989).

The social physique anxiety is an important self-presentational concern for adolescents. Concerns about physical appearance and other bodily characteristics are central to adolescents' sense of self-worth and have the potential to affect adolescents' overall well-being. As such, adolescence is considered vulnerable period for prevalent disturbances in body image (Sabiston, Sedgwick, Crocker, Kowalski, & Mack, 2007) since the body is the primary focus of concern at this age. It is a period of identity formation; adolescents become preoccupied with their body weight and attempt to achieve the ideal physique because of a continual shift towards an increasingly thinner and an idealistic physique. This encompasses both a thin and physically fit physique and also exerts an influence on their dieting and eating behavior (Hausenblas & Mack, 1999). Besides being seen by other people as cool, fun and risk takers, physical attractiveness is one of the most valued images among adolescents in society (Ginis & Leary, 2004). Social and cultural norms, reinforced by media messages, place the question of body weight amongst the factors which determine the attractiveness of their appearance.

Self-presentation concerns related to the body can also be major triggers for the adoption and maintenance of behaviors such as physical activity, dietary behaviors, and smoking, as well as emotional experiences including body anxiety and low self-esteem (Crawford & Eklund, 1994; Leary, 1992; Martin, Leary, & O'Brien, 2001). This also correlates with global self-esteem, body esteem, weight dissatisfaction and body dissatisfaction (Bartlewski, Van Raalte & Brewer, 1996; Crawford & Eklund, 1994; Lantz, Hardy & Ainsworth, 1997; McAuley, Bane & Mihalko, 1995), eating attitudes (Hausenblas & Mack, 1999; Thompson & Chad, 2002), motivation for exercise and exercise behavior patterns (Crawford & Eklund, 1994; Frederick & Morrison, 1996; McAuley et al., 1995). In addition, the social physique anxiety may play an important role in determining where and with whom people exercise (Spink, 1992), the individual's affective responses to exercise (Focht & Hausenblas, 2001) and the level of effort and exertion made whilst exercising (Boutcher, Fleischer-Curtian & Gines, 1988).

As is evidenced by the literature, social physique anxiety is closely related with many of the psychological characteristics and behavioral patterns of adolescents. Different propositions are put forward to explain the possible relationship between social physique anxiety and some psychological characteristics and behavioral patterns. For example, it is possible that those with high levels of social physique anxiety might engage in healthy dieting/eating behavior to assist themselves in self-presentation in order to be regarded favorably. Also it is possible that those with high social physique anxiety might engage in abnormal eating behaviors to create a favorable impression (Haase & Prapavessis, 1998). In addition, social physique anxiety has been associated with both low and excessive exercise, negative perfectionism and socially prescribed perfectionism (Frederick & Morrison, 1996; Haase, Prapavessis, & Owens, 2002; Lantz et al., 1997; Petherick, Hall, & Kerr, 2004).

Although it is possible to find studies examining the relationship between social physique anxiety and some psychological constructs separately, there are few attempts to consider the different psychological characteristics in the same study design. Additionally, there are few attempts to examine the role of social physique anxiety on "perfectionism" amongst adolescents. In general, previous studies on perfectionism focused on the relationship between social anxiety and perfectionism (e.g. Hewitt & Flett, 1991; Laurenti, Bruch, & Haase, 2008), and not on physique related anxiety. Furthermore, previous studies have been conducted on the athletic and exerciser samples (Haase et al., 2002; Petherick et al., 2004). To these authors' knowledge, there are no studies that examine the possible contribution of physique related anxiety to perfectionism among adolescents. Therefore, the purpose of this study was to examine possible roles of social physique anxiety on psychological characteristics including perfectionism, body related perception, global physical self-worth, and health related behaviors such as the eating behaviors and the physical activity of adolescents. Depending on the proposition, it was hypothesized that adolescents with a high level of social physique anxiety would have unfavorable eating attitudes, more negative body related perceptions and global physical self-worth, and high scores in maladaptive perfectionism, such as a socially prescribed perfectionism. In addition, based on the previous literature, it was expected that the physical activity levels of adolescents would change with regard to their social physique anxiety levels. The gender differences in the psychological characteristics and health related behaviors were also examined in this study as sub-problems.

Method

Participants

Five hundred and ninety eight female (M_{age} = 14.95, *SD* = .70 years) and three hundred and eighty four male (M_{age} = 15.08, *SD* = .76 years) high school students voluntarily participated in this study. Students were randomly selected from five high schools in the capital city of Turkey. The participants were from moderate-income families and the most of them were from the urban regions of Ankara, Turkey. The participants completed informed consent form before the study.

Measures

The Social Physique Anxiety Scale (SPAS; Hart et al., 1989*)*: The SPAS was used as the measure of social physique anxiety. The original SPAS is a 12-item unidimensional scale designed to assess over-concern or anxiety when presenting the physique in evaluative contexts. Items are presented on a 5 point Likert scale, from 1 = not at all true to 5 = extremely true, with total scores ranging from 12-60 (Hart et al., 1989). In this study, 7-item Turkish version Social Physique Anxiety Scale was used as suggested by the recent work of Hagger et al. (2007). The 7-item version of the SPAS (excluding original items of 1, 5, 7, 8, 11) has good fit indices (CFI = .952, NNFI = .929; RMSEA = .06) and factor loadings ranged from .42 to .71. Composite reliability coefficient of the SPAS is .83 for Turkish sample (Hagger et al., 2007). The alpha coefficient for the present sample was .73.

The Eating Attitude Test (EAT-40; Garner & Garfinkel, 1979*)*: The EAT-40 is a psychological measure of anorexic/bulimic like attitudes and beliefs. It includes 40 items in which the frequencies of attitudes and beliefs are rated using 6-point scale. A score of 30 and above is commonly used as a cut-off point to identify individuals with anorexia or bulimia (Garner & Garfinkel, 1979). The reliability and validity of the EAT–40 for Turkish population is determined by Savaşır and Erol (1989). Internal consistency coefficient (Cronbach α) and test re-test reliability of the EAT-40 for Turkish sample were .70 and .60, respectively. Savaşır and Erol (1989) reported that the EAT-40 has acceptable construct validity. The alpha coefficient for the present sample was .73.

The Physical Activity Assessment Questionnaire (PAAQ; Karaca, Ergen, & Koruç, 2000*)*: The PAAQ is a self-report questionnaire, which asked the participants to give the weekly average of the number of times, and duration they engaged in physical activity over the last year (Karaca, Ergen, & Koruç, 2000). The work (school for students), travel, home, sport and stair activities were listed as 5 separate categories to estimate the activity of participants during the last year. Respondents indicated whether the activities that are listed under these categories were done and if so, on how many days and how many minutes per day the activity was generally performed in a week. Each activity was assigned an intensity value (Metabolic expenditure units-MET) based on the work of Ainsworth, Jacobs, Lean, Richardson and Montoye (1993).

The PAAQ has been shown to have acceptable reliability and validity for research purposes. Two week test-retest reliability coefficient was .70 for sport index (MET/hours) (Karaca et al., 2000). The PAAQ has been found to be moderately correlated (r = .72; p < .01) with 24 hours daily writing of the activities (Karaca et al., 2000). In this study, sport MET/hours was used as indicator of exercise behavior.

The Physical Self-Description Questionnaire (PSDQ; Marsh, Richards, Johnson, Roche, & Tremayne, 1994*)*: The PSDQ was used to assess the physical self-concept of adolescents. PSDQ consists of seventy items designed to measure nine specific subscales of physical self-concept -strength, body fat, physical activity, endurance/fitness, sports competence, coordination, health, appearance, flexibility- and two global scales -global physical self-concept and self-esteem-. Each scale is represented by 6 or 8 items; each item is a simple declarative statement and participants respond using a 6-point Likert scale (Marsh et al., 1994). The evidence of reliability and validity of the PSDQ for Turkish sample were determined in a recent study of Marsh, Marco, and Aşçı (2002). The results of Marsh et al. (2002)'s study indicated acceptable goodness of fit indices (χ^2 (2290) = 7896.97; RMSEA = .047, RNI = .88; TLI = .87) of PSDQ for Turkish sample. The reliability estimates (coefficient α) of the Turkish version of PSDQ ranged from .80 (self-esteem) to .92 (body fat, sport ability, appearance). Furthermore, PSDQ has good convergent and discriminant validity for Turkish students (Aşçı, 2005). In this study, only body fat, appearance and global physical self-worth subscales of the PSDQ were used. The alpha coefficients of these subscales for the present sample ranged from .82 to .90.

The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991*)*: The MPS is a 45 item measure which has three dimensions. The *Self-Oriented Perfectionism* (SOP) dimension involves the setting of high standards and striving for perfection. The *Socially-Prescribed Perfectionism* (SPP) dimension reflects the concern over meeting the expectations of others and the perception that others are too demanding. The *Other-Oriented Perfectionism* (OOP) dimension involves beliefs and expectations about the capabilities of others. The person is believed to have unrealistic standards for significant others, places importance on others to be perfect and evaluate others' behaviors critically. The participants responded on a 7-point subscale ranging from 1 (*disagree*) to 7 (*agree*). The reliability and validity evidences of the MPS for Turkish sample were obtained in a study carried out by Oral (1999).

Factor analysis with a varimax rotation was conducted for the Turkish version of the MPS and three factors were found and named as self-oriented, socially prescribed and other oriented perfectionism with Cronbach alpha scores of .90, .84 and .74, respectively (Oral, 1999). The alpha coefficients for the present sample were .56, .72, and .83 for the OOP, the SPP, and the SOP, respectively.

Procedure

The measures were set in order as demographic information sheet, MPS, EAT-40, SPAS, PAAQ, and three subscales of PSDQ. These questionnaires were administered to participants in a group in a classroom setting. Researchers provided verbal and visual information on how to respond to items in each questionnaire. The participants spent about 15-20 minutes to fill in the questionnaires. The data was collected from participants in 20 sessions. Participation in the study was voluntary and the self-report questionnaire responses were anonymous. Male and female participants were classified as low and high social physique anxiety groups based on median split of SPA values. The median social physique anxiety scores were 20 and 16 for female and male, respectively.

Results

The prevalence results showed that 12.2 % of 556 females, 6.8 % of 368 males and 10.1% of the total sample had disturbed eating behavior (EAT ≥ 30). The mean and standard deviations of psychological and behavioral characteristics of adolescents with regard to social physique anxiety and gender is presented in Table 1.

We conducted a 2 x 2 (Female/Male x High/Low Social Physique Anxiety Groups) Analysis of Variance to test the gender and social physique anxiety group differences in eating attitudes and physical activity level. This analysis revealed significant gender differences in eating attitudes, F (1,915) = 29.62; $p < .01$; $\eta^2 = .03$, and physical activity level, F (1,948) = 119.88; $p < .01$; $\eta^2 = .11$. Males have favorable eating attitudes and tend to participate to physical activity more than females. In addition, significant differences were obtained in eating attitudes, F (1,915) = 36.35; $p < .01$; $\eta^2 = .04$, between participants with high social physique anxiety and those with low social physique anxiety. Participants in the HSPA group have unfavorable eating attitudes than participants in the LSPA group. No significant main effects of social physique anxiety group, F (1,948) = .00; $p > .05$; $\eta^2 = .00$, on physical activity level was obtained. In addition, group x gender interaction was not significant for either the eating attitudes scores, F (1,915) = 2.48; $p > .01$; $\eta^2 = .003$, or the physical activity level, F (1,948) = .01; $p > .01$; $\eta^2 = .00$.

The subscales of the PSDQ and MPS were analyzed by a two-way multivariate analysis of variance with gender and social physique anxiety as independent factors. Significant multivariate main effects were found for all two factors with gender and social physique anxiety contributing to the explained variance of perfectionism and physical self-concept (Table 2 and Table 3). However no significant multivariate two-way interactions were found for perfectionism and the physical self-concept.

For perfectionism, follow-up univariate analyses of variance revealed some significant but extremely small main effects of gender with eta squared values of only .01 or less (Table 4). Females had higher scores on self-oriented perfectionism than males, but the socially-prescribed perfectionism scores of females were lower than those for males (Table 1). Significant univariate main effects of social physique anxiety occurred on only socially-prescribed perfectionism subscales of MPS between high and low social physique anxiety groups favoring individuals who had low social physique anxiety (Table 4).

As indicated in Table 5; the significant main effects of gender on physical self-concept are due to the fact that male students have higher physical self-concept scores on the subscales of perceived body fatness and global physical self-worth than female students. The significant multivariate main effect of social physique anxiety can be attributed to three subscales of physical self-concept, including the perceived body fatness, perceived appearance and global physical self-worth. An inspection of the means revealed that participants in the low social physique anxiety group had higher physical self-concept scores than those in the high social physique anxiety group (Table 1).

Discussion

This study intended to examine the psychological characteristics -perfectionism, global physical self-worth, body related perception- and health related behaviors such as eating behavior and the physical activity of adolescents.

Analysis revealed significant gender differences in the psychological characteristics and health related behaviors of adolescents. Female adolescents consistently scored higher than male adolescents on the eating attitude scale, self-oriented perfectionism, and perception of body fatness and global physical self-worth. On the other hand, females were found to be less physically active and have less socially-prescribed perfectionism scores. Most previous studies on eating attitudes (Elal, 2003; Hausenblas & McNally, 2004) and physical self-concept (Fox & Corbin, 1989, Lindwall & Hassmén, 2004; Marsh, 1998) reported gender differences in favor of males. The robust gender differences in body related perception and eating attitudes may be explained by gender differences in sport socialization, by cultural expectations of what behavior is considered appropriate, and by the availability of valued opportunities to demonstrate appropriate behavior (Schwalbe & Staples, 1991). Besides, in an age of globalization, the influence of the media and the fashion industry in promoting Western values in

Table 1
Psychological and Behavioral Characteristics of Adolescents in High and Low Social Physique Anxiety Groups

Scales	High Social Physique Anxiety Group (N = 476)		Low Social Physique Anxiety Group (N = 502)		Total (N = 978)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Eating Attitudes						
Female	21.21	11.26	16.23	9.69	18.61	10.76
Male	16.61	9.27	13.69	7.56	15.10	8.55
Total	19.37	10.74	15.22	8.99	17.22	10.08
Subscales of MPS						
Self-Oriented Perfectionism						
Female	75.83	14.74	75.12	15.48	75.46	15.12
Male	73.99	14.15	72.26	16.67	73.10	15.50
Total	75.11	14.52	74.01	15.99	74.54	15.30
Other Oriented Perfectionism						
Female	61.05	11.48	61.01	11.15	61.03	11.30
Male	61.69	10.09	60.47	11.57	61.06	10.88
Total	61.30	10.95	60.80	11.31	61.04	11.13
Socially Prescribed Perfectionism						
Female	60.46	13.59	54.97	13.13	57.61	13.62
Male	62.73	12.07	58.92	12.52	60.78	12.43
Total	61.35	13.04	56.50	13.03	58.85	13.25
Subscales of PSDQ						
Body Fat						
Female	24.72	7.89	30.09	5.93	27.49	7.44
Male	26.59	7.75	30.46	6.34	28.58	7.31
Total	25.45	7.88	30.23	6.09	27.92	7.41
Appearance						
Female	24.33	6.57	28.28	5.26	26.37	6.24
Male	25.07	5.60	28.54	5.40	26.85	5.76
Total	24.62	6.21	28.38	5.31	26.56	6.06
Global Physical Self-Worth						
Female	23.10	7.35	29.50	5.70	26.40	7.28
Male	25.63	6.49	30.40	5.13	28.08	6.29
Total	24.09	7.13	29.85	5.49	27.06	6.96
Physical Activity Level (Sport METs/hour)						
Female	2.69	2.90	2.67	2.93	2.68	2.91
Male	4.85	3.20	4.88	2.95	4.86	3.07
Total	3.53	3.20	3.50	3.12	3.51	3.15

Notes: MPS = Multidimensional Perfectionism Scale; PSDQ= Physical Self-Description Questionnaire; METs= Metabolic equvalents.

Table 2
Results of the Two-Way MANOVA with Gender and Social Physique Anxiety as Independent Factors and the Three Perfectionism Subscales as Dependent Variables

Effect	Hotelling's T^2	F (3, 951)	α-level	η^2
Gender	.03	7.99	< .001	.03
SPAG	.03	9.91	< .001	.03
Gender x SPAG	.002	.75	> .51	.002

Note. SPAG: Social physique anxiety group

Table 3
Results of the Two-Way MANOVA with Gender and Social Physique Anxiety as Independent Factors and the Three PSDQ Subscales as Dependent Variables

Effect	Hotelling's T^2	F (3, 950)	α-level	η^2
Gender	.02	7.74	< .001	.02
SPAG	.22	70.03	< .001	.18
Gender x SPAG	.006	2.02	> .10	.006

Note. SPAG: Social physique anxiety group

Table 4
Results of the Univariate ANOVA for the Main Effects of Gender and Social Physique Anxiety on Perfectionism

Variable	Main effect gender	α-level (df = 1, 953)	η^2	Main effect social physique anxiety	α-level (df = 1, 953)	η^2
SOP	5.36	< .003	.006	1.46	> .21	.002
OOP	.004	> .93	.000	.73	> .38	.001
SPP	13.16	< .001	.01	29.32	< .001	.03

Notes. SOP = Self Oriented Perfectionism; OOP = Other Oriented Perfectionism; SPP = Socially Prescribed Perfectionism

Table 5
Results of the Univariate ANOVA for the Main Effects of Gender and Social Physique Anxiety on Physical Self-Concept

Variable	Main effect gender	α-level (df = 1, 952)	η^2	Main effect social physique anxiety	α-level (df = 1, 952)	η^2
Perceived body fatness	5.83	< .002	.006	99.29	< .001	.09
Perceived appearance	1.69	> .18	.002	94.11	< .001	.09
Global physical self-worth	16.95	< .001	.02	179.78	< .001	.16

relation to weight and shape all over the world cannot be ignored. In other words, fashion and figure consciousness can safely be presumed to be a universal phenomenon for females. In this contemporary era with its "ideal" of the slim and fit look, the mass media, through its channels not only propagates the thin-ideal for women, but also actively promotes dieting (Elal, 2003). These conditions can lead to unhealthy eating behavior patterns, severe eating disorders and negative physical self-worth (Striegel-Moore, McAway, & Rodin, 1986).

It is interesting to note that, no gender differences were obtained in the appearance subscale, although previous studies (Fox & Corbin, 1989; Lindwall & Hassmén, 2004) indicated the biggest gender differences in body image related factors such as appearance. This might be explained by the self-objectification theory (Fredrickson & Roberts, 1997). It is especially the case that men are increasingly subject to body dissatisfaction by recent entertainment, articles and advertising in magazines, and by new style role models in films and on television. These promote images of an ideal male physique that is muscular and mesomorphic. The proliferation of such images may encourage men to believe that this idealized male body is valued by society and that men must work to attain such a body. That the cultural standards for physical attractiveness and the "ideal" physique for men is that of being lean and muscular influences the way they perceive their appearance (Imm & Pruitt, 1991).

As expected, male adolescents were found to be more physically active than females. These findings were in line with the results on Turkish (Aşçı et al., 2006; Çağlar & Aşçı, 2006), Canadian (Crocker, Eklund, & Kowalski, 2000), American (Ross & Pate, 1987), British and Russian (Hagger, Ashford, & Stambulova, 1998) populations. Many reasons can be postulated for the higher physical activity scores of the males than females. Armstrong and McManus (cited by Hagger et al., 1998) suggest a lack of perceived competence, a feeling of alienation that comes from being unable to conform a desired physique, and the conflict between sport participation and the ideology of femininity may be reasons for the low level of participation in physical activity by females. On the other hand, the placement of a higher value on sport competence, and the domination of games and activities in the school social life of males, may

be a reason for the high level of involvement in physical activity for males. In addition, the traditional stereotype of females being less assertive than males might contribute to these differences in physical activity levels (cited by Hagger et al., 1998). Colley, Berman, and Millingen (2005) stated that during their adolescence, girls are guided by the gender role-requirements of adulthood, and adopt behaviors and interests that enable them to attract boyfriends and prepare them for domestic responsibilities. Thus, an interest in sports, which is perceived as a masculine domain, declines.

Descriptive analysis revealed that, regardless of gender, Turkish adolescents seem to exhibit self-oriented perfectionism. This result were in line with the results of Jonge and Waller's (2003) study of American adolescents suggesting that adolescents set relatively high standards for themselves, but did not perceive themselves as needing to live up to unusually high standards set by others. Adolescents in this study have a tendency to set excessively high standards for themselves and a tendency to focus on failures or flaws in performance (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). Hewitt and Flett (1991) stated that self-oriented perfectionists directed toward avoiding self-criticism. In terms of gender differences, females had higher scores on self-oriented perfectionism than males, but the socially-prescribed perfectionism scores of females were lower than those of males. This means that male adolescents in this sample have a greater tendency to perceive a need to attain standards and expectations prescribed by significant others than female adolescents. Socially prescribed perfectionists try to avoid disapproval by others (Frost et al., 1993; Hewitt & Flett, 1991; Stoeber & Otto, 2006). This finding contrasts with the findings of Jonge and Waller (2003)'s study which indicated that there were no gender differences in subscales of MPS. Such differences may be a function of social influences and cultural factors. For example in Turkish culture the socialization of gender roles begins in the Turkish family even before the child is born (Ozkan & Lajunen, 2005). In Kağıtçıbaşı's study, Turkish parents expressed a preference for having a son (84%) rather than a daughter (16%) in a forced choice question. The preference for a son, especially in the rural traditional context, seems to be related to the parents' wish that a male child should carry the family name through to the next generation, contribute to the family's welfare through a financial and practical contribution and later take care of the aging parents. These expectations are likely to be the driving forces to make a child fit his or her gender stereotype (cited by Ozkan & Lajunen, 2005). Male adolescents in this study may have higher scores in socially prescribed perfectionism scale due to gender stereotypes in their culture.

Consistent with previous studies and with the expectations of the present study, significant differences were obtained in eating attitudes (Haase & Prapavessis, 1998; Spink, 1992), global physical self-worth and body related perception (Hart et al., 1989; Kowalski, Crocker, & Kowalski, 2001) between participants with high social physique anxiety and those with low social physique anxiety. Participants categorized as more anxious about their physiques have unfavorable eating attitudes and negative physical self-worth and they perceived their bodies negatively. The present findings suggest that being socially anxious in relation to physique may contribute to a negative self-perception and unfavorable eating attitudes, or those who felt negatively about their physical selves are more likely to experience social physique anxiety than those with positive view of their physical selves. It may be that people who generally do not believe that they are physically attractive (e.g., hold negative views about their body shape and weight) are likely to doubt their ability to create an impression on others that they are attractive and, as a result, will tend to experience social anxiety when they believe others are evaluating their physique (Amorose, & Hollembeak, 2005). Furthermore, previous studies (Diehl, Johnson, Rogers, & Petrie, 1998; Thompson & Chad, 2002) showed that social physique anxiety may increase people's risk of engaging in unhealthy eating behaviors. Mack, Strong, Kowalski, and Crocker (2007) reported that the females in-treatment and at-risk groups for an eating disorder had significantly higher SPA scores than those in not-at-risk group for an eating disorder. Thompson and Chad (2002) found that social physique anxiety was a strong predictor of eating attitudes. They stated that the level and intensity of how others view one's body may affect behavior. Such individuals are likely to avoid situations in which their body is in the public view and activities that accentuate their body, including physical activities. In addition, they often become distressed about their physical appearance and attempt to improve their body shape and size by dieting, fasting, bingeing, purging or other negative behaviors. Another explanation for this finding might be made within the context of socio-cultural theory. Societal pressures, often originally external in nature (films, advertisements), stress how individuals should feel about their appearance, and this is based on an unrealistic ideal. People who adopt this ideal may become more focused on the size and shape of their bodies and, potentially, develop disordered eating attitudes and behaviors (Diehl et al., 1998). Furthermore, and this is especially so for females, the self-objectification (Fredrickson & Roberts, 1997) or internalizing the views about themselves as perceived by others, their gender roles in society, and their attempts to conform to a thin culturally imposed "ideal" image may lead them to evaluate their physical abilities negatively. This unique process for females causes some negative psychological consequences in their lives, such as body shame, appearance anxiety, disordered eating behaviors, and lower self-esteem (Greenleaf, 2005; Lindwall, 2004).

In the current study, the two social physique anxiety groups did not differ on a physical activity level. As

was consistent with previous studies (Crocker, Sabiston, Kowalski, McDonough, & Kowalski, 2006; Kowalski et al., 2001), being anxious about the body (or not) did not contribute to any changes on the physical activity level of adolescents. Kowalski et al. (2001) suggested that social physique anxiety appears not to be the critical variable in determining the physical activity level. Crocker et al. (2006) also reported that physical activity was relatively independent from social physique anxiety. Similarly, in the recent study of Niven, Fawkner, Knowles, Henretty, and Stephenson (2009), no relationship was found between social physique anxiety and current physical activity level. Brunet and Sabiston (2009) reported that there was no significant direct effect of social physique anxiety on physical activity behavior. Depends on their results, the social physique anxiety is a controlling factor and it has a pervasive effect on perceptions of competence, autonomy, and relatedness, and potentially it hinders physical activity motivation and behavior. Niven et al. (2009) pointed out that social physique anxiety may act as a barrier to activity or actually encourage individuals to be active. Some individuals with high levels of social physique anxiety may avoid participating in physical activities as a result of their physiques. However, other individuals with high social physique anxiety may be motivated to engage in physical activities as remedial behavior, with the intention of improving or maintaining their physical appearances through physical activity participation and, thus, to decrease their social physique anxiety (Kowalski et al., 2001). Furthermore, McHugh et al. (2008) reported that the young women described various non-physique related strategies (e.g. make-up) that they use to manage their bodies and their overall appearance instead of exercise and eating control.

In addition, high and low social physique anxiety groups differed in terms of socially-prescribed perfectionism even though participants with low and high social physique anxiety showed a similar pattern in self- and other-oriented perfectionism. An examination of mean scores indicated that adolescents with high social physique anxiety were more concerned over meeting the expectations of others, and the perception that others are too demanding, than those with low anxious counterparts. In line with the present study, Petherick et al. (2004) reported that socially prescribed perfectionism significantly influenced the social physique anxiety of 15-66 years old female exercisers. Research has demonstrated a relationship between perfectionism and many different forms of anxiety (Haase et al., 2002; Kawamura, Hunt, Frost, & DiBartolo, 2001) was also partially supported by the findings of this present study. For example, Hewitt and Flett (1991) reported that socially-prescribed perfectionism correlated strongly with social anxiety in both student and clinical samples. Laurenti et al. (2008) also found that social anxiety was significantly related with socially-prescribed perfectionism. Within the self-presentational perspective, social physique anxiety is defined as a subtype of social anxiety and it occurs as a result of the prospect or presence of an interpersonal evaluation involving one's physique (Hart et al., 1989). Socially-prescribed perfectionists in the present study may have high expectations of others. Since socially-prescribed perfectionism was directed towards avoiding disapproval by others (Stoeber & Otto, 2006), adolescents in the high social physique anxiety group might be in need of positive approval by significant others in relation to their physiques and they might experience social physique anxiety due to the possibility of being unable to meet this demand. Because the impressions people make on others have implications for a variety of social and material outcomes, they are concerned with making a good impression on others and they become socially anxious when they feel unable to make such an impression (Hart et al., 1989).

The major limitation of this study was the cross sectional nature of data. As a result, conclusions about the effects of gender and social physique anxiety on health related behavior and psychological characteristics cannot be drawn. Exploration of this question requires a longitudinal approach in order to track the developmental and socio-cultural factors in relation to these variables. The second limitation was that the findings may be relevant only for male and female adolescents in urban settings, which limit the generalizability of the results. Another limitation of this study was the self-reported physical activity measure.

To conclude, male adolescents in the present study were more physically active and had favorable eating attitudes and more positive self-perceptions of body fat and general physical self-worth than their female counterparts. Also they seem to be more socially prescribed perfectionists; this means that they perceive more perfection demands from others rather than themselves. The major contribution of the present study is to demonstrate the possible roles of social physique anxiety on eating attitudes, body related perception, perfectionism, and the physical activity of adolescents. Socially physique anxious adolescents in the present study had unfavourable eating attitudes, more negative perceived body fatness, appearance and global physical self-worth than their less anxious counterparts. In addition, they had high scores in socially prescribed perfectionism –the maladaptive dimension of perfectionism (Flett & Hewitt, 2005). In other words, they perceived a need to attain standards and expectations prescribed by significant others. Physical changes during adolescence, combined with social pressures, could lead to more physique related anxiety, leading to change in physical self-perception and perfectionism as well as changes in dietary restraint.

It is possible to provide some suggestions for future research. Further studies could examine the social physique anxiety of participants across different levels of sport involvement (competitive, physical education, fitness, recreational). In addition, the reasons underlying the physical activity preferences in adolescents with high

level of social physique anxiety need to be explored in more qualitative ways. Further studies should also test the relations between self-objectification and social physique anxiety in adolescents.

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