

RELATIONSHIP BETWEEN DIMENSIONS OF THE FIVE FACTOR PERSONALITY MODEL, BODY IMAGE SATISFACTION AND SOCIAL PHYSIQUE ANXIETY IN COLLEGE STUDENTS

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Abstract: This study was designed to examine the relationship between dimensions of the five factor personality model and body image satisfaction and social physique anxiety in college student athletes and non-athletes. Participants were 390 college student athletes and non-athletes ranging in age from 20 to 26 ($M = 23.86$ and $SD = 2.264$). The Five Factor Personality Inventory developed by Tatar (2005); the Social Physique Anxiety Scale, developed by Hart et al. (1989), and adapted into Turkish by Balli and Asci (2004); the Body Image Satisfaction Questionnaire developed by Berscheid, Walster and Bohmstedt (1973) and adapted into Turkish by Gokdogan (1988) were used as measurement devices. In order to analyze obtained data Pearson product-moment correlation and multiple regression analyses were carried out. When the entire sample was considered correlation analyses indicated that overall social physique anxiety scores are associated with the extraversion dimension of the five factor personality model. Correlation analyses also showed that body image dissatisfaction, both overall social physique anxiety and its two subscales are highly related to the emotional stability dimension of the five factor personality model in the entire sample. When data was partitioned according to athletic status it was found that all body image satisfaction related variables are highly associated with emotional stability and extraversion dimensions in both the athlete and non-athlete group. Relationships between body image satisfaction and extraversion were, however, more salient in the college non-athlete student sample group. Multiple regression analyses revealed that only emotional stability was a significant predictor of body image (dis)satisfaction in both college student athlete and non-athlete sample.

Key words: body image dissatisfaction, five factor personality model, social physique anxiety

INTRODUCTION

Over the past two decades, researchers have closely examined the relationship between personality types and variables

associated with social physique anxiety and body image dissatisfaction [e.g., eating disorder (ED), obesity, Body Mass Index (BMI) and overweight preoccupation] in sedentary (Podar, Hannus, Allik, 1999; Cooley, Toray, 2001; Brummett et al., 2006) and college student athlete populations (Fulkerson et al., 1997; Kjelsas, Augestad, 2004). Results from the studies that

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have addressed these concerns suggest that personality and several variables such as weight preoccupation, BMI, ED, dieting behavior and obesity are related. A number of personality variables have been receiving attention as potentially important in the development of the ED. In this regard, self-esteem and perfectionism have received a considerable amount of attention. There is evidence that low self-esteem is a risk factor for developing eating pathologies (Graber et al., 1994). Fairburn et al. (2003) have stated that low self-esteem is one of the most frequently considered psychological predisposing factors of people with eating disorders. Fairburn et al. also noted that there is often an interaction between perfectionism and eating disorders "with the patient's perfectionist standards being applied to the attempts to control eating, shape and weight, as well as to other aspects of their life (e.g., their performance at work or sport)" (p. 516). However, there are some conflicting results for the hypothesis that low self-esteem is a risk factor for developing eating problems. Thus, Callam and Waller (1998) found that neither self-esteem nor perfectionism at age 12 helped predict the extent of eating problems at age 19. As is ED, body image is related to self-esteem. A strong and positive relationship have also been found between self-esteem, body image satisfaction and some physical measures in college men and women (Tok et al., 2005; Cohane, Borowiecki, Olivardia, 2004).

As well as with specific personality traits like self-esteem and perfectionism, social physique anxiety related variables are associated with more basic personality traits such as the big five (extraversion, neuroticism, agreeableness, conscientiousness, and openness). As these traits represent typical, individual reactions to or

behavioral expressions of a situation and are strongly related to differences in affective experience, it is probable that differences in personality traits will influence the evaluative dimension of body image (Kvalem et al., 2006). In nonclinical samples of college women, a relationship between neuroticism and ED symptomatology as well as a lack of relationship between extraversion and ED symptomatology has been suggested (Janzen et al., 1993; Geissler, Kelly, 1994; Cervera et al., 2003). Similarly, overweight preoccupation is also related to personality traits, especially neuroticism and extraversion. In a study by Rubinstein (2006), it has been found that non-dieting overweight women are significantly more neurotic and less open, conscientious, agreeable, and extravert than dieting overweight women and normal weight women. High scores on neuroticism predicted negative appearance evaluation in a study by Davis, Claridge, and Brewer (1996) and were related to dissatisfaction with facial appearance in a study by Thomas and Goldberg (1995).

Exercise and sport may have a moderating affect on the relationship between big five personality traits and social physique anxiety related variables (e.g., eating disorder, obesity, Body Mass Index and overweight preoccupation). In physically active students Kjelsas, Augestad, (2004) found that neuroticism is strongly associated with ED, which may stem in part from self-presentational concerns involving physique (Leary, Tchividjian, Kraxberger, 1994). Emotional reactivity based on Eysenck's neuroticism scale has been found to be a predictor of weight preoccupation and dieting behavior among high performance female athletes (Davis, 1992). Physical activity has been shown to be negatively associated with neurotic traits

and positively associated with extraversion (Eysenck et al., 1982; Augestad, Levander, 1992; Davis et al., 1996; Courneya, Hellsten, 1998). Physically active men have reported being more satisfied with their bodies than sedentary men, and neuroticism seems to be associated with a negative body perception in men (Davis et al., 1991).

Based on these findings we expected that several dimensions of the five factor model of personality are strongly related to body image dissatisfaction and social physique anxiety - a sub-type of self presentational concern involving physique - in both athlete and non-athlete college students. Thus the purpose of the study is to examine the relationship between big five personality traits, social physique anxiety and body image dissatisfaction.

MATERIAL AND METHOD

Subjects

The subjects comprised 390 male ($n = 199$) and female ($n = 191$) college student athletes from the Ege University, School of Physical Education and Sport ($n = 288$) and non-athletes ($n = 102$) from Faculty of Science, Faculty of Education and Medical School of Izmir Ataturk ranging in age from 20 to 26 ($M = 23.86$ and $SD = 2.264$).

The Instruments

Social Physique Anxiety Scale

The Social Physique Anxiety Scale (SPAS) is a 12-item 2 factor [Feeling of Discomfort (*FOD*), Expectation of Negative Evaluation (*ENE*)] self-report inventory that was designed by Hart et al. (1989) 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. Scores can range from 12 to 60, with higher values indicating greater SPA. Hart et al. provided evidence for the internal consistency of the scale ($\text{Alpha} = 0.90$). Construct validity has also been demonstrated by Hart et al. (1989), who showed that SPAS scores correlated with other measures involving evaluative concerns. The Social Physique Anxiety Scale was adapted into Turkish by Balli and Asci (2004).

Body Image Satisfaction Questionnaire

In order to evaluate the volunteer's body image satisfaction (BIS) level the Body Image Satisfaction Questionnaire (BISQ) developed by Berscheid, Walster and Bohrnstedt (1973) was used. The questionnaire includes 25 items for females and 26 items for males. Each item in this questionnaire is evaluated on a five-point Likert type scale - strongly satisfied (5), satisfied (4), undecided (3), dissatisfied (2) and strongly dissatisfied (1). The reliability of this questionnaire for the Turkish population was determined by Gokdogan (1988).

5 Factor Personality Inventory

To assess subjects' personality characteristics the short form of the 5 Factor Personality Inventory developed by Tatar (2005) was used. This inventory consists of 85 items and 5 factors (extraversion/introversion, agreeableness/hostility, conscientiousness/undirectedness, emotional stability, openness to experience/intellect). Each item in this inventory is evaluated on a five-point Likert-type scale with anchors from strongly agree to strongly disagree.

Tatar has provided evidence for the Inventory's main five factor internal consistency. The Cronbach Alpha Coefficient for main five factor ranges from 0.84 to 0.91.

Statistical Method

Statistical analysis was carried out with SPSS program for Windows 98 version 11.0 (SPSS Inc., Chicago, IL, USA). In order to analyze the data set Pearson product-moment correlations and multiple regression analyses were carried out.

RESULTS

Pearson product-moment correlations were calculated among dimensions of the five factor model of personality, both the overall SPAS' and its two subscales' scores and the Body Image Satisfaction Questionnaire score for the entire sample, college student athlete and non-athlete sample separately. Several personality dimensions, especially the neuroticism/

emotional stability, were related to body image satisfaction and social physique anxiety.

Table 1 shows the correlation coefficients among five main personality dimensions, body image satisfaction and social physique anxiety. As shown in Table 1 four out of five personality dimensions were significantly related to body image satisfaction and social physique anxiety. Neuroticism/emotional stability dimensions were, however, more evidently related to the same variables.

When data was partitioned according to athletic status, only the extraversion/introversion and Openness to Experience/Intellect dimensions were positively related to body image satisfaction and negatively related to social physique anxiety in the non-athlete college student sample. However neuroticism/emotional stability was strongly and negatively related to body image satisfaction and positively related to social physique anxiety in the same group.

Table 1. Correlation among personality dimensions, body image satisfaction and social physique anxiety for entire sample

PERSONALITY DIMENSIONS	BISQ	SPAS TOTAL	FOD	ENE
Extraversion / Introversion	.26**	-.31**	-.29**	-.28**
Agreeableness / Hostility	.12*	-.06	-.04	-.06
Conscientiousness / Undirectedness	.26**	-.20**	-.23**	-.15**
Neuroticism / Emotional Stability	-.44**	.46**	.37**	.45**
Openness to Experience / Intellect	.19**	-.20**	-.18**	-.18**

* $p < 0.05$; ** $p < 0.01$

BISQ: Body Image Satisfaction

SPAS: Social Physique Anxiety Scale's total score

FOD: Feeling of Discomfort Subscale

ENE: Expectation of Negative Evaluation Subscale

Table 2. Correlation among personality dimensions, body image satisfaction and social physique anxiety for college student non-athlete sample

PERSONALITY DIMENSIONS	BIS	SPAS TOTAL	FOD	ENE
Extraversion / Introversion	.36**	-.39**	-.41**	-.33**
Agreeableness / Hostility	.15	-.09	-.07	-.09
Conscientiousness / Undirectedness	.11	-.13	-.14	-.10
Neuroticism / Emotional Stability	-.45**	.48**	.44**	.45**
Openness to Experience / Intellect	.29**	-.36**	-.32**	-.34**

* $p < 0.05$; ** $p < 0.01$

Table 3. Correlation among personality dimensions, body image satisfaction and social physique anxiety for college student athlete sample

PERSONALITY DIMENSIONS	BIS	SPAS TOTAL	FOD	ENE
Extraversion / Introversion	.18**	-.25**	-.20**	-.23**
Agreeableness / Hostility	.09	-.02	-.01	-.03
Conscientiousness / Undirectedness	.24**	-.14*	-.19**	-.07
Neuroticism / Emotional Stability	-.40**	.42**	.30**	.43**
Openness to Experience / Intellect	.11	-.09	-.09	-.07

* $p < 0.05$; ** $p < 0.01$

As in the non-athlete sample, in the athlete sample extraversion/introversion was positively related to body image satisfaction and negatively related to social physique anxiety. However this relation was more evident in the non-athlete sample. Neuroticism/emotional stability was also negatively related to body image satisfaction and positively related to social physique anxiety. In contrast to the non-athlete sample, conscientiousness/undirectedness was slightly related to other measures in the athlete sample. Openness to experience/intellect dimensions showed no rela-

tions with other measures in contrast to the non-athlete sample.

In order to determine the most predictive personality dimension(s) of social physique anxiety and body image dissatisfaction in the entire sample, in the athlete and non-athlete subsamples multiple regression technique was used. All personality dimensions and the social desirability dimension were entered in the model simultaneously (Enter method). This model failed to account for significant variance in social physique anxiety. When body image (dis)satisfaction was considered as a dependent

variable the same model could explain a significant amount of variance in the entire sample, accounting for 18%. A model consisting of five main personality dimensions and social desirability could also explain significant variance in athlete and non-athlete sub-samples accounting for variances of 21% and 25% respectively, and only emotional stability was significant.

DISCUSSION

Of the personality dimensions considered in this study, neuroticism/emotional stability was the most strongly related to body image satisfaction and social physique anxiety in both athlete and non-athlete samples. These results confirm Davis et al.'s (1991) argument that suggests "neu-

Table 4. Summary of regression analysis for variables predicting social physique anxiety and body image satisfaction

Groups	Independent Variables	B	Beta	T	R	R ²
Entire Sample	Social Desirability	.027	.032	.645	.42	.18
	Extraversion / Introversion	.110	.119	2.334*		
	Agreeableness / Hostility	.015	.015	.322		
	Conscientiousness / Undirectedness	.057	.057	1.050		
	Openness to Experience / Intellect	-.004	-.004	-.076		
	Neuroticism / Emotional Stability	-.253	-.362	-6.497*		
	(Constant)	4.063		10.640*		
Student Athletes Sample	Social Desirability	.050	.067	1.124	.46	.21
	Extraversion / Introversion	.067	.078	1.325		
	Agreeableness / Hostility	.000	.000	-.012		
	Conscientiousness / Undirectedness	.071	.084	1.267		
	Openness to Experience / Intellect	-.065	-.064	-.990		
	Neuroticism / Emotional Stability	-.211	-.341	-5.204*		
	(Constant)	4.392		11.038*		
Non-Athletes Sample	Social Desirability	-.063	.089	-.073	.50	.25
	Extraversion / Introversion	.124	.097	.139		
	Agreeableness / Hostility	-.114	.126	-.089		
	Conscientiousness / Undirectedness	.058	.098	.057		
	Openness to Experience / Intellect	.163	.140	.127		
	Neuroticism / Emotional Stability	-.298	.085	-.391*		
	(Constant)	3.945		4.743*		

* p < 0.05; ** p < 0.01

roticism was a significant predictor of body image dissatisfaction in exercising and non-exercising men". Davis (1992) also found that emotional reactivity based on Eysenck's neuroticism scale has been found to be a predictor of weight preoccupation and dieting behavior among high performance female athletes. Although there has not been enough evidence to support a relationship between neuroticism/emotional stability and social physique anxiety, it is well known that eating disorders such as anorexia nervosa and bulimia nervosa are highly related to neuroticism/emotional stability (Kjelsas, Augestad, 2004; Smolack et al., 2000; Cassin, Ranson, 2005). Leary et al. (1994) have suggested that eating pathologies stem in part from self-presentational concerns involving the physique. Based on this argument it is logical to assume that the neuroticism/emotional stability dimension of the five factor model of personality is associated with social physique anxiety despite the lack of research findings supporting this idea.

According to the result of the present study extraversion/introversion is related to body image satisfaction and social physique anxiety in both athlete and non-athlete samples. However, this relationship is much more evident in the non-athlete population. Various researchers employing the Eysenckian (Arai, Hisamichi, 1998; Potgieter, Venter, 1995) or the Five Factor Model of Personality (Rhode, Courneya, Bobick, 2001; Courneya, Hellsten, 1998) have found exercise and sport participation to be associated with higher extraversion. These findings can explain relatively low relationship between the extraversion/introversion and bodily attitudes measures in the athlete population. Because athletes normally seem more extraverted than non-athletes, exercise and sport participation

have not much of a moderating effect on the relationship between extraversion/introversion and body image satisfaction in the athlete population.

Although there were relationships between openness to experience, body image satisfaction and social physique anxiety in the non-athlete sample, no relationship was observed between the same variables in the athlete sample. On the basis of Rubinstein's (2006) finding suggesting that overweight women are less open to experience than normal weight women, it can be argued that people with lower social physique anxiety and higher body image satisfaction can be more open.

In summary the present results, along with the other studies examining the relationship between body image satisfaction and personality, indicate that body image satisfaction and social physique anxiety are associated with several personality dimensions, especially neuroticism/emotional stability. Furthermore, exercise and sport participation may have a moderating affect on this relationship.

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VZŤAHY MEDZI DIMENZIAMI PÄŤFAKTOROVÉHO MODELU OSOBNOSTI, SPOKOJNOSŤOU S TELESNÝM VZHĽADOM A SOCIÁLNO-FYZICKOU ANXIETOU U VYSOKOŠKOLÁKOV

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Súhrn: Skúmali sme vzťahy medzi dimenziami päťfaktorového modelu osobnosti, spokojnosťou s telesným vzhľadom a sociálno-fyzickou anxiétou u vysokoškolákov, športovcov a nešportovcov. Výskumu sa zúčastnilo 390 vysokoškolákov, športovcov aj nešportovcov, vo veku 20 až 26 rokov ($M = 23,86$ a $SD = 2,264$). Administrovali sme Päťfaktorový osobnostný inventár, ktorý zostavil Tatar (2005); Škálu sociálno-fyzickej anxiety, ktorú vytvoril Hart et al. (1989) a do turečtiny preložili Balli a Asci (2004) a Dotazník spokojnosti s telesným vzhľadom, ktorý zostavili Berscheid, Walster a Bohmstedt (1973) a do turečtiny preložil Gokdogan (1988). Získané údaje sme analyzovali Pearsonovými koreláciami a viacnásobnými regresnými analýzami. Korelačné analýzy ukázali, že v celom výbere sa skóre sociálno-fyzickej anxiety spájali s dimenziou extravenzie z päťfaktorového modelu osobnosti. Korelačné analýzy taktiež ukázali, že v celom výbere nespokojnosť s telesným vzhľadom ako aj celková sociálno-fyzická anxieta a jej dve subškály úzko súvisia s dimenziou emočnej stability z päťfaktorového modelu osobnosti. Po rozdelení údajov na základe kritéria športovec/nešportovec sme zistili, že v oboch skupinách, športovcov aj nešportovcov, všetky premenné spájajúce sa so spokojnosťou s telesným vzhľadom úzko súvisia s dimenziami extravenzie a emočnej stability. Vzťahy medzi spokojnosťou s telesným vzhľadom a extravenziou však boli najvýraznejšie v skupine nešportovcov. Viacnásobné regresné analýzy ukázali, že signifikantným indikátorom (ne)spokojnosti s telesným vzhľadom v oboch skupinách vysokoškolákov, športovcov aj nešportovcov, bola len emočná stabilita.