

The Effect of Female Media Body Images on Body Image Dissatisfaction in Female Athletes and Nonathletes

Medyada Yer Alan İnce Kadın Bedeni İmgelerinin Sporcu ve Sedanter Kadınların Beden İmgeleri Üzerindeki Etkisi

Serdar TOK,^a
İnci GÜNEŞ,^b
Mehmet KOYUNCU,^c
Biroł DOĞAN,^a
A. Meliha CANPOLAT^a

^aPhysical Education and Sport High School,

^bInstitute of Health Sciences,

^cDepartment of Psychology Faculty of Letters, Ege University, İzmir

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Yazışma Adresi/Correspondence:

Serdar TOK
Ege University Physical Education and Sport High School, İzmir
TÜRKİYE/ TURKEY
tokserdar@gmail.com

ABSTRACT Objective: This study tested whether exposure to ideal thin female body images have an effect on athlete and nonathlete females' body image (dis)satisfaction (BID) and social physique anxiety (SPA). **Material and Methods:** The participants were 143 healthy female athletes (n= 67) and nonathletes (n= 76) ranging in age from 17 to 28. In addition to athletic status, groups were further divided into experimental and control groups (2 x 2 Factorial design). Individuals in experimental groups viewed a slide show which contained 37 thin female body images from various swimsuits advertisements which were selected by three referees. After the experiment, participants completed the Five Factor Personality Inventory, SPA Scale and BID Questionnaire. Body fat ratio was also measured. Individuals in control groups completed only measurement devices and their body fat ratio was measured. **Results:** Results showed that there was a significant body image satisfaction difference in favor of athletes' experimental group (t (65)= -2. 23, p = 0.029). However, there was no significant difference between nonathletes' control and experimental groups in terms of body image satisfaction. Results revealed that female athletes (M :24.82, SD: 7.41) had significantly lower SPA than nonathletes (M: 33.30, SD:7.50), [t (141): -6.78, p< 0.001]. Results also demonstrated that female athletes had higher body image satisfaction (M: 109.10, SD: 9.96) compared to nonathletes (M: 91.75, SD: 10.23), [t(141): 10.24, p< 0.001]. A regression model containing the Big Five personality traits could explain significant amount of variance in athletes' and nonathletes' body image satisfaction. Showing body fat ratio increased predictive ability of the regression model only in the athlete group. **Conclusion:** Thin female body images idealised by media may lead negative body image perception especially in female athletes.

Key Words: Body image; personality; exercise

ÖZET Amaç: Bu çalışmada, medyada yer alan ince kadın bedeni imgelerine maruz kalmanın sporcu ve sporcu olmayan kadınların Beden İmgesi Memnuniyeti (BİM) ve Sosyal Fizik Kaygı (SFK) düzeyleri üzerinde etkili olup olmadığı test edilmiştir. **Gereç ve Yöntemler:** Araştırma örneklemini yaşları 17 ile 28 arasında değişen 143 sağlıklı sporcu (n= 67) ve sporcu olmayan (n= 76) kadından oluşmuştur. Örnekleme, sporcu ve sporcu olmayan grupların yanı sıra kendi içlerinde de seçkisiz olarak deney ve kontrol grubu şeklinde ikiye ayrılmıştır (2 x 2 faktöriyel desen). Deney grubundaki bireylere çeşitli iç giyim ve bikini/mayo markalarının reklamlarından üç kişilik hakemler kurulu tarafından seçilmiş 37 ince kadın bedeni imgesinden oluşan bir slayt gösterisi izletilmiştir. Deneyden sonra katılımcılar Beş Faktör Kişilik Envanteri, SFK Ölçeği ve BİM Ölçeğini tamamlamıştır. Katılımcıların vücut yağ oranları da ölçülmüştür. Kontrol grubundaki katılımcılar ise sadece psikometrik ölçüm araçlarını tamamlamışlar ve vücut yağ oranları ölçülmüştür. **Bulgular:** Sonuçlar sporcu deney ve kontrol grupları arasında beden imgesi memnuniyeti açısından kontrol grubun lehine anlamlı bir farklılık olduğunu göstermiştir [t (65)= -2. 23, p= 0.029]. Ancak sporcu olmayan deney ve kontrol grupları arasında beden imgesi memnuniyeti açısından anlamlı bir fark bulunamamıştır. Araştırmanın sonuçları sporcu kadınların (M :24.82, SD: 7.41) , sporcu olmayan kadınlardan (M: 33.30, SD:7.50) daha düşük sosyal fizik kaygı düzeyine sahip olduğunu göstermiştir [t (141): -6.78, p< 0.001]. Araştırma sonuçları sporcu kadınların (M: 109.10, SD: 9.96), sporcu olmayan kadınlara (M: 91.75, SD: 10.23), göre daha yüksek beden imgesi memnuniyetine sahip olduğunu da göstermiştir [t(141): 10.24, p< 0.001]. Beş ana kişilik özelliğinden oluşan regresyon modeli sporcu ve sporcu olmayan kadınlarda beden imgesi memnuniyeti varyansını anlamlı derecede açıklayabilmiştir. Modele vücut yağ oranlarının eklenmesi, modelin öngörücü gücünü sadece sporcu grupta artırdığı görülmüştür. **Sonuç:** Medya tarafından ideal olarak sunulan ince kadın bedeni, özellikle sporcu kadınlarda olumsuz beden algısına neden olabilir.

Anahtar Kelimeler: Beden imajı; kişilik; egzersiz

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In contemporary Turkish society, ultra-slim models, pop singers, and especially actresses of series television serial actresses send an implicit (even clear) message to women that being thin and attractive is the one and only way for success and happiness. Portrayals of both real and ideal components of body images in the media are also a matter of issue for other societies. Recently, models with body mass index (BMI) scores below 18 were banned from Madrid Fashion Week. Local government stated that they wanted to set a more positive, healthy image of beauty. Similarly, "Italy's fashion capital, Milan, has announced a new catwalk code of conduct to protect young models vulnerable to anorexia and exploitation". Despite these efforts, Sypeck et al documented that body size for fashion models decreased significantly during the 1980s and 1990s and there was a dramatic increase in the frequency with which the media depicted the entire bodies of the models from the 1960s to the 1990s.¹ Perceived discrepancy between idealized and current body image can lead to body image disturbances and eating disorders.^{2,3} In fact, research findings indicate a relationship between mass media consumption and body image (dis) satisfaction (BID) in females.⁴⁻⁶

Few theoretical perspectives can be accounted for the influence of media on women's BID. One of the most important mechanisms that help explain the relationship between body image and media is Festinger's social comparison theory.⁷ According to this theory, humans have an innate drive to evaluate characteristics of themselves, a drive that is often accomplished by comparing oneself with others. Comparisons with people who are superior to oneself on an attribute of interest (e.g., physical attractiveness) are known as upward comparisons and are often associated with increases in emotional distress and decreases in self-esteem.⁸ Social comparison may also occur in dimensions such as physical appearance and eating habits.⁹ The affective consequences of the comparison process appear to be influenced by the direction of the comparison (e.g., whether it is upward or downward) and by the characteristics of the target (i.e., whether it is universalistic or particularistic).¹⁰

Unfortunately, research suggests that social comparison on the dimension of physical appearance tends to be upward rather than downward,^{9,11} which leads to increased BID and unhealthy eating patterns.

Another mechanism that can be used to explain media influence on BID is the "ideal thin internalization"¹² defined as the extent to which women internalize society's standards for thinness.¹³ It has been argued that thin internalization is a risk factor for eating disorders and women who internalize these standards have lower body satisfaction after exposure to thin media images. In addition, according to Ditmarr and Howard,¹⁴ thinness-based social comparison with media models is likely to depend on women's internalization-whether or not they endorse thinness as a personal ideal.

In an effort to explain influence of media exposure on women's BID, considerable amount of experimentally manipulated study placing their findings within social comparison, thin internalization or other frameworks have produced contradictory results. Some studies found that exposure to thin media images may have a detrimental effect on adult and adolescent females' body image satisfaction and related affective states and behavioral dispositions.^{13,15-20} Other studies, however, have found little or no effect of thin media images on females' body image satisfaction.^{21,22}

According to Dalley et al.²³ the impact of exposure to thin media images appears to vary as a result of individual differences. In fact, to date several individual differences were considered to further explain the impact of thin media image on females' body satisfaction. One of the most important individual differences that can mediate females' responses to thin media images is social context. Based on arguments made by Ditmarr and Howard,¹⁴ suggesting that "the relevance and salience of thinness-based social comparisons with media models is likely to depend on women's social context-whether or not they are employed in a profession that focuses on, and promotes, a thin appearance ideal and internalization-whether or not they endorse thinness as a personal ideal," we postulated that

woman's athletic participation especially in physique salient sports such as dance, gymnastics, swimming, diving can mediate the relationship between exposure to thin media image and body image satisfaction. In addition, considering Greenleaf's²⁴ statement that athletic environment is a setting in which women's bodies are evaluated not only in terms of performance but also appearance, it might be quite logical to suggest that female college student athletes participating in physique salient sports would be more sensitive to thin media images than their nonathlete counterparts. One previous study examined the effect of acute aerobic exercise and found that acute aerobic exercise was not a significant moderator of negative mood elicited by thin media images.²⁵ However, the effect of long term participation in physique salient sports on the relationship between exposure to thin media images and body image satisfaction remains unclear.

Another assumption considered in this study is that personality traits, especially Neuroticism (N), should be related with body image satisfaction level. N is one of the five basic personality dimensions and refers to the tendency to experience negative distressing emotions, low self-esteem, and helplessness.²⁶ The body image literature has identified N as an important factor in the development of BID and related eating pathology in females.²⁷ It is thought that N affects BID by intensifying the negative effects of other variables.^{27,28} Building on this reasoning, we postulated that N, as well as other personality traits, might predict significant amount of variance in females' BID. In addition to personality traits, physical characteristics such as body fat ratio should also be related with BID and social physique anxiety (SPA) and might increase predictive ability of BID especially in the athlete sample.

MATERIAL AND METHODS

PARTICIPANTS

A total of 143 female university students, 67 athletes participating in physique salient sports from the School of physical Education and Sports and 76 non-

nathletes from the Faculty of Letters ranging in age from 19 to 25 participated in this study. All participants were single.

MEASURES

SPA

The SPA Scale (SPAS) is a 12-item self-report inventory that was designed by Hart and Rejeski²⁹ to assess the trait of SPA-anxiety associated with concerns that one's physique may be negatively evaluated by others. The scale has two subscales, namely Feeling of Discomfort and Expectation of Negative Evaluation. Participants responded to a five-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 social physique anxiety. In the present sample internal consistency score was 0.84.

Body Fat Ratio

Skinfold measurement was obtained from triceps, subscapula and suprailiac abdomen in order to determine body fat ratio, Yuhasz method (% fat = $5.783 + 0.153 \{ \text{triceps} + \text{subscapula} + \text{suprailiac} + \text{abdomen} \}$) was used.³⁰

Personality

Five Factor Personality Inventory (FFPI) developed by Somer et al is a 220-item personality inventory designed to assess the main five personality traits, namely neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness and their 17 sub-dimensions.³¹ Item responses are made using a five point-format. The inventory's manual provides evidence for reliability and validity of the measurement device.

Body Image Satisfaction

In order to evaluate volunteer body image satisfaction level, "Body Image Satisfaction Questionnaire" developed by Berscheid et al was used. The questionnaire includes 25 items for girls.³² 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 dis-

satisfied (1). In the present sample, internal consistency score was 0.81.

PROCEDURE

Two groups were created according to individuals' athletic states. In addition to athletic status, study cohort were further divided into experimental and control groups. [2 (athlete-nonathlete) x 2 (experimental-control) Factorial design]. Individuals in experimental groups were invited to take part in what was described as a long-term memory study. Participants were told that they would be shown a series of slides and they should try to remember as much detail as possible. Individuals in experimental groups viewed a slide show which contained 37 thin female body images from various swimsuit advertisements which were selected by three referees. In order to mask real purpose of the experiment, 10 neutral images from the International Affective Picture System (IAPS)³³ were included to the slide show. After the experimental protocol, participants completed the Five Factor Personality Inventory, the Social Physique Anxiety Scale and the Body Image Satisfaction Questionnaire. Body fat ratio was also measured. Individuals in control groups only completed measurement devices and gave anthropometrical measures.

STATISTICAL ANALYSIS

In order to examine whether there was a significant difference between the athlete and the nonathlete group's social physique anxiety and body image satisfaction, independent sample t test was carried out. Independent t test was also carried out

to explore whether there was a significant difference between the body image satisfaction of experiment and the control groups. To explore associations among research variables, Pearson product-moment correlation was calculated. In order to test whether or not the model, consisting of the The Big Five personality traits, has predictive power for the body image satisfaction in the female athlete and nonathlete samples, and whether or not the body fat ratio can increase the predictive ability of personality traits, two hierarchical regressions were conducted. First, the The Big Five personality traits were entered to the models simultaneously (Enter method). After that, body fat ratio was added to the models.

RESULTS

Independent sample t test showed that athletes (M: 109.10, SD: 9.96) had greater body image satisfaction score than nonathletes (M: 91.75, SD: 10.23), [t(141): 10.24, p< 0.001] (Table 1).

Scores regarding SPA as well differed significantly between athletes (M :24.82, SD: 7.41) and nonathletes (M: 33.30, SD:7.50) which means that female athletes have significantly lower SPA scores than their nonathlete counterparts [t (141): -6.78, p< 0.001] (Table 2).

Several statistically significant associations were identified among body image satisfaction and body fat ratio when the entire sample was considered. However, the most notable relations were between SPA, body image satisfaction and personality traits, especially extroversion and neuroti-

TABLE 1: Results of the body image satisfaction scores in athletes and nonathletes with t test.

	Athletes (n= 67)	Nonathletes (n= 76)	T	p
Body Image Satisfaction	109.10 ± 9.96	91.75 ± 10.23	10.24	0.01

P<.05

TABLE 2: Results of social physique anxiety scores in athletes and nonathletes with t test.

	Athletes (n= 67)	Nonathletes (n= 76)	T	p
Social Physique Anxiety	24.82 ± 7.41	33.30 ± 7.50	6.78	0.01

P<.05

cism. Neuroticism was positively correlated with SPA and negatively correlated with body image satisfaction. Conversely, extroversion was negatively related with SPA while positively related with body image satisfaction. Body fat ratio was negatively related with body image satisfaction (Table 3).

Independent sample t-test revealed that there was a significant difference [$t(65) = -2.23, p = 0.029$] between athletes' control ($M = 111.62, SD = 9.66$) and experimental ($M = 106.34, SD = 9.70$) groups in terms of body image satisfaction, which means that athletes viewing thin body images reported less body image satisfaction than controls.

Contrary to the athlete sample, no significant body image satisfaction difference [$t(74) = -1.97, p = 0.053$] was identified between nonathlete experimental ($M = 89.36, SD = 10.35$) and control groups ($M = 93.90, SD = 9.75$) after exposure to thin media images (Table 4,5)

Two hierarchical regressions were conducted in order to test whether or not the model consisting of the Big Five personality traits had predictive power on body image satisfaction of female athlete and nonathlete samples and whether fat ratio could increase the predictive ability of personality traits. First Big Five personality dimensions were entered to the model. This model explained 19% of the va-

TABLE 3: Correlations between the big five personality traits and the bodily measures for entire samle.

	1	2	3	4	5	6	7
1 Extroversion							
2 Agreeableness	0.306**						
3 Conscientiousness	-0.027	0.286**					
4 Emotional Stab	-0.440**	-0.282**	-0.130				
5 Openness	0.464**	0.214*	-0.003	-0.440**			
6 Body Image Satisfaction	0.472**	0.130	0.135	-0.510**	0.281**		
7 Social Physical Anxiety	-0.494**	-0.241**	-0.053	0.480**	-0.380**	-0.690**	
8 Body Fat Ratio	-0.154	-0.017	0.027	0.110	-0.124	-0.410**	0.405*

(* $p < 0.05$; ** $p < 0.01$)

TABLE 4: Predictive ability of the big five personality traits for body image satisfaction in athletes using regression analysis with enter method.

Groups	Independent Variables	B	t	P	R	R2
Athletes	Extraversion	4.74	1.51	0.135	0.43	0.19
	Agreeableness	-3.68	-1.39	0.167		
	Conscientiousness	-6.61	-0.02	0.984		
	Openness to Experience	-2.12	-0.63	0.527		
	Neuroticism	-6.06	-3.04*	0.003		
	(Constant)	128.07	5.82	0.001		
Athletes	Extraversion	4.61	1.54	0.127	0.52	0.27
	Agreeableness	-2.97	-1.15	0.251		
	Conscientiousness	-0.71	-0.22	0.826		
	Openness to Experience	-99	-0.31	0.757		
	Neuroticism	-6.20	-3.27*	0.002		
	Body Fat Ratio	-1.67	-2.68*	0.009		
(Constant)	141.92	6.58	0.001			

* $p < 0.05$

TABLE 5: Predictive ability of the big five personality traits for body image satisfaction in nonathletes using regression analysis with enter method.

Groups	Independent Variables	B	t	p	R	R2
Nonathletes	Extraversion	3.13	1.27	0.208	0.51	0.26
	Agreeableness	-2.07	0.72	0.468		
	Conscientiousness	-1.31	0.55	0.584		
	Openness to Experience	1.46	0.37	0.712		
	Neuroticism	-6.77	-3.26*	0.002		
	(Constant)	104.76	4.50	0.000		
Nonathletes	Extraversion	3.68	1.27	0.172	0.52	0.27
	Agreeableness	-2.14	-0.73	0.456		
	Conscientiousness	-0.77	-0.30	0.760		
	Openness to Experience	-0.79	0.19	0.846		
	Neuroticism	-6.79	-3.25*	0.002		
	Body Fat Ratio	-0.37	-0.69	0.490		
	(Constant)	109.49	4.50	0.001		

(* p< 0.05)

riance of body image satisfaction in athlete group (Table 2) and 26% in nonathlete group (Table 3). Then, body fat ratio was entered into the model. In nonathlete group, fat ratio did not make any significant contribution over step one. On the other hand, body fat ratio made significant contribution over step one in athlete group.

DISCUSSION

Consistent with previous studies, in this study, female athletes were found to have lower level of SPA and higher body image satisfaction. However, our results provide evidence for the claim that some type of athletic activities, especially physique salient sports, may lead to downward social comparison or thin internalization which could deteriorate females' body image satisfaction.

Studies examining media effect on females' body image (dis)satisfaction focused largely on sedentary college students or adolescents. However, the effect of thin media images on athletes' body image satisfaction is less clear. Considering Groesz et al's.¹⁶ suggestion that women having higher levels of body image satisfaction are less affected by such images, our results demonstrating that physique salient athletes were more dissatisfied with

their body image after the exposure to thin media images may seem controversial.

It is possible to find some claims in the literature supporting these results. For example, Dalley et al.²³ suggested that some females were vulnerable to BID. In this respect, it can be argued that the type of athletic participation might increase women's vulnerability to body image disturbances. In addition, Ditmarr and Howard's¹⁴ argument suggesting that "the relevance and salience of thinness-based social comparisons with media models are likely to depend on women's social context-whether or not they are employed in a profession that focuses on, and promotes, a thin appearance ideal-and internalization-whether or not they endorse thinness as a personal ideal" is an evidence which supports our results. In this respect, participation in physique salient sports such as dance, diving or gymnastics should be considered as a risk factor for BID and related behavioural tendencies, i.e. unhealthy eating attitudes in females.

Consistent with previous studies BID and SPA were related to several The Big Five facets, especially neuroticism, in both female athletes and nonathletes. Similarly, regression model, which consisted of The Big Five personality traits, expla-

ined significant amount of variance in BID in both groups and most of the variance was explained by neuroticism. These results are in line with Davis³⁴ and Davis et al who argued that females preoccupied with their physical appearance or body shape might tend to be emotionally unstable.³⁵

Another interesting result observed in our study was the amount of variance explained by the Big Five personality traits in athlete and nonathlete groups. Personality traits were stronger predictors of body image satisfaction in nonathlete sample when compared to athlete sample. Adding body fat ratio to the regression model did not contribute to the predictive ability of personality in nonathlete sample. However, body fat ratio increased significantly the predictive ability of regression model, consisted of personality traits, in athlete sample which means that physique salient sport participants put greater emphasis on their physical

attributes. This result can be evidence for the claim that physique salient athletes might be more vulnerable to unhealthy eating habits and related psychological states.

Based on these findings, we could suggest that female physique salient sport participants and perhaps their coaches should be informed about the role of social comparison process on body image perception in order to prevent development of body image disturbances or unhealthy weight control behaviours. This suggestion becomes especially valid when some college coaches, who excludes athletes with body fat ratio higher than 0.15 was considered. Further, it becomes clear that the type of athletic participation should be taken into account in future experimental studies examining the effect of thin media images on body image satisfaction which is consisted of former and present attitudes and perception about body.³⁶

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