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Original article

Body Perceptions of Female Athletes Aged Between 11 and 14

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Abstract. *Study Objectives:* This study aimed to examine the body perception levels of women aged between 11 and 14, including those not playing sports and playing sports according to their sports branches. *Method:* the study was carried out with 140 female participants between ages 11 and 14. The study group consists of 80 licensed women athletes playing volleyball (n:28), basketball (n:25), badminton (n:9), and swimming (n:18) and also 60 women who are educated in the same school but do not actively play sports. Participants were included in the study voluntarily. The data were measured for the 2017-2018 academic calendar by using the "The Multidimensional Body-Self Relations Questionnaire (MBSRQ)". The Turkish validity and reliability of this scale were performed. *Results:* The appearance orientation scores of individuals who play individual and team sports were found to be significantly lower than those who do not. It was observed that there was a significant difference in the body perception levels of women playing and not playing sports. Moreover, there was a significant difference between the fitness evaluation, fitness orientation, and overall scale scores according to age, branch, and sports status. On the other hand, there was no significant difference between the scores of appearance evaluation, health orientation, body areas satisfaction, appearance orientation, and health evaluation. *Conclusion:* The formation of a positive body image can be achieved by actively participating in sports and physical activities in adolescence. It should be encouraged as a state policy that adolescents participate in social sportive communities where they can establish healthy relationships. To have adult behaviors and to struggle with life, for individuals with reduced anxiety levels, high self-esteem and self-confidence, and satisfaction with their body image, organized planning and precautions should be performed to adapt them to life.

Key words: Body perception, women playing and not playing sports, multidimensional body-self relations

Introduction

Self-esteem and body image is an important structure that has become more popular in social sciences and daily life with increasing value. Intuitively, it can be said that weak or low self-esteem is undesirable and studies have associated low self-esteem with loneliness depression, and social alienation (1-4). The self-esteem concept is simple. According to its dictionary definition, it is to value something and reward it. Self-esteem, in the common expression, is what one rewards, values, approves of, or loves oneself. In social sciences, self-esteem is a hypothetical structure that is quantified as the sum of assessments among distinctive features of one's self or personality. It is a general emotional assessment of one's worth or importance. It is the assumption that measuring one's attitudes or assessment reflects one's self-esteem. The self-esteem concept is named in dictionaries with various definitions of self-respect that are in accordance with each other (5). Considering the whole of human life, the adolescence period is important for the development of behaviors and attitudes that continue until adulthood becoming a personality (6). The studies conducted on

adolescents have reported that compared to individuals with less physical activity, physically active individuals are more successful in dealing with socio-emotional difficulties, are less likely to encounter health problems, are more successful in combating depressive behaviors, and have lower rates of obesity, which is the most common disorder of our age (7-9). When the adolescent population was examined, it was stated that the mental health and well-being of physically active individuals were supported as a result of physical activity, as well as positive effects on increased happiness, improvement in an emotional state, and decreased anxiety level were reported (10-12). It was reported in the studies focusing on adolescents that physical activity contributed to the socialization of individuals, such as creating a positive self-image and self-esteem and receiving positive social feedback in peer relations, also contributed to reducing the social anxiety level and adapting them to their social groups, which was a significant advantage (13,14). Body perception may have different definitions. At the origin of definitions, body image, body ego, and boundaries of the body can be mentioned. The concept of body perception can also be considered as a situation in which individuals indicate themselves with their measured values (15). Body perception is the emotional integrity shaped by images (16). Different authors stated their values for body perception. Schilder said that "The way we perceive our body appearance, and our feelings determine our body perception." (17). According to Güney, (2018) body perception is the self-image of the individual, which is formed as a result of the feedback received from the social environment about his/her body image (18). Bektaş, (2004) commented that "Body image includes a cognitive approach that has perceptions about the body and body-related experiences, and also an emotional approach about being happy because of the image." (19). Examining all the definitions, the common opinion is that body perception can be indicated as the difference between the way the one perceives himself/herself, i.e his/her physical appearance and the physical appearance he feels/sees. Body perception is shaped and developed under the influence of the environment and situations where the self grows until adulthood (20), Body image has become a part of the culture, as the image of the individual influences his/her acceptance and status in the social environment (21). The concept of ideal body perception determined by society is increasingly considered more important than the state of being healthy (22). Moreover, the person's ability to perceive himself/herself properly is very important for body satisfaction and self-esteem. The self can also be thought of as a cognitive structure organized due to the experiences of the individual (23). High self-esteem was defined by Pole and Hale as a healthy self-concept (24). In many countries, the beauty perception is considered to have a fine body. In addition, it is also considered that those who pay attention to their body and weight love their bodies and themselves, and accordingly, their self-esteem is high (25). At this point, one's recognition and evaluation of his/her body is an important factor in the formation of one's self-esteem and confidence (26). The study aimed to evaluate the body perceptions of adolescents, who are in the most significant developmental stage of their lives, according to their physical activity types and the state of playing any sports.

Material and Methods

Participants

Participants included in the study were determined voluntarily. Written consent was obtained from the individuals before the study. The data were collected through a questionnaire prepared by the researcher in the 2017-2018 academic calendar.

Purpose of the Study

The purpose of the study is to determine the body perception levels of women playing and not playing sports according to their age groups and to investigate whether there is a significant difference between them in terms of perception of their bodies.
Accordingly, sub-problems are determined as follows:

1. Based on the sporting status of participants.
   a. Age, branch, playing or not playing sports

2. According to the status of playing or not playing sports of participants in the study.
    a. How is their participation in the items of the multidimensional body-self relations scale?
    b. Is there a significant difference between the scores of the multidimensional body-self relations scale?
3. Based on the branches of participants.
    a. Is there a significant difference between the items of the multidimensional body-self relations scale?

Significance of the Study

The study is important in terms of comparing the body perception levels of women who are engaged in swimming, badminton, basketball, and volleyball according to sports branches. At the end of the study, because female athletes will have different body perception levels according to their sports branches, the families of children and adolescents and the coaches need to guide the female athletes who want to deal with any of these branches. It is considered that the results of the study will contribute to the individuals who will just start sports, their families, and educators.

Assumptions and Boundaries of the Study

Based on the assumptions in the study, women not playing sports do not participate in any sports activities. It is also assumed that women playing sports do not play any sports other than their sports branch discussed in the study. The study is limited to women who are actively engaged in licensed sports in the 2017-2018 academic calendar and those not playing sports but involved in active education and training.

Study Model

The research is the scanning model. Body perception of women who play and do not play sports constitutes the dependent variable. Age, sports status, and sports branch are the independent variables.

Collection of Data

The Multidimensional Body-Self Relations Questionnaire

A questionnaire form was prepared to collect data about the participants. It was created by the researcher after a sufficient literature review on the subject.

This scale was transformed from a 140-item scale originally developed by Cash et al. (1986) to a short 54-item form to evaluate attitudinal aspects of body image. It includes 54 items by adding 9 items related to body areas and 6 items related to body weight (27). The Multidimensional Body-Self Relations Questionnaire consists of 7 subscales:

1. Appearance Evaluation (AE)
2. Appearance Orientation (AO)
3. Fitness Evaluation (FE)
4. Fitness Orientation (FO)
5. Health Evaluation (HE)
6. Health Orientation (HO)
7. Body Areas Satisfaction (BAS)

A 5-point Likert scale was used in the study.

The scale was translated into Turkish by Doğan (1992). Necessary analyzes, validity, and reliability studies were also performed (28).

Scoring of the Scale: It is expected from the sample group to mark one of the 5 most suitable options for them. Options and scores are listed as follows: (1) Strongly disagree, (2) Disagree, (3) Neither agree nor disagree, (4) Agree, (5) Strongly agree. There are items with reverse expression in the scale (12.13.14.25.26. 27.29.30.31.33.35.37.39.40.41). In these items, the options are reverse scored as 5.4.3.2 and 1 respectively. By dividing the total score of the participants in a group by the total number of participants, scale mean score (SMS) is calculated by adding the scores of a subject from all items, subgroup mean score (SGMS) is calculated by dividing by the number of subgroup items while the item means score (IMS) is found by dividing the scale total score of a subject by the number of scale items. A participant can obtain a minimum of 57 and a maximum of 285 points from the scale. High scores indicate a healthy body and a higher self-image.

Statistical analysis

IBM SPSS Statistics 22 (IBM SPSS, Turkey) software was used in the study for statistical analyses. While evaluating the study data, the Shapiro Wilks test was used for the conformity of parameters to the normal distribution. In addition to descriptive statistical methods (mean, standard deviation, frequency), in comparing quantitative data, the One-Way Anova test was used to compare normally distributed parameters between groups, while the Tukey HDS test and Tamhane's T2 test were used to determine the group causing the difference. The student t test was used for the comparison of normally distributed parameters between two groups. Chi-Square test, Fisher's Exact test, Fisher Freeman Halton test, and Continuity (Yates) Correction were used in comparing qualitative data. Significance was evaluated at the $p<0.05$ level.

Results

Information on the research results is given below.

According to the research findings, when viewed in table 1, with 28.6% of respondents aged 11 years, 12 years is 22.9%, 24.3% in 13 years, 14 years of 24.3%. Branch distributions are swimming 12.9%, Basketball 17.9%, Volleyball 20.0%, not playing sport 42.9%, playing sport 57.1%, not playing sport 42.9% (Table 1).

According to the research findings, when viewed in table 2. Scale subdimension scores of participants with respect to aged 11 years, AE (Appearance Evaluation) 3.90±0.637, AO (Appearance Orientation) 4.01±0.625, FE (Fitness Evaluation) 4.18±0.629, FO (Fitness Orientation) 3.97±0.817, HE (Health Evaluation) 3.98±0.619, HO (Health Orientation) 3.82±0.612, BAS (Body Areas Satisfaction) 4.20±0.682, 12 years, AE 3.93±0.497, AO 3.91±0.719, FE 4.03±0.615, FO 3.81±0.872, HE 3.94±0.694, HO 3.61±0.550, BAS 4.16±0.707,13 years, AE 3.44±0.729, AO 3.66±0.851, FE 3.58±0.716, FO 3.33±0.940, HE 3.64±0.464, HO 3.29±0.639, BAS 3.66±0.859,14 years, AE 3.76±0.723, AO 4.04±0.769, FE 3.85±0.772, FO 3.76±0.760, HE 3.66±0.605, HO 3.60±0.527, BAS 3.79±0.941.

According to the research findings, when viewed in table 3. Scale subdimension scores of participants with respect to sports branch, swimming AE 3.67±0.521, AO 3.28±0.808, FE 4.15±0.639, FO 4.15±0.355, HE 3.79±0.669, HO 3.68±0.545, BAS 3.77±0.647, basketball, AE 3.42±0.739, AO 3.62±0.655, FE 3.84±0.774, FO 4.00±0.522, HE 3.97±0.575, HO 3.67±0.627, BAS 3.68±1.128, badminton, AE 4.07±0.457, AO 4.33±0.687, FE 4.19±0.282, FO 4.19±0.236, HE 3.56±0.425, HO 3.61±0.407, BAS 4.14±0.509, volleyball, AE 4.04±0.490, AO 3.85±0.555, FE 4.41±0.431, FO 4.35±0.397, HE 3.88±0.575, HO 3.68±0.555, BAS 4.34±0.676, not playing sports, AE 3.76±0.732, AO 4.18±0.702, FE 3.62±0.713, FO 3.13±0.952, HE 3.76±0.651, HO 3.49±0.671, BAS 3.93±0.778.

According to the research findings, when viewed in table 4. Scale subdimension scores of participants with respect to sports status, playing sports AE 3.77±0.637, AO 3.71±0.720, FE 4.15±0.629, FO 4.17±0.436, HE 3.85±0.586, HO 3.67±0.553, BAS 3.98±0.894, not playing sports AE 3.76±0.732, AO 4.18±0.702, FE 3.62±0.713, FO 3.13±0.952, HE 3.76±0.651, HO 3.49±0.671, BAS 3.93±0.778.

When the Comparison of participants' scale scores with respect to age were compared, there appears to be statistically significant. Appearance Orientation (AO) statistical significance was not found between age groups.

Table 1. Distribution of age, sports branch, sports status variables

Variables		f	%
AGE	11	40	28.6
	12	32	22.9
	13	34	24.3
	14	34	24.3
	Total	140	100.0
BRANCH	Swimming	18	12.9
	Basketball	25	17.9
	Badminton	9	6.4
	Volleyball	28	20.0
	Not Playing Sports	60	42.9
	Total	100	100.0
PLAYINGSPORTS NOT PLAYING SPORTS	Playing Sports	80	57.1
	Not Playing Sports	60	42.9
	Total	140	100.0

Table 2. Scale subdimension scores of participants with respect to age

Age		AE	AO	FE	FO	HE	HO	BAS	GTT
11	$\bar{X}$	3.90	4.01	4.18	3.97	3.98	3.82	4.20	4.00
	N	40	40	40	40	40	40	40	40
	SD	0.637	0.625	0.629	0.817	0.619	0.612	0.682	0.422
12	$\bar{X}$	3.93	3.91	4.03	3.81	3.94	3.61	4.16	3.89
	N	32	32	32	32	32	32	32	32
	SD	0.497	0.719	0.615	0.872	0.694	0.550	0.707	0.445
13	$\bar{X}$	3.44	3.66	3.58	3.33	3.64	3.29	3.66	3.50
	N	34	34	34	34	34	34	34	34
	SD	0.729	0.851	0.716	0.940	0.464	0.639	0.859	0.431
14	$\bar{X}$	3.76	4.04	3.85	3.76	3.66	3.60	3.79	3.78
	N	34	34	34	34	34	34	34	34
	SD	0.723	0.769	0.772	0.760	0.605	0.527	0.941	0.486
TOTAL	$\bar{X}$	3.76	3.91	3.92	3.73	3.81	3.59	3.96	3.80
	N	140	140	140	140	140	140	140	140
	SD	0.677	0.748	0.715	0.872	0.614	0.61	0.825	0.479

Table 3. Scale subdimension scores of participants with respect to sports branch

		AE	AO	FE	FO	HE	HO	BAS	GTT
SWIMMING	$\bar{X}$	3.67	3.28	4.15	4.15	3.79	3.68	3.77	3.76
	N	18	18	18	18	18	18	18	18
	SD	0.521	0.808	0.639	0.355	0.669	0.545	0.647	0.381
BASKETBALL	$\bar{X}$	3.42	3.62	3.84	4.00	3.97	3.67	3.68	3.74
	N	25	25	25	25	25	25	25	25
	SD	0.739	0.655	0.774	0.522	0.575	0.627	1.128	0.585
BADMINTON	$\bar{X}$	4.07	4.33	4.19	4.19	3.56	3.61	4.14	4.01
	N	9	9	9	9	9	9	9	9
	SD	0.457	0.687	0.282	0.236	0.425	0.407	0.509	0.220
VOLLEYBALL	$\bar{X}$	4.04	3.85	4.41	4.35	3.88	3.68	4.34	4.06
	N	28	28	28	28	28	28	28	28
	SD	0.490	0.555	0.431	0.397	0.575	0.555	0.676	0.327
NOT PLAYING SPORTS	$\bar{X}$	3.76	4.18	3.62	3.13	3.76	3.49	3.93	3.69
	N	60	60	60	60	60	60	60	60
	SD	0.732	0.702	0.713	0.952	0.651	0.671	0.778	0.502
TOTAL	$\bar{X}$	3.76	3.91	3.92	3.73	3.81	3.59	3.96	3.80
	N	140	140	140	140	140	140	140	140
	SD	0.677	0.748	0.715	0.872	0.614	0.61	0.825	0.479

When the Comparison of participants' scale scores with respect to sports branch were compared, there appears to be statistically significant. Health Evaluation (HE), Health Orientation (HO), Body Areas Satisfaction (BAS) statistical significance was not found between sports branch.

When the Comparison of participants' scale scores with respect to sports status were compared, there

Table 4. Scale subdimension scores of participants with respect to sports status

		AE	AO	FE	FO	HE	HO	BAS	GTT
PLAYING SPORTS	$\bar{X}$	3.77	3.71	4.15	4.17	3.85	3.67	3.98	3.88
	N	80	80	80	80	80	80	80	80
	SD	0.637	0.720	0.629	0.436	0.586	0.553	0.894	0.447
NOT PLAYING SPORTS	$\bar{X}$	3.76	4.18	3.62	3.13	3.76	3.49	3.93	3.69
	N	60	60	60	60	60	60	60	60
	SD	0.732	0.702	0.713	0.952	0.651	0.671	0.778	0.502
TOTAL	$\bar{X}$	3.76	3.91	3.92	3.73	3.81	3.59	3.96	3.80
	N	140	140	140	140	140	140	140	140
	SD	0.677	0.748	0.715	0.872	0.614	0.61	0.825	0.479

Table 5. Comparison of participants' scale scores with respect to age

		Sum of Squares	df	$\bar{X}$	F	p
AE	Between Groups	5.344	3	1.781	4.157	0.007
	Within Groups	58.271	136	0.428		
	Total	63.615	139			
AO	Between Groups	3.008	3	1.003	1.826	0.145
	Within Groups	74.673	136	0.549		
	Total	77.681	139			
FE	Between Groups	7.253	3	2.418	5.161	0.002
	Within Groups	62.717	136	0.469		
	Total	70.97	139			
FO	Between Groups	7.822	3	2.607	3.624	0.015
	Within Groups	97.841	136	0.719		
	Total	105.663	139			
HE	Between Groups	3.37	3	1.123	3.112	0.028
	Within Groups	49.086	136	0.361		
	Total	52.456	139			
HO	Between Groups	5.083	3	1.694	4.939	0.003
	Within Groups	46.66	136	0.343		
	Total	51.744	139			
BAS	Between Groups	7.544	3	2.515	3.923	0.01
	Within Groups	87.17	136	0.641		
	Total	94.714	139			
GTT	Between Groups	4.848	3	1.616	8.137	0.000
	Within Groups	27.009	136	0.199		
	Total	31.857	139			

appears to be statistically significant (AO, FE, FO, GTT). Appearance Evaluation (AE), Health Evaluation (HE), Health Orientation (HO), Body Areas Satisfaction (BAS) statistical significance was not found between sports status.

Discussion and Conclusion

In the study, when the mean scores obtained from all dimensions of the scale with respect to age were examined, the results were found to be 4.00±0.422,

Table 6. Comparison of participants' scale scores with respect to sports branch

		Sum of Squares	df	$\bar{X}$	F	p
AE	Between Groups	6.155	4	1.539	3.615	0.008
	Within Groups	57.46	135	0.426		
	Total	63.615	139			
AO	Between Groups	15.093	4	3.773	8.139	0.000
	Within Groups	62.588	135	0.464		
	Total	77.681	139			
FE	Between Groups	13.993	4	3.498	8.289	0.000
	Within Groups	56.978	135	0.423		
	Total	70.97	139			
FO	Between Groups	38.866	4	9.716	19.637	0.000
	Within Groups	66.798	135	0.495		
	Total	105.663	139			
HE	Between Groups	1.578	4	0.394	1.047	0.386
	Within Groups	50.878	135	0.377		
	Total	52.456	139			
HO	Between Groups	1.053	4	0.263	0.701	0.593
	Within Groups	50.691	135	0.375		
	Total	54.744	139			
BAS	Between Groups	6.941	4	1.735	2.669	0.035
	Within Groups	87.773	135	0.65		
	Total	94.714	139			
GTT	Between Groups	3.04	4	0.76	3.561	0.009
	Within Groups	28.817	135	0.213		
	Total	31.857	139			

3.89±0.445, 3.50±0.431, and 3.80±0.479 for the age of 11.12.13.14 and total, respectively.

In the study, statistical significance was observed between age and appearance evaluation, fitness evaluation, fitness orientation, and body areas satisfaction, but no statistical significance was observed in appearance orientation. In the evaluation of the branch sub-dimension, statistical significance was observed in appearance evaluation, appearance orientation, fitness evaluation, fitness orientation, body areas satisfaction while there was no significant difference between health evaluation and health orientation scores. For the sports status sub-dimension, there was statistical significance in the appearance orientation, fitness evaluation, and fitness orientation, but there was no significant difference between appearance evaluation, health evaluation, health orientation, body areas satisfaction scores. As a result, there was a statistically significant difference between the fitness evaluation, fitness orientation, and overall scale scores according to age, sports

Table 7. Comparison of participants' scale scores with respect to sports status

	t-Test		
	t	df	p
AE	0.072	138	0.943
AO	−3.865		0.000*
FE	4.668		0.000*
FO	8.666		0.000*
HE	0.920		0.359
HO	1.661		0.099
BAS	0.390		0.697
GTT	2.373		0.019*

branch, and sports status, but there was no significant difference between appearance evaluation, health orientation, body areas satisfaction, appearance orientation, and health evaluation scores.

Robinson and Ferraro (2004) reported that there was no difference in body images between groups that play and do not play sports and that women not playing sports were more dissatisfied with their bodies than those playing sports (29). In a similar study, Huddy et al. (1997) reported that those playing sports were more satisfied with their physical appearance and body perception (30). It has been suggested that physical activity can have a positive impact on mental health and well-being among adolescents because it improves self-image and reduces social rejection and anxiety as a result of positive social feedback and acceptance in peer relationships (31).

It should be kept in mind that individuals engaged in physical activity in adolescence may harm their body perceptions if they engage in extremely competitive sports (32).

The formation of a positive body image can be achieved by actively participating in sports and physical activities in adolescence. It should be encouraged as a state policy that adolescents participate in social sportive communities where they can establish healthy relationships. Considering the adolescent population, there is a sedentary lifestyle preference where obesity and screen addiction is considerably increasing. To have adult behaviors and to struggle with life, for individuals with reduced anxiety levels, high self-esteem and self-confidence, and satisfaction with their body image, organized planning and precautions should be performed to adapt them to life. The most realis- tic approach in this regard is that individuals who do sports in education and training institutions should be supported with various additional points and time and physical conditions should be created for their efforts. According to the results of this study performed on female adolescents, a certain age group was preferred. More comprehensive studies in different populations and with different sexes should be planned. One of the important points that should be considered is that a physically and mentally healthy society will have positive reflections on its internal structure. It should be the primary duty of all scientists and educators that they make and shape the future physically active and attractive for people.

Conflicts of interest: The authors declare that there is no conflict of interest about this manuscript.

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