IOSR Journal of Sports and Physical Education (IOSR-JSPE)
e-ISSN: 2347-6737, p-ISSN: 2347-6745, Volume 7, Issue 6, (Nov. – Dec. 2020), PP 21-27
www.iosrjournals.org

Investigation of the Effect of Selective Physical Education and Sports Courses on University Students on Size with Some Motoric Features

Sinan ÇELİKBİLEK[1], Yakup Akif AFYON[2]
[1]This study was produced from Sinan ÇELİKBİLEK's PhD Thesis.
[2] Mugla Sıtkı Kocman University Faculty of Sports Sciences MUGLA / TURKEY

Abstract
Background*In this study; It is the study of the effects of the semester courses of female and male students who have low physical activity levels and non-athletic non-departmental Physical Education and Sports classes in their faculties and colleges where they study at the university and attend these courses on some motor characteristics and body perception. 240 students (123 females, 117 males) voluntarily participated in the study, who took elective Physical Education and Sports courses on the common compulsory courses list at Muğla Sıtkı Koçman University in the spring semester of the 2018-2019 academic year, after obtaining research permissions.*
Materials and Methods*: Experimental method with questionnaire and pre-test and post-test was used in the study. In order to determine the personal characteristics of the university students, the information form, the Body Image scale adapted to Turkish by Hovardaoğlu and Özdemir (1990), and the biometric properties determination form were used. Prior to the research, the students were filled in identity information and body perception scale. Descriptive characteristics (Age, Height, Weight) at the beginning of the term, Motoric features pre-test; Flexibility, Balance, Vertical Bounce, VYO (Back, Triceps, Biceps, Waist, Abdomen, Leg) measurements were taken in accordance with the measurement protocols at the Faculty of Sports Sciences laboratory. At the end of the term, at the 14th week, the same measurements were repeated by the researcher as a post-test.The data obtained in the study were tested with the SPSS program. The Kolmogorov-Smirnov normality test was performed to determine whether the data showed normal distribution, and analyses were performed with parametric tests. Since there is a single group and two measurements made on this group, the related groups test was used in the analysis process. In addition, percentage (%), arithmetic mean ($\bar{x}$), standard deviation (ss) and frequency (n) values were determined to determine the descriptive characteristics of the study data. Due to the normal distribution of the pre and post test scores of the study group, whether there is a significant difference between the pre-test scores and the post-test scores was examined by independent samples t-test, the differentiation between the groups t-test and One Way ANOVA analysis were used. The level of significance in analysing the data was (p) 0.05.*
Results*: When the body perception scores of the university students who took the elective Physical Education and Sports courses increased compared to the pre-lesson and the pre-test post-test mean scores of the students regarding their motor characteristics; weight, balance, VYO (back, waist, triceps, biceps, abdomen) pre-test score average was higher than the post-tests mean score, flexibility and vertical jump" pre-test score was lower than post-test score. A significant difference was found between body image pre-test and post-test scores (p <0.01).*
Conclusion:*Elective physical education and sports courses attended by university students; It can be said that it has positive effects on some motor characteristics and body perception. Elective Physical Education and Sports courses can be added as a compulsory course in universities due to their positive effects on students.*
Key Words*:University,Elective Physical Education and Sports, Bio motoric feature, Body perception*

Date of Submission: 28-11-2020 Date of Acceptance: 14-12-2020

I. Introduction

Physical education and in the world, while continuing developments in the field of sports, the values shown in Turkey in the sport continues to grow steadily. Designing efficient systems in the field of physical education and sports in colleges, training of qualified employees, explaining the growing sports technology activities, development of physical education and sports throughout the country are targeted. They claim that physical activity training given in the early stages of human life is an important process in developing attitudes for activities that will need to be continued throughout life. In addition to the positive effects of positive physical image, self-confidence, physical fitness and coping with stress; Obesity, hypertension, which is one of the

problems of our time, is seen to be an important factor in the reduction of cardiovascular and chronic diseases and in eliminating such problems Kale et al.[1]

A fact that is accepted by the whole world today, the importance people attach to their appearance is an acceptable situation. People resort to many ways to keep their bodies healthy, to look more polite, built or better Mülazımoğlu Ballı& Aşçı[2].Many people use methods such as surgical operations, medication, acupuncture, diet, exercise and physical activity in order to achieve ideal body sizes and maintain their physical characteristics. Physical activity, which is one of the recommended ways for the normal body, is a method preferred by most people in recent years. While individuals find the chance to reach a new physical appearance through physical activities, they also help their bodies to think positively with this new appearance and physical fitness characteristics Altıntaş& Aşçı[3].People's lifestyles are constantly changing thanks to the comfort provided by constantly renewed technological developments, causing a decrease in the activities expressed by physical activity. Discomfort caused by a decrease in physical activity also causes a public health problem in general.While diarrhea, which was very common in the 1900s and caused death as a result, can be listed as cancer, heart disease and stroke (paralysis), which are increasing due to sedentary life today. For such reasons, it is of great importance for public health to determine the physical activity levels of people and to encourage people with low physical activity levels to engage in physical activity Öztürk, Avcı, & Ataman[5] [4] , The physical activities that most of the people do on a daily basis remain at a very low level thanks to the possibilities brought by technology and people tend to be more inactive Bulut[5] , In order to minimize the health risks that may occur due to age, and healthy aging, the main factors are increasing healthy nutrition besides physical activity. Regular daily physical activity plays an important role in preventing chronic diseases together with a healthy diet Garibağaoğlu, Budak, Öner, Sağlam, & Nişli[6] .

II. Material And Methods

This research; Physical activity levels of the students who are not athletes and who are not athletes, who have participated in these classes by choosing Physical Education and Sports lessons outside the department, and who also participated in physical activity activities for at least two days a week, for 14 weeks, the physical activities of the participants are on some of the motoric characteristics and body perception of the participants. It was made to determine what kind of change it caused.One-group pre-test-post-test simple experimental design model of the experimental method, which is one of the quantitative research methods, was used in the study.Physical Education and Sports lessons included in the elective course list of Muğla Sıtkı Koçman University in the determination of the study group, 8 courses (basketball, volleyball, football, swimming, table tennis, badminton, court tennis and aerobics-step) and the sports who took these courses(basketball, volleyball, football, swimming, table tennis, badminton, court tennis and aerobics-step) and the sports who took these coursesGroups of 30 people each were formed from sedentary students.123 of the students in the study group are female and 117 are male. The average age of the participants is ($X = 20.26 \pm 2.08$). The average height of the students in the study group was found to be ($X = 170.71 \pm 8.22$).

Data Collection Tools and Data Collection: The personal information and biometric properties determination form prepared by the researcher in order to determine the personal characteristics of the university students that make up the study group, Body Perception Scale and motor characteristics were measured according to the protocols in the network.Form for determining personal information and biometric features: The form prepared by the researcher contains a personal information section for determining the gender, age, faculty, department and academic success of the participants.In addition, there is a section in the form to determine the measurements of height, body weight, flexibility, balance, subcutaneous fat and vertical jump, which are the biometric features of the university students participating in the study.

Measurement of the motoric properties: Measurements of some of the students' motoric properties were taken at the Physiology Laboratory of the Faculty of Sport Sciences of Muğla Sıtkı Koçman University in accordance with the measurement protocols by the experienced research assistants.

Height and body weight measurements: The heights of the students participating in the test were measured with the Seca brand digital electronic height meter with a precision of 0.01 cm.In anatomical posture, bare foot, with heels together, holding breath, head was measured after positioning in the frontal plane with the overhead plate touching the vertex point.The value obtained was recorded in cm. Body weights; Students were measured in shorts, t-shirts, socks, without shoes, on an empty stomach and standing with the Seca branded 0.1 kg electronic scales Zorba and Saygın[7]

Flexibility measurement: Sit-reach test was used in the measurements.The test bench is 35 cm long, 45 cm wide, and 32 cm high.In addition, the top surface length of the test stand is 45 cm and its width is 45 cm. Its upper surface is 15 cm further than the surface on which the feet rest.It has a measuring scale of 0-50 cm, and it is indicated with parallel line intervals of 5 cm on the upper surface.Women sit on the floor and lean their bare foot flat and steady on the test bench, bend the torso forward, reach forward as far as they can reach without bending the knees, with the hands on the front of the body, slowly pushing the ruler forward, forward or

backward at the farthest point it pushes.It was repeated twice for 1-2 seconds before moving and stretching, and the highest value was measured and recorded Ergün and Baltacı[8]

Balance test (flamingo): Flamingo Balance Test was used to determine the static balance of the study participants. 50 cm. long, 4 cm. in height and 3 cm. He was asked to stand in balance by climbing on a wooden balance instrument with its dominant foot. He tried to keep the balance in this way for 1 minute by bending the other foot at the knee, pulling it towards his hip, holding it with the hand on the same side. Time-time was stopped when the balance was disturbed (if he leaves while holding his foot, falls off the wood, touches the ground with any part of his body, etc.). When the student regained his balance by getting on the balance device, the time continued where he left off. When the time is completed by continuing the test for one minute, each attempt of the research group to maintain balance (after falling) will be counted and this number was recorded as the student score when one minute was completed at the end of the test Hazar & Taşmektepligil[9]

Body fat ratio measurement: In order to determine the body fat percentages of sedentary female and male students participating in the study group, skin fold measurement values were taken and compared. Skinfold thickness measurement was performed using a skinfold caliper instrument in the supscalpula, triceps, tie, abdomen and suprariacal regions. In order to measure the skinfold thickness (DKK) values, the skin fold between the thumb and index finger was removed together with the skin and subcutaneous fat tissue, removed from the muscle tissue and compressed between the tip areas of the caliper 24 tool, and the values on the dial of the skinfold instrument were read and recorded Günay and et al.[10]

Forearm (biceps) skin fold measurement: In the anterior region of the arm, the most protruding part of the biceps muscle is determined and marked, or the distance between the anterior border of the acromion and the antecubital fossa is determined and marked. The subject is standing in a position with his arms hanging freely to the side and vertical measurement is made on the marked place Yosmanoğlu et al.[11]

Triceps skin fold measurement: It was taken from the midpoint between acromion and olecrenon, with the standing arms hanging freely to the sides, by folding at the specified point Yosmaoğlu et al.[11]

Measurement of the dorsal (Subscapula) skin fold: 45 degrees diagonally under the inferior angle of the scapula, in a standing position with the arms freely released. As a result of measuring the subcutaneous fat tissue and skin thickness of the back of the body, the value measurements of the research group were recorded Yosmaoğlu et al.[11]

Waist (Suprailiac) skin fold measurement: Midaxillary axis, 45 degrees above the iliac crestMeasurements were taken diagonally with the feet together and the body upright Yosmaoğlu and et al.[11]

Thigh skin fold measurement: It was applied vertically from the anterior surface of the thigh, approximately at the midpoint, and the midpoint was taken as the midpoint of the distance between the inguinal fold and the upper edge of the patella Günay et al.[10]

Vertical jump test: The test was explained to the students before the measurements. The athletes got warm and made 2 or 3 trials. They stood facing the wall and leaned against the wall. They reached up as much as they could with both hands. His chalky fingers touched the highest point, leaving a mark. The point touched was noted. Leaving about a foot length from the wall, they crouched down and jumped as high as they could with both feet. The chalk left its mark on the dusty fingertips. The touched point is written. Approximately 1, 2 minutes after the first jump, the second and then the third jumps were made. While taking a standing and reaching endpoint; Care was taken to keep feet and heels off the ground. This application was done without shoes or with sports shoes Özkara[12]

Body perception scale: The scale was developed by Secord and Jourard (1953) and its adaptation to Turkish and its validity-reliability studies were carried out by Hovardaoğlu and Özdemir[13],There are 40 items in the scale, and each item is related to an organ or a part of the body (such as hand, face), a function (such as sexual activity level). The scale was prepared as a 5-point Likert and each item was evaluated according to scoring ranging from 1 to 5. In each question, there is an answer option such as "I don't like (1)", "I don't like (2)", "I am undecided (3)", "I like it (4)" and "I like it very much (5)". In the study, the arithmetic mean of the total scores obtained from the body perception scale was taken, and the higher the score obtained from the scale indicates that the satisfaction level is high. The Cronbach Alpha reliability coefficient of the form adapted to Turkish culture was found to be .91. In our study, the Cronbach Alpha reliability coefficient was .84 in the pre-test; it was found as .91 in the last test.

Data Collection Process: Permits for survey and research application required for data collection in the study were obtained. After obtaining the necessary permissions, the instructors conducting the elective Physical Education and Sports courses, which were finalized at the end of the 2018-2019 academic year Spring semester course registrations, and the volunteer university students who will participate in the study, were informed about the work to be done. The measurement tools to be used in the research were applied to the students as a pre-test. After the pre-test application, a 14-week applied course period started. Physical Education and Sports lessons chosen by the students were conducted by the instructors responsible for the course. At the

end of the education period, measurement tools were applied as a post-test and the data collection process of the research was terminated.

Data Analysis: The data obtained in the study were coded by the researcher and transformed into data sets. Before starting the analysis process in a determined statistical package program, the condition of meeting the assumptions was tested. The Kolmogorov-Smirnov normality test was performed to determine whether the data showed normal distribution, and analyzes were performed with parametric tests. Since there is a single group and two measurements made on this group, the related groups test was used in the analysis process. In addition, percentage (%), arithmetic mean ($\bar{x}$), standard deviation (ss) and frequency (n) values were determined to determine the descriptive characteristics of the study data. Independent samples t-test analysis was conducted to determine whether there was a significant difference between pre-test and post-test scores, since the pre-test and post-test scores of the study group showed normal distribution. In addition, t-test and One Way ANOVA analysis were used to determine the meaningful differentiation of scores according to the groups.

III. Result

In this part of the research, the findings obtained from university students who attended the elective Physical Education and Sports course were tabulated and interpreted.

Table 1. Paired samples t-test analysis for the biometric properties pre-test and post-test scores of the study group students

Biometric Measurements	n	Pre- test			Post- test					
		$\bar{x}$	Ss	$sh_{\bar{x}}$	$\bar{x}$	ss	$sh_{\bar{x}}$	sd	t	p
Body Weight (kg)	240	64.74	14.50	.93	63.61	12.33	.79	238	1.44**	.000
Flexibility (cm)	240	23.28	8.68	.56	28.37	7.93	.51	238	-4.67**	.000
Flamingo Balance	240	10.67	1.72	.11	8.68	1.49	.09	238	2.07**	.000
Vertical Leap (cm)	240	34.81	8.55	.55	35.22	8.43	.54	238	-1.40**	.001
Sub Scapula	240	17.82	6.97	.45	15.77	6.29	.40	238	2.87**	.002
Triceps	240	15.73	7.31	.47	13.67	6.62	.42	238	1.95**	.000
Biceps	240	10.24	5.23	.33	9.15	5.19	.33	238	1.44**	.001
Supra Iliac	240	15.44	6.55	.42	13.57	5.89	.38	238	2.84**	.000
Abdomen	240	19.70	7.84	.50	17.03	7.24	.46	238	3.29**	.000
Thigh	240	21.83	9.63	.62	18.42	8.29	.53	238	2.83**	.000

** P <0.01 significance level

When the pre-test-post-test mean scores of the students in the study group were examined, significant differences were detected in the paired samples t-test analysis, which was applied according to the pre-test scores of all biometric properties measured (p <0.01).

Table 2.T-test analysis of the study group students' body image pre-test and post-test scores

Grup	n	Pre-test			Post-test					
		$\bar{x}$	ss	$sh_{\bar{x}}$	$\bar{x}$	ss	$sh_{\bar{x}}$	sd	t	p
Body image	240	3.21	.55	.03	4.17	.44	.02	238	-3.42**	.001

** P <0.01 significance level

When the body perception pre-test post-test scores of the university students participating in the study are examined, it is seen that the body perception scores of the students increase compared to the pre-class. According to the results of the t-test analysis, it showed a significant difference at the p <0.01 level.

Table 3. Independent groups t-test results to determine whether the pre-test-post-test body image scores of students differ according to gender.

Puan	Uygulama	Grup	n	$\bar{x}$	ss	$sh_{\bar{x}}$	sd	t	p
Body image	Pre-test	Female	123	3.12	.56	.05	238	-2.83**	.005
		Male	117	3.31	.52	.04			
	Post-test	Female	123	4.03	.47	.04	238	-5.05**	.000
		Male	117	4.31	.36	.03			

** P <0.01 significance level

As a result of the t-test performed to determine whether the body perception of the students showed a significant difference according to gender, it was found that there was a significant difference ($p < 0.01$). It is seen that the significant difference in body image scores by gender is in favor of "male" university students in both pre-test and post-test measurements. Based on this finding, when university students are examined in terms of body perception, it can be said that men have higher perceptions.

Table 4. The results of one-way analysis of variance (One Way ANOVA) to determine whether the body image scores of university students differ according to age.

		f , $\overline{X}$ ve *SS* Values				ANOVA Results					
Test	**Group**	*N*	$\overline{X}$	*SS*	**Var. K.**	*KT*	*Sd*	*KO*	*F*	*p*	**Difference**
Pre-test	18 age and under	42	3.387	.493	İntergroup	7.60	4	1.901	6.84**	.000	1>2, 4>2, 5>2
	19 age	48	2.912	.431	intragroup	65.27	235	.278			
	20 age	69	3.158	.660	Total	72.87	239				
	21 age	42	3.348	.408							
	22 age and under	39	3.375	.513							
Post-test	18 age and under	42	4.273	.413	intergroup	5.877	4	1.469	8.25**	.000	1>2, 4>2, 5>2, 4>3, 5>3,
	19 age	48	3.945	.470	intragroup	41.857	235	.178			
	20 age	69	4.069	.540	Total	47.734	239				
	21 age	42	4.339	.166							
	22 age and under	39	4.338	.299							

* 1: 18 years and below, 2: 19 years, 3: 20 years, 4: 21 years, 5: 22 years and over
** P <0.01 significance level

As a result of one-way analysis of variance (ANOVA) performed to determine whether there is a significant difference between pre-test body perception and ages of university students who take elective Physical Education and Sports courses, the difference between arithmetic averages was found to be significant ($F = 6.843$; $p < 0.01$). It was determined that the variances between the groups were not homogeneous ($L = 4.083$; $p < 0.01$) and Dunnett C, one of the post-hoc analyzes, was used to make the comparison between the groups. The difference between the pre-test scores of the university students taking the elective Physical Education and Sports courses is that between "18 years and under" and "19 years old" (= .475) "18 years and under", "21 years" and "19 years" (= .435) between "21 years old" and "22 years and over" and "19 years old" (= .462) in favor of "22 years and over" students. As a result of one-way analysis of variance (ANOVA) performed to determine whether there is a significant difference between post-test body perception and ages of university students who take elective Physical Education and Sports courses, the difference between arithmetic averages was found to be significant ($F = 8.248$; $p < 0.01$). It was determined that the variances between the groups were not homogeneous ($L = 8.532$; $p < 0.01$), and Dunnett C, one of the post-hoc analyzes, was used to compare the groups. The difference between the posttest scores of the university students taking the elective Physical Education and Sports courses is that between "18 years and under" and "19 years" (= .327), "18 years and under", "21 years" and "19 years" (= .393) between "21 years", "22 years and over" and "19 years" (= .393) "22 years", "21 years" to "20 years" (= .269) “22 years and over” between “22 years old” and “20 years old” (= .268).

IV. Discussion

In the study, which was conducted to examine the effect of 14-week elective physical education and sports courses on some motor characteristics and body perception, when the pre-test-post-test mean scores of the students in the study group were examined, the mean "weight" pre-test score was compared to the post-test score average. it turned out to be higher. It was observed that the "flexibility" pre-test score was lower than the post-test score and the "jump" pre-test score was lower than the post-test score. "Balance" pre-test score, from the post-test score; "Back" pre-test score, from the post-test score; “Triceps” pre-test score, post-test score “biceps” pre-test score, post-test score; "Waist" pre-test score, from the post-test score; It was found that the "abdomen" pre-test score was higher than the post-test score and the "leg" pre-test score was higher than the post-test score. When the body perception pre-test post-test scores of the university students participating in the study were

examined, it was found that the average of the post-test scores was higher than the pre-test average score ($p < 0.01$). It is observed that the body perception scores of the university students who took the elective Physical Education and Sports courses increased compared to the pre-class.

As a result of the t-test performed to determine whether the body perception of university students taking Physical Education and Sports classes shows a significant difference according to gender, it was determined that the pre-test and post scores differ significantly ($p < 0.05$). It is seen that the significant difference in body image scores by gender is in favor of "male" university students in both pre-test and post-test measurements.

As a result of the analysis conducted to determine whether there is a significant difference between the pre-test body perception and ages of the university students who took the elective Physical Education and Sports courses, it was found that there was a significant difference between the arithmetic averages ($p < 0.05$). When the related literature is examined;

In a study conducted by Teberru Acar[14] in which body perception and well-being of Kocaeli University physical education school and architecture-engineering faculty students were examined, body mass index and body fat distribution were examined, it was found that body perception was higher in men than in women; He stated that the students who stated that they do sports regularly and those who study in physical education and sports college are higher and meaningful than other students. It is seen that body mass index does not affect body perception and body fat ratio significantly affects perception; but found that there is no independent variable. Although he found a significant relationship between body perception and psychological well-being, he saw that interpersonal relationships and somatization were effective as independent variables. This emphasizes how important interpersonal relationships are in this age group. According to the results of the study, he stated that body perception and psychological well-being were positively affected by the sports activities. The research findings show similarities with our study.

In the study conducted by Er[15] which examined the effect of aerobic training on body perception, when the body image pre-test and post-test scores were compared in terms of the training group and the experimental group, appearance evaluation, appearance orientation, evaluation of physical competence, physical competence orientation, health evaluation, health orientation and It was determined that there is a statistically significant difference between the experimental group pre-test scores and post-test scores in terms of total score ($p < 0.05$). On the other hand, the satisfaction with body areas sub-dimension found that there was no statistically significant difference in the comparison of pre-test and post-test scores in terms of the experimental group ($p > 0.05$). In the comparison of body image pre-test-post-test scores in terms of the control group, the control group pre-test-scores and post-test scores in terms of appearance assessment, appearance orientation, assessment of physical competence, physical efficacy orientation, health assessment, health orientation, body area satisfaction and total score It has determined that there is no statistically significant difference between ($p > 0.05$). As a result, he thinks that aerobic exercises have a positive effect on body perception and stated that the exercises performed by women will contribute to their physical appearance, health and physical satisfaction, and physical competence perception.

Işık [16] , in his study evaluating the effect of regular sports on body perception, found that the levels of individuals who do not do sports regularly are lower than the self-esteem levels of individuals who do sports regularly. According to the results of the study, he stated that doing sports has a positive effect on body perception.

In a study conducted by Mülazımoğlu et al. [17] on the level of physical anxiety and satisfaction with body image of athletes and non-sports women; It was found that they have more positive perceptions about their physical appearance than non-athletes, and that participation in sports positively affects the attitudes, emotions and behaviors of the person and increases body image, while social physics decreases the level of anxiety.

Kalafat and Kıncal[18] found that girls were less satisfied with their bodies than boys, but their social skills were higher, according to the results of their study examining the relationship between body satisfaction levels and social skill levels of university students. According to the research findings; He stated that body image satisfaction is positively related to the affective social skills of the individual and stated that an individual who is satisfied with body image also finds himself successful in the ability to effectively control his social communication.

Bayram[19] , in his study examining the relationship between the social appearance anxiety levels of university students and the level of conscious awareness in terms of sports and different variables, the social appearance anxiety levels of the students and gender, age, personal monthly income, the type of sports activity and the duration of the weekly sports activity It has determined that there is a significant difference between the variables of conscious awareness and the duration of weekly sportive activity and the purpose of doing sports activities.

V. Conclusion

Findings of many studies conducted in the literature review show similarities with our research. The 14-week physical education course created positive changes in body perception and some selected motor characteristics of male and female athletes who took elective physical education and sports lessons. The decrease seen in some parameters suggests that it may be due to the implementation of the lesson once a week or it may be due to the choice of exercise in the curriculum of the lessons. However, the significant increase in body perception. It is an indication that its psychological effect provides more effect than physical effects. More objective criteria can be obtained by conducting the study on more university students and by applying a pre-prepared exercise program.

References

[1]. Kale, M., Asçı, A., Bayrak, C. and Açıkada, C. (2009). Relationships between jumping performance and sprint parameters in the maximum speed stage in sprinters, The Journal of Strength &Conditioning Research, 23 (8), 2272-2279.

[2]. Mülazımoğlu Ballı, Ö. and Cook, F.H. (2004). The Perceptions of Individuals Participating in Regular. Physical Activity Program and Not Participating in Their Body. In The 10th ICHPER. SD Europe Congress & TSS 8th International Sports Science Congress, Antalya, Turkey.

[3]. Altıntaş, A. and Aşçı, F.H. (2005). Fitness experts' perceptions of their bodies, Spormeter Physical Education and Sport Sciences Journal, 3 (3), 101-104 [19] Bayram, E. (2019). Investigation of the relationship between the social appearance anxiety levels of university students and the level of conscious awareness in terms of sports and different variables, Master's thesis, Atatürk University, Institute of Winter Sports and Sports Sciences, Erzurum.

[4]. Öztürk M, Avcı S, Ataman H. Investigation of physical activity levels of Istanbul University academic staff according to their titles and occupational groups. IU Journal of Sports Science, 2003,11: 183-187.

[5]. Bulut, S. (2010). Determination of physical activity level of personnel working in a physical therapy and rehabilitation training and research hospital and related factors (Doctoral dissertation, Master's thesis, Hacettepe University, Institute of Health Sciences).

[6]. Garibağaoğlu, M., Budak, N., Öner, N., Sağlam, Ö. and Nişli, K. (2006). Evaluation of nutritional status and body weight of female students studying at three different universities. Journal of Health Sciences. 15 (3), 173-180.

[7]. Zorba, E ve Saygın, Ö. (2007). Physical activity and physical fitness. Istanbul: Bedray Yayın Dağıtım A.Ş.

[8]. Ergün N. and Baltacı B. (1997). Physiotherapy and rehabilitation principles in sports injuries. Hacattepe University Physiotherapy and Rehabilitation School Publications, Ankara.

[9]. Hazar, F., & Taşmektepligil, Y. (2008). Investigation of Effects of Balance and Flexibility on Agility in the Prepubertal Period. Spormeter Journal of Physical Education and Sport Sciences, VI (1) 9-12.

[10]. Günay, M., Kara, E. and Cicioğlu, İ. (2006). Endocrinological Adaptations to Exercise and Training. Ankara: Gazi Bookstore.

[11]. Yosmaoğlu, H.B., Baltacı, G., & Derman O. (2010). Effectiveness of body fat measurement methods in obese adolescents. Physiotherapy Rehabilitation. 21, 125–131.

[12]. Özkara, A. (2004). Tests and special studies in football. Ankara: Kuşçu Label and Printing.

[13]. Hovardaoğlu, S., & Özdemir, Y. D. (1990). Reliability and validity study of Body Image Scale / Body image satisfaction levels of schizophrenic and major depressive patients. Ankara: Gazi University Institute of Social Sciences.

[14]. Teberru Acar, E.Ö. (2010). The relation of body perception and well-being with body mass index and body fat distribution in Kocaeli University School of Physical Education and Architecture-Engineering Faculty students, Medical Specialty Thesis, Kocaeli University, Faculty of Medicine, Department of Family Medicine, Kocaeli.

[15]. Er, Y. (2015). Effects of aerobic training on body perception, Unpublished Master Thesis, Selçuk University, Institute of Health Sciences, Konya.

[16]. Işık, N. (2018). Evaluation of the effects of regular sports on body perception and self-esteem, Master Thesis, Üsküdar University, Institute of Social Sciences, Istanbul.

[17]. Mülazımoğlu Ballı, Ö., Kirazcı, S. and Aşçı, H.F. (2006). Social physical anxiety and body image satisfaction levels of athletes and non-athletes, Gazi Physical Education and Sport Sciences Journal (Gazi BESBD), 1, 9-16.

[18]. Kalafat, T. and Kıncal, Y.R. (2008). Investigation of the relationship between university students' body satisfaction levels and social skills, Dokuz Eylul University Journal of Buca Education Faculty, 23, 41-47.

Sinan ÇELİKBİLEK, et. al. "Investigation of the Effect of Selective Physical Education and Sports Courses on University Students on Size with Some Motoric Features." *IOSR Journal of Sports and Physical Education (IOSR-JSPE,)* 7(6) (2020): 21-27.