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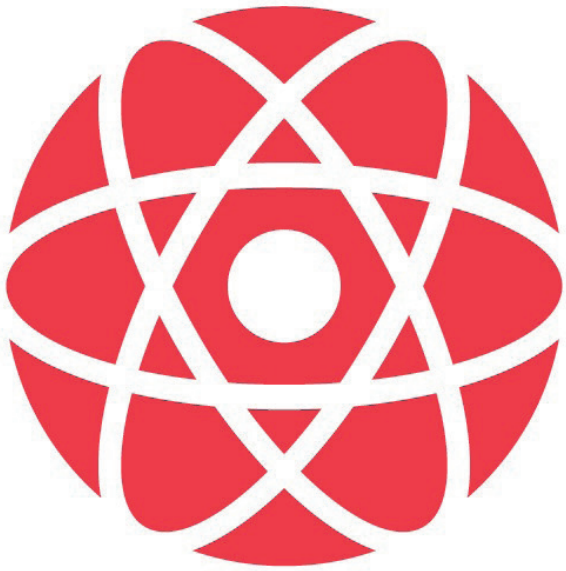

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Dear readers, precious scholars.,

In this issue of our magazine, we have included a total of 05 research and application studies. In this issue of the journal, we would like to express our sincere thanks to the authors who support us with their valuable studies. We would also like to express our thanks and appreciation to the precious arbitration committee members who never leave us alone and enable this issue to meet with our dear readers with their worthful efforts and contributions, as they have done in each issue. We also greatly appreciate the efforts of the editorial board, system management, and the precious scholars taking place in the editorial board for making an effort in the background of the publication of this journal. Dear scientists, we still continue our applications and works to enable our journal to be in different indices. Our announcements about the evaluation of the studies published in our journal to be assessed by different readers and literatures also still continue. We have also speeded up our communication studies and the delivery of the journal and its issues to scientists and scholars all around the world. The next issue of our journal will reunite with the readers in March, 2018. In the hope of reuniting and meeting with you again with our next issue, we sincerely wish you, dear readers and precious scholars of the science world happiness, peace, goodness, and days full of science. Peace be with you, yours respectfully.

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AN ANALYSIS OF SOME ANTHROPOMETRIC AND PHYSICAL PARAMETERS OF CHILDREN RELATED TO AGE [1]

ÇOCUKLARIN BAZI ANTROPOMETRİK VE FİZİKSEL PARAMETRELERE AİT DEĞERLERİNİN YAŞLARA GÖRE İNCELENMESİ

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Öz: Amaç: Bu çalışmanın amacını 4-13 yaş aralığındaki spor yapan çocukların bazı antropometrik ve fiziksel parametrelerinin yaş ve cinsiyete göre incelenmesi oluşturmaktadır. **Yöntem**: Araştırma grubunu Ankara ilinde ilköğretim okullarına ve özel spor merkezlerine devam eden 4-13 yaş aralığında, 200 kız ve 429 erkek olmak üzere, toplam 629 spor yapan çocuktan oluşmaktadır. Araştırma grubuna sırasıyla, bazı antropometrik ölçümler ve kavrama kuvveti, esneklik, dikey sıçrama, durarak uzun atlama, durarak sağlık topu atışı,10m-20m. sürat koşusu ve çabukluk testleri uygulanmıştır. Antropometrik ve Fiziksel parametrelere ait verilerin ortalama ve standart sapma değerleri bulunmuştur. **Bulgular**: Araştırma grubuna uygulanan durarak uzun atlama, el pençe, dikey sıçrama ve sağlık topu atma kuvvet testlerinde bazı yaş grupları dışında erkeklerin kızlardan daha yüksek değerlere sahip olduğu görülmektedir. Esneklik değerlerine göre 6 yaşına kadar yakın değerler gözlenirken, bu yaştan itibaren kız çocukların daha yüksek esneklik değerlerine sahip olduğu belirlenmiştir. Sürat yetileri incelendiğinde birçok yaş grubunda erkek çocukların daha düşük sürat değerlerine sahip olduğu belirlenmiştir. Çabukluk yetisinde ise bütün yaş gruplarında erkek çocukların daha düşük sürelere sahip olduğu belirlenmiştir. Elde edilen bulgulara göre 4-13 yaş grubu çocukların antropometrik özelliklerinin fiziksel gelişimine bağlı olarak artış gösterdiği söylenebilir. Motorik özellikler incelendiğinde yaş gelişime bağlı olarak 10 yaşına kadar erkek ve kızların gelişimlerinin benzer olduğu görülmektedir. Ancak kas yapısına bağlı olarak erkeklerin kuvvet, sürat ve çabukluk gerektiren alanlarda 10 yaşından sonra kızlara göre daha fazla gelişim gösterdiğini söylenebilir. **Sonuç**: Sonuç olarak bazı parametrelerin yaşa ve cinsiyete bağlı olarak artışlar gösterdiği belirlenmiştir.

Anahtar Kelimeler: Çocuk, Büyüme, Spor

Abstract: Objective: The aim of this study is to examine some anthropometric and physical parameters of the children participating in sports activities between the ages of 4-13 related to age and sex. **Method**: The research group consists of 629 children as 200 girls and 429 boys between the ages of 4-13 studying in the primary schools and training in the private sport centers. Some anthropometric measurements and hand grip, flexibility, vertical jump, standing long jump, medicine ball throw, 10-20 meters sprint and agility tests were respectively applied to the research group. **Results**: It is seen that boys have higher rates than girls except some age groups in the tests of standing long jump, hand grip, vertical jump and medicine ball throw applied to the research group. Similar values have been observed in children up to 6 years according to flexibility rates, but it is determined that girls have higher values from this age. When the sprint abilities are examined, it is seen that boys have lower sprint rates in many age groups. For agility ability, it is determined that boys have lower time rates in all age groups. Finally, it can be said that the anthropometric features of the children between the age of 4-13 increase depending on physical development. When examining the motoric features, it is seen that the development of girls and boys is similar up to 10 years depending on age development. However, boys show more development than girls in the areas requiring strength, speed and agility depending on muscle structure after 10 years. **Conclusion**: As a result, it was determined that some parameters increase depending on age and gender.

Key Words: Child, Growth, Sports

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INTRODUCTION

One of the fundamental aims of communities is to educate healthy individuals in physical and spiritual terms. Since all the development of the child is closely related to physical development, attention in contemporary countries has been directed towards childhood sports events (Mengütay, 2005: 72).

Sports should be in the early years of the child's life because they will play an important role in cognitive development and socialization in the child's growth, maturation (Muratlı, 1997:14). By considering the versatility of children in the stages of growth and development, it is the beginning of the most frequently asked questions in sports circles and in the world of science in the following years (Açıkada, 2004:16).

The research has revealed the necessity of starting sports activities in childhood in order to achieve the expected success in sports. In this regard, developed countries focus on the activities of childhood sports. Because children's trainings have a unique set of features (Mengütay, 1999:72).

The norms of physical fitness for children, in general, assess the levels of physical fitness for children and write prescriptions for exercise and activity programmes and to supervise or observe the changes in physical fitness over time. It can also be used to identify the individual or groups' physical fitness status. However, the norms cannot be used to test success in competitions and the success of any sporting behaviour. However, the fundamental norms of the population play an active role in interpreting the physical suitability of individual and groups. These norms are always considered a critical material in controlling and defining the physical fitness changes of the group it represents (Ross et al. 1985:1046).

Ringenbach and Amazeen, (2005) stated that "An athlete with good coordination can perform more effectively for longer periods. He can perform better and longer because he is less likely to suffer from muscle weakness while performing the movements" (Suna et all., 2016: 14).

The growth and development processes of children show individual differences. The expected development by the age of the calendar is known to be early in some children and late in some children. When it comes to sports, the conflict between children's calendar age and biological age has been subject to scientific research in different aspects (Mirwald, 2002: 689).

Kraemer and Fleck, (2005) mention that there are several factors affecting growth and development, one of which is gender. In addition to some differences in the growth and deve-

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lopment processes related to gender, these girls are known to develop men in various areas earlier (Yaman & Zorba, 2016: 94).

In this regard, the purpose of the research is to examine some of the anthropometric and physical parameters of children participating in sports in the 4-13 age range in the province of Ankara by age and gender.

METHOD

Research group

The research group consist of girls and boys in the 4-13 age range in Ankara which is continuing to study at different times in the Special Sports Center. Under the cross-sectional screening model, some anthropometric and physical tests were applied on the evaluation of physical suitability. The research group, which is registered in the Private Sports center, continues to be a one year and over sports multi-branch education system 4-13 age group (Group of Girls; $N_{4\ age}$=9; $N_{5\ age}$=28, $N_{6\ age}$=20, $N_{7\ age}$=36, $N_{8\ age}$=31, $N_{9\ age}$=28, $N_{10\ age}$=14, N_{11age}=20, N_{12age}=6, $N_{13\ age}$=8; Male group; $N_{4\ age}$=19, $N_{5\ age}$=58, $N_{6\ age}$=44, $N_{7\ age}$=81, $N_{8\ age}$=68, $N_{9\ age}$=55, $N_{10\ age}$=32, $N_{11\ age}$=41, $N_{12\ age}$=14, $N_{13\ age}$=17) Total 629 children (200 girls and 429 males) have formed.

The research group's 1-year multi-skill movement program has been conducted in different training branches, up to 4 days a week, and 1.5 hours a day. Course contents are aimed at developing basic skills specific to branches. The distribution of branches and activities (fitness, educational games, skill coordination, gymnastics, swimming, tennis, badminton, basketball, handball, football, volleyball and table tennis) varies according to age groups.

With the consent form organized by the Ethics committee, the parents permitted their children to participate in the test and still formed a research group of children who continued to study in an institution. In order to carry out the research, 29.06.2012 dated and 12/08 numbered Kırıkkale University Ethics Committee was approved.

Data Collection Tools

Length and body weight measurement applied to the research group, was 0.01 kg and 0.01 m. In the sensitivity of stadiometer, Tanita device for the percentage of body fat, reaching the reach table for flexibility measurement (±1mm), for speed and quick measurements Newtest 2000 Brand Fotosel (±0.01 sn), the meter for long jump measurement with the specified matte, vertical jump measurement for the "Bosco Contac mat" (±0.001 sec) and the Takei brand hand dynamometer for hand grip force were used.

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Collection Of Data

Priority Kırıkkale University Specialization thesis approval of the ethical board of the relevant primary schools and sports centers to carry out measurements in order to perform the necessary locations registered in these institutions. The number of girls and boys in the 4-13 years range the has been identified. In the continuation of the study, the family consent forms prepared in accordance with the ethical board were taken to the families of the relevant students and their measurements were made according to the institutions.

Measurements were conducted within 1 month after the ethics committee approval was received for the research group. The Special education center has been measured on the specified days of children arriving on different days. Measurements were primarily carried out in body weight, length and anthropometric measurements. Then the students, after a 5-minute warm-up; dominant hand grip force, reach, speed and velocity measurements were taken respectively. Measurements were carried out during the morning hours when students participated in the work on the same day.

While physical fitness tests are applied, the tests are arranged in a way that does not create fatigue in the individual. In our study, a ranking is provided to ensure that tests do not fatigue or that the tests used in the same muscle groups do not come back in succession.

Length and body weight measurement: Body weight measurements were measured in standard sports clothing (shorts, t-shirts), without shoes, according to standard techniques. The subject's foot is bare, anatomically asked to release his arms. For length measurement, while in the case of the head horizantal, the heel of the test was kept upright by the wall, the heels, hip dislocation, scapuline and the back part of the head were in contact with the wall, while the ruler vertex was compressed and measured in cm (Zorba, 1999: 337).

Body mass Index (BMI): Each child's "body mass Index" was calculated using the resulting weight and length measurements. BMI is the ratio of body weight (kg) to the square of length in meters (Poskitt, 1995: 961).

Body fat percentage: While the measurements of the individuals were taken, the device was asked to stand on the bare feet on the metal surface. In Tanita BIA Analyzer, the percentage of body fat (BFP) values were obtained by the manufacturer's formula (Poskitt, 1995: 963).

Speed measurement: The measurement was made with the Newtest 2000 brand Photocel. The length of the running field was determined as 20 m. A distance of about 5 meters

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from the finish line was left as a stop distance. Starting from the exit line 10. and 20. At the beginning and end and intermediate phototorrents (10 m) are available in the meter. Two trials were made and adequate rest was achieved. Best recorded rating (Chu, 1996: 27).

Vertical jump measurement: Bosco mat was used in vertical jump measurement. The athlete was asked to wait for his hands on the floor. After jumping in the air, knees, calves and ankles were stretched to the fingertips and then landed on the heels (Tyson, 2004: 52).

Long jump measurement: the subject, from the back of the starting line on the ground, the feet are open at the shoulder width, with the help of the arms bent from the double foot knees, using the maximal force in a linear direction to reach the farthest point Jumped. The distance between the starting line and the track that the athlete left closest to the line was recorded in meters. The Test was repeated twice and the higher value was based (Chu, 1996: 63).

Flexibility measurement: The subject sits on the floor with a bare foot base and reaches the test table. The body (waist and hips) leaned forward and reached the front as far as the hands could reach the front of the body without bending the knees. Attempted to stay at the farthest point. The Test was repeated twice and the higher value was recorded (Mackenzie, 2005: 14).

Hand Grip strength measurement: The Holtain brand hand dynamometer is adjusted according to the hand size of the test, the subject's elbow without bending the lever to a straight and shoulder 10-15 angles to the side of the hand while trying to squeeze as much dynamometer as possible. The best performance was determined after 4 attempts with both hands of the subject. The dynamometer was reset after each attempt, and performance was best evaluated (Pekel et al. 2006: 299).

Health ball throwing test: The test measures the rapid force of flexser muscles in the shoulder circumference and abdomen. The feet of the subject must be parallel to each other, the face is taken forward with a constant distance of 2 kg of health ball, and the force to take back the arms. Then the ball with the maximal power is laid forward, with double hand. The distance between the ground and the front foot of the health ball was measured. The result was recorded (Mackenzie, 2005: 14).

Agility test: The pro-agility Agile test area, also known as the 20-yard running test, is determined by placing markers to the left and right of 5 yards (4,57 m) of the starting line. The Photocel gate was placed on the starting

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line. The participant has replaced the start line before the application starts. When ready, it ended the test by touching the marker on the right and then tapping the marker on the left, passing through the starting line (Bayraktar, 2013: 8).

Statistical Analysis of Data

The average and standard deviation values for the anthropometric and physical parameters obtained from the research group were found. SPSS 17.0 Package program was used to determine changes in age groups depending on gender.

FINDINGS

The graphs and interpretations of statistical analysis (mean and standart deviation (S.D) results for the values of the motoric and Anthropometric properties obtained from the children who comprise the research group are given below.

The average values for the body weight parameters of the children who comprise the research group are given in Table 1.

Table 1. Average Values for The Parameters of Body Weight (Kg) According to Age of Children

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	16.56	19,5	21,22	24,79	27,77	31,57	34,79	40,38	44,1	48,28
S.D	2,11	4,51	4,17	8,12	5,04	7,63	10,98	12,51	11,43	6,20
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	18,96	20,02	22,15	25,58	26,55	30,57	34,84	39,28	47,16	52,66
S.D	3,96	3,12	4,98	6,75	6,19	6,12	10,64	12,27	12,15	11,90

The body weights of the girls in other age groups with the average age of 4 years, 6 years, 7 years, 10, age, 12 and 13 age boys are higher than the body weights of the female children who comprise the research group when examining Table 1 average male athletes' body weights are higher than average.

The average values for the body fat percentage (BFP) parameters are given in Table 2 according to the age of the children who created the research group in the Tanita BIA analyzer with the manufacturer's formula.

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Table 2. BFP (%) of Children by Age Average Values for Parameters

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	14,23	20,37	22,27	26,33	27,48	29,63	27,44	32,66	32,38	29,25
S.D	7,33	11,15	10,54	11,48	6,92	7,84	10,51	9,68	9,87	12,5
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	10,84	14,16	18,38	21,45	19,21	20,54	30,17	27,74	33,05	34,49
S.D	6,77	5,75	9,34	9,31	9,23	8,35	10,58	10,92	15,24	15,52

When Table 2 is examined, the group of children aged 10, 12 and 13 years of age, the BFP averages of boys and girls in other age groups where children are more than the BFP averages of female children BFP averages of male children's BFP averages.

The average values for the age-by-length parameters of the children who comprise the research group are given in Table 3.

Table 3. Average Values for Children's Age-Relative Length (cm) Parameters

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	101,44	109,26	113,49	118,97	126,26	129,97	132,51	142,45	148,13	155,63
S.D	3,28	8,17	5,21	10,11	8,17	8,31	8,14	8,6	5,19	6,73
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	107,07	108,81	114,74	120,14	124,21	131,37	136,51	143,67	150,04	155,46
S.D	10,41	6,46	6,51	7,51	8,54	5,58	6,93	7,12	11,21	11,96

When examining the Table 3, the 5 and 8 years of age girls children with the average length of the height of the boys in other age groups higher than the average of the height of the boys' length of the male athletes.

The average values for long jump parameters are given in Table 4 by the age of the children who make up the research group.

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Table 4. Average Values for Long Jump (cm) Parameters of Children by Age

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	58,88	72,5	79,95	85,08	98,06	98,47	101,5	119,55	105,5	156,88
S.D	14,41	20,12	20,75	26,68	19,07	28,73	23,64	25,1	16,97	38,71
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	62,5	70,78	81,85	91,91	104,77	114,67	117,89	124,62	125,64	140,6
S.D	29,96	19,36	22,14	26,8	26,86	23,72	24,24	31,02	19,07	33,17

When examining the Table 4, the research group consists of 5 and 13 age girls who have long jump values by stopping boys children from long jump values, while other age groups are better at stopping boys' long jump values while the girls It is better than the values of children.

The average values for the hand grip strength parameters of the children who comprise the research group are given in Table 5.

Table 5. Average Values for The Parameters of Hand Grip (kg) According to Age of Children

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	7,1	7,71	7,06	7,59	9,6	9,97	10,84	13,19	15,38	19,24
S.D	2,97	2,96	1,85	3,25	3,12	2,9	4,38	4,46	1,72	7,71
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	7,32	7,59	7,83	8,87	9,24	11,13	11,36	14,04	17,93	20,92
S.D	2,43	1,94	2,21	3,14	3,29	3,27	3,6	4,5	5,51	9,74

When examining the table 5, the study group of 5 and 8 years of age girls' hand grip strength values are better than the values of male children's hand grip force, whereas other age groups boys children's hand grip values better than girsl values.

The average values for the vertical jump parameters of the children that comprise the research group are given in Table 6.

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Table 6. Average Values for Vertical Jump (cm) Parameters of Children by Age

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	9,57	14,08	15,49	14,15	16,43	16,77	16,68	17,78	15,17	22,54
S.D	5,44	4,93	4,58	4,8	4,44	5,62	3,81	6,09	1,94	2,96
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	11,2	13,72	13,69	14,62	17,52	17,26	15,82	18,19	18,92	21,36
S.D	6,66	5,3	5,22	5,16	4,49	5,07	5,01	4,87	5,47	4,97

When examining the Table 6, the children of 5, 6, 10 and 13 age girls, vertical jump values are higher than the vertical jump values of male children, whereas other age groups have children's vertical jump values higher than their values.

The average values of the children who comprise the research group in relation to the age of flexibility parameters are given in Table 7.

Table 7. Average Values for The Flexibility of Children by Age (cm) Parameters

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	24,04	23,62	26,73	25,21	26,87	24,04	27,03	20,44	28,92	26,67
S.D	4,69	5,92	4,77	5,76	6,02	7,1	7,08	8,41	6,74	7,84
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	24,38	23,09	24,17	23,62	21,79	23,26	18,69	18,33	17,58	15,5
S.D	6,16	5,7	4,72	5,39	6,36	7,62	6,31	7,99	8,66	6,9

When examined in Table 7, the 4-5 age of boys and girls who comprise the research group, the flexibility values are similar, and the flexibility values of girls in other age groups were better than the values of male children's flexibility.

The average values for the health ball throwing parameters of the children who comprise the research group are given in table 8.

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Table 8. Average Values for Health Ball Throwing (m) Parameters by Age of Children

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	1,86	1,79	1,95	2,23	2,8	2,91	3,18	3,77	3,72	4,88
S.D	1,96	0,76	0,56	0,67	1,23	0,85	0,83	0,96	0,72	1,12
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	1,6	1,94	2,15	2,69	2,8	3,31	3,42	4,25	4,54	5,15
S.D	0,94	0,82	0,95	1,08	0,7	0,87	0,85	1,44	0,66	1,85

When examining Table 8 the study group of 4-year-olds girls, health ball throwing values are better than the values of the male children's health ball throwing, while other age groups of girls' health ball throwing values were better than boys throwing values.

The average values for the 10 m speed parameters according to the age of the children who comprise the research group are given in Table 9.

Table 9. Average Values for 10 meter Speed (sec) Parameters Based on Age of Children

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	3,69	3,2	3,31	3,05	2,7	2,73	2,73	2,6	2,64	2,31
S.D	0,44	0,44	0,71	0,39	0,24	0,33	0,27	0,18	0,22	0,13
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	3,47	3,28	3,12	2,98	2,75	2,71	2,64	2,45	2,4	2,47
S.D	0,57	0,35	0,34	0,52	0,24	0,43	0,3	0,31	0,22	0,3

When examined in Table 9, the 5, 8 and 13 age girls who participated in the research group are better than male athletes with 10 m speed capabilities, and other age groups are better than female athletes who have 10 m speed abilities.

The average values for the 20 m. Speed capabilities of the children who comprise the research group are given in Table 10.

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Table 10. Average Values for 20 Meter Speed (Sec) Capabilities According to Children's Age

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	7,21	6,33	6,3	5,84	5,12	4,95	5,08	4,71	4,77	4,2
S.D	0,85	1,24	0,97	0,89	0,49	0,53	0,53	0,43	0,4	0,31
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	6,96	6,26	5,85	5,57	5,1	4,95	4,78	4,42	4,37	4,45
S.D	1,21	0,77	0,88	0,85	0,57	0,79	0,68	0,48	0,48	0,52

When the Table 10 is examined, the 13-year-old girls who participated in the research group are better than male athletes of 20 m speed, and in other age groups, 20 m speed of male children is better than girls athletes.

The average values for the agility (sec) parameters of the children that comprise the research group are given in Table 11.

Table 11. Average Values for Agility (Sec) Parameters for Children's Age

Girls	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	11,67	8,75	8,64	7,94	7,21	7,2	7,15	6,78	6,89	5,99
S.D	2,69	2,06	0,69	0,68	0,69	0,65	0,8	0,72	0,38	0,16
Boys	**4 Age**	**5 Age**	**6 Age**	**7 Age**	**8 Age**	**9 Age**	**10 Age**	**11 Age**	**12 Age**	**13 Age**
Mean	8,73	7,91	7,78	7,62	6,9	6,3	6,38	5,73	5,93	5,71
S.D	2,8	2,47	2,03	1,44	1,37	1,81	1,5	1,49	0,69	1,38

When examined in Table 11, it is observed that the agility values of male children in all age groups participating in the study group are better than the agility values of girls.

DISCUSSION

This section includes recommendations for results and similar studies based on findings from some of the anthropometric and physical parameters of the children who have done selected sports.

Similar studies have been analysed to monitor the physical developments of the research group and to have information about their physical structure according to the *body length* parameter. In a study, the average aspect value of the 10 age group 78 girls was 137,2±6,7 cm. While the average value of

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the same age group 45 male was obtained 137,3±6,7 cm. 11 age group 97 girls in the subject of the 139,7±8,0 cm corresponding to the value obtained, 131 male in the subject of the same variable was determined as 139,1±6,5 cm. The average length of the 142 girls in the 12-year group was 145,2±8,4 cm. while 152 males had the same value as 144,6±7,4 cm (Kavak, 2006: 14).

As a result of our study, there is no difference between the lengths of girls and boys in many sources, but it shows that boys are more developed than girls, except for early development children. This is because the adolescent period of girls is thought to have been completed before men.

When the *body weight* parameter is examined, it is seen that the 10-11 age group is parallel with the girls in the same age group in terms of values. The 12-year-old males also show parallelism as they are at age 10 and 11. However, in many studies, there is no apparent difference in the physical aspect of girls and men in this age group, except for early development children, the onset of 13 has shown that boys are more developed than girls. However, it is noted in various sources that the girls, which show a little more development than the physical aspect of the age of 12. After this age, development is returned in favour of boys.

In the study of 12-14 age group children in Erzincan Province, the average 40,9±9,17 kg in the center of the body weight in women aged 12 years. While, the mean districts 36,24±7,70 kg. In men, the center of the city averages 39,44±10,68 kg. While, the mean districts 35,79±6,85 kg (Çolak & Kaya, 2006: 33).

In our research, when the body weights are examined, there is no apparent difference between the 4-13 age group and the boys and girls, and children from 10 years old have shown more growth. After this age, it is stated in several different sources of development. As a cause of this increase, children are considered to have increased length.

When the *body mass index* values were examined, in a study conducted on the 12-14 age group 177 children in the province of 18,64±2,80 kg/m^2 in the center of Erzincan city the body mass index in women aged 12 years, the average of the districts 17,58±3,08 kg/m^2, in boys whereas the center of the province was 18,11±3,21 kg/m^2, the average of the districts was 17,34±2,51 kg/m^2 (Çolak & Kaya, 2006: 40).

Acording to result of the study, the average 18,0±2,4 kg/m^2, 12-year-old 69 male child of 11-year-old 21 male subjects in primary school was reached in the mean 18,9±3,5 kg/m^2. In the same study, the average value of the 11-year-old 40 girl was obtained as 17,7±2,4

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kg/m^2, while the average value of the 12-year-old 143 girl was 19,4±3,5 kg/m^2 (Bodur & Uğuz, 2007: 21).

When the *body fat percentages* are examined; In a study conducted on a total of 24 male basketball players aged between 13 and 14 years of age, the percentage of the experimental group body fat was 19,54±5,44, and the post-workout averages were determined as 16,89±4,97 (Erol et al. 1999: 12).

In a different study, a total of 52 male children aged between 10 and 13 years of age were 14,5±4,9 of the average body fat percentage (Pekel et al. 2006: 308).

When the BFP and BMI are examined, the values in all age groups are not observed in a significant difference between boys and girls, but the increase in values can be said to be due to growth in height and body weight.

When the *vertical jump* parameter is examined, the vertical rat, which is one of the explosive indicators between the ages of 10-12 and the development of physical development and performance, is parallelism in the evolution of both girls and men groups Seen. In a study, the average 24,77±5,12 cm on the 84 male children who do not do sports in the 10-12 age group., the minimum value is 13 cm., and the maximum value is 40 cm (Bayraktar, 2013: 7).

In a different study of the 6-11 age group 776 girls, a vertical jump average of 10 age group girls, including 100, is 29,25±5,66 cm while the minimum value is 16 cm and the maximum value is 48 cm. The average value 31,40± 5,75 cm was found in the 11-year-old girls who attended the 44 experiment. (Turgut & Çetinkaya, 2006:1041).

The values obtained are parallel to the results of our research. There are no apparent differences between girls and men in vertical jump values. The vertical jump between physical development and performance development is one of the indicators of explosives, which is seen to resemble the development of men and girls. The reason for this is thought to be similar to the development of the leg strength of boys and girls.

When the values of the 10 and 11 age group girls and boys of the right hand grip strength are examined, the measurements are shown to be parallel to each other, as compared to girls, the right hand grip strength of the boys in the 12 year group increased slightly. Some sources indicate that children from the age of 10 have started to secrete hormones according to gender, and these hormones have been increased since 11 years.

In a study conducted in the 10-12 age group, the 15,7± 3,1 kg of the right hand grip force on the 84 male child who did not do sports.

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When you find; The minimum value is 7,9 kg. The maximum value is 23,6 kg have been found. According to the research results that only the maximum value is high according to this study, we can indicate that some of the early children in the 12 age group may have high values. As we have stated earlier, some of the children with early development will have high values (Bayraktar, 2013: 6).

It is thought that the increase is linear because the movement is not a very complex movement in men and girls as a cause of this similarity.

When the *long jump* parameter is examined, it is stated in a variety of sources, which are determined to be one of the long-jump explosive force indicators in each age group and in which the gender growth is determined.

As a result of the study, 10 years of age group 100 girl's child, the long jump value of the average 123,81±20,15 cm. The minimum value was 85 cm and the maximum value was 184 cm (Turgut & Çetinkaya, 2006:1041).

Another study that can be associated with this subject is the norm standards that need to be obtained at the first stage of the choice of ability to stop the long jump value of 10 years in girls 165 cm. 175 cm in males. He has determined 175 cm in girls of 11 years and 190 cm in males. The study supports research in 11 age group girls, while the maximum measurements in other groups are over 5-10% (Biçer & Akıl, 2005: 754).

It is thought that the increase is linear because the movement is not a very complex movement in men and girls as a cause of this similarity.

In terms of *health ball throwing* values, gender and age groups, we see that there is also improvement in the health ball throwing by stopping in all categories. The average value was 419,2±87,9 cm in the 10-year-olds, and in the 11 age group, this value rose to 481,9±92,7cm. and 543,8±116,3 cm in 12 age group girls. The average is 471,5±85,4 cm. In the 10 age group of males, the same variable was determined as 531,6±84,4 cm in the 11 age group, the 12 age group was evaluated as 579,1±113,9 cm in males.

According to a study, one of the eight criteria that Bulgarian children should achieve in the first election stage is a health ball throwing of 700 cm in males of 10 years. The desired value in the same age group girls is 650 cm. 11 age group girls for the male children, the value specified as 700 cm is determined to be 750 cm (Jonston et al. 2003: 627).

The results of this research demonstrate the parallels with the results of our research. The long jump, the right hand grip force and the health ball throwing values from the force indicators do not show significant differences

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in the age of 10, but after the age of 10, men have shown more improvement depending on muscle development. This is due to the fact that the muscle structure of men is more than girls.

When the *flexibility* parameter is examined, the average value determined as 18,7±5,2 cm in the 10 age group girls was determined as 20,0±6,4 cm in 12 age group girls. The average value of 17,3±5,4 cm in males of 10 age group was determined as 18,4±5,6 cm in males of 12 years. As a result of the research, 10 years of age group the average 24,98±6,39 cm in the value of flexibility on the girl; The minimum value was 9 cm and the maximum value was 41 cm. The average value of the 11 age group of 44 subjects was 26,57±7,68 cm while the minimum value was 5 cm and the maximum value was 41 cm (Turgut & Çetinkaya, 2006).

In a study, the new norm under the name "New standards for Fitness measurements (NCYFS)" is also the maximum value in men aged 10 to 38,2 cm, the value of 75% is 29,3 cm, 50% value is 26,8 cm and 25% is determined as 21,7 cm. The parallelism of the norms in the 11 and 12 age group is remarkable. In the men of these age groups, the value of 75% corresponds to the maximum value set to 39,5 cm. 30,6 cm. 50 % is 20 m (Ross et al., 2007: 1056).

When the flexibility parameters are examined, the flexibility of up to 7 years of age is observed to develop more in girls, depending on muscle and body development. It is thought that the flexibility in performance with age declines less than men in girls because of the fact that girls do not decrease the performance of men depending on age.

When the *speed* is examined, an average of 20 m speed run is 4,63±0,37 sec in a study conducted on the 10-year-old group of 100 girls. When you find; the minimum value is 4,05 sec and the maximum value is 5,72 sec was measured. The average value 4,22±0,38 sec in the 11-year-old girls consisting of 44 subjects. When determining the minimum value is 3,70 sec, the maximum value is 5,35 sec and also 4,38±0,41 sn. in 10-year-old girls in the 20 m. speed run, in which the development of all age groups and gender is still ongoing 4,23±0,29 sec in 12 age group women obtained. 4,17±0,34 sec in males of the age group 10, 4,08±0,23 sec in 12-year-old males (Turgut & Çetinkaya, 2006: 1041).

When the *agility* and speed capabilities are examined, there are no apparent differences between the groups until the age of 9, while the males are more developed after the 10-year group. The reason for this is that after the age of 10, the muscle structures of men are more developed in various sources.

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The reason for this is that men have more muscular structures, and adolescence is thought to increase performance in men.

CONCLUSIONS

Anthropometric measurements are observed to increase according to the physical development of the anthropometric properties of the 4-13 age group children. When the motoric properties are examined, it can be said that the development of men and girls is similar to the age of 10, depending on age development. But depending on the muscle structure, we can say that men are more evolved than girls after the age of 10 in areas requiring force, speed and velocity. As a result, some parameters increase depending on age and gender.

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HEMŞİRELİK ÖĞRENCİLERİNİN KIZ ÇOCUK EVLİLİKLERİNE YÖNELİK TUTUMLARI [1]

NURSING STUDENTS' ATTITUDES TOWARDS FEMALE CHILD MARRIAGES

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Öz: Amaç: Dünyada, 7 kızdan birinin 15 ile 19 yaş arasında evlendiği, toplamda ise her yıl yaklaşık 15 milyon kız çocuğunun evlendirildiği bilinmektedir. Bu çalışma, sağlık bilimleri fakültesi hemşirelik öğrencilerinin kız çocuk evliliklerine yönelik tutumlarını belirlemek amacıyla yapıldı. **Yöntem**: Tanımlayıcı nitelikte planlanan bu çalışma 2016-2017 Eğitim Öğretim döneminde bir kamu üniversitesine bağlı sağlık bilimleri fakültesinde öğrenim gören ve çalışmaya katılmaya gönüllü 432 hemşirelik öğrencisi ile yürütüldü. Veriler; sosyo-demografik özelliklerin bulunduğu 7 sorudan oluşan demografik bilgi formu ve "kız çocuk evliliklerine yönelik tutum ölçeği" ile toplandı. **Bulgular**: Öğrencilerin kız çocuk evliliklerine yönelik tutum ölçeğinden aldıkları toplam puan ortalaması 23±11,12 dir. Çekirdek aileye sahip olan öğrencilerin toplam ölçek puanları geniş aileye sahip olanlara göre anlamlı derecede daha düşük bulundu ($p<0.05$). Ailelerin 18 yaş altı kız çocuk evliliklerine yönelik tutumları "ne olumlu ne olumsuz" olanların ölçek puanları anlamlı derecede yüksek bulundu ($p<0.05$). **Sonuç**: Hemşirelik öğrencilerinin kız çocuk evliliklerine yönelik tutum ölçeğinden aldıkları puanların orta seviyede ve genel olarak kız çocuk evliliklerine bakış açılarının olumsuz olduğu söylenebilir.

Anahtar Kelimeler: Hemşirelik, Kız Çocuk Evlilikleri, Öğrenci, Tutum

Abstract: Aim: In the world, it is known that one of every 7 girls marry between the ages of 15 and 19, 15 million girls are married every year. This study was conducted to determine the attitudes of nursing students in the faculty of health sciences towards female children marriages. **Method**: This study was planned as a descriptive study and conducted with 432 nursing students who were students in a health sciences faculty of a public university during the 2016-2017 academic year and who volunteered to participate in the study. The data were collected with a demographic information form consisting of 7 questions on socio-demographic characteristics and "Attitudes towards Female Child Marriage Scale". **Results**: The mean score of students for 'Attitudes towards Female Child Marriage Scale" was 23±11.12. The total scale scores of the students which had nuclear families were significantly lower compared to the students who had large families ($p<0.05$). The scale scores of the students whose parents had "neither positive nor negative" attitudes towards female children marriages were significantly higher ($p<0.05$). **Conclusion**: It may be said that the scores of nursing students for "Attitudes towards Female Child Marriage Scale" are in the middle level and their attitudes were generally negative towards female children marriages.

Key Words: Nursing; Female Child Marriage; Student; Attitude

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INTRODUCTION

In the world, it is known that one of every 7 female children marry between the ages of 15 and 19, 15 million female children are married each year (UNICEF, 2014). According to the general view accepted by international communitis, a marriage before the age of 18 is considered to be a child marriage while a girl who marries before the age of 18 is considered a child bride (Aydin & Akay, 2017:39; Das, 2017:2; Svanemyr, Chandra-Mouli, Christiansen, & Mbizvo, 2012:31). Although child marriages are observed in both sexes, it is known that female children are more affected. When the statistics of world and Turkey are analyzed, 720 million female and 156 million male children were affected in the world while 27637 female and 1319 male children were affected according to official records (Svanemyr et al., 2012:31; TÜİK, 2016; UNICEF, 2014, 2017). According to the UNICEF report, now there are 700 million child marriages, these number are expected to reach 950 million by 2030 and 1.2 billion by 2050 (UNICEF, 2014, Fuel & Coskun, 2014: 5). Despite legal regulations and international awareness-raising for the reduction of child marriages, child marriages are expected to be still an important problem in the future.

Child marriages are the results of many reasons such as poverty, the belief that marriage will guarantee the child, social norms and religious rules (Shepherd, 2009: 38, UNICEF, 2017). There are many traumatic events such as adolescent pregnancies, division of school life, social isolation and violence in the children who have to bear the burden of marriage without being able to reach an adult without being ready for marriage physically, physiologically and psychologically, having children and many other similar responsibilities. Therefore, these negative processes cause individuals to experience serious biopsychosocial problems throughout their lives (Aktepe & Atay, 2017: 410-420, UNICEF, 2017).

Nurses who are likely to meet with child brides in clinic and field have important responsibilities in the prevention of child marriage and the solution and management of emerging problems because of their roles such as educator, guide, leadership, women's rightist and in problems (For example, prevention of adolescent pregnancies, teaching modern family planning methods) (Yakıt & Coşkun, 2014: 8-9). For this reason, it is important to determine the attitudes of nurses towards this issue and to raise awareness about child marriages. This study was conducted to determine the attitudes of nursing students in the faculty of health sciences on female child marriages.

SCOPE of STUDY

Female child marriages are considered to be an important social problem worldwide. The

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girls who cannot take the responsibility for marriage and baby-sitting encounter many problems and have to cope with biopsychosocial problems that can affect their whole life. For this reason, it is important to determine the attitudes of nurses for this issue and to raise awareness about child marriages.

METHOD

This research study was planned as a school-based, descriptive study.

Study Population

This descriptive study was conducted with 432 nursing students in a faculty of health sciences of a public university during the 2016-2017 academic year, who voluntarily participated in the study.

Data were collected via the following instruments:

Information Form

The data were collected with a demographic information form consisting of 7 questions on socio-demographic features and "Attitudes towards Female Child Marriage Scale" which was developed by Kaynak et al. in 2016.

Female Child Marriage Scale

The scale consists of 12 items. The factor load of the four items (items 1, 3, 6 and 12) is negative and these items need to be reverse encoded. The scores are between 12 and 72 points. As the score increases, the attitudes for female child marriages become positive and they mostly support these marriages.

Data Analysis

In the analysis of the data, Kolmogorov-Smirnov normality test was used for normality distribution of independent variables while percentage, frequency, mean and standard deviation values were used for the descriptive informations. Kruskal-Wallis and Mann-Whitney U, Chi-square tests were used for comparison.

Research Permission

The scale permission and written permission from the administration of the institution (Date and Number: 06 March 2017-044 / E.10869) were taken before the study.

Study Limitations

The fact that the study was conducted only in a faculty of health sciences can be considered to be a limitation of the study.

RESULTS

The mean age of the nursing students was 20.53 ± 2.01 (min-max: 17-35) and 38.4% of the students were in the 2. grade (24.1% of the students were in the 1. grade, 22.2% of the students were in the 3. grade,15.3% of the students were in the 4. grade). When the-

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ir family structures were analyzed, 81.5% of them had a nuclear family while 18.5% had an extended family. It was determined that 55.3% of the participants lived in the city, 44.7% of them lived longer in the villages / towns/villages, and 77.1% of the participants had equal income and outcome. The ratio of the participants who had a family member who married before the age of 18 was 14.6%. When their degree of affinity was analyzed, it was found that 8.3% of them were mothers of the students, 1.5% of them were second degree relatives, and 4% of them were third degree relatives. 92.1% of the students' families had positive opinions on female child marriages (under the age of 18) is negative while 6% of the had "neither positive nor negative" opinions (Table 1).

The mean total score of the students for Attitudes towards Female Child Marriage Scale was 23.00±11.12 (min-max: 12-67), this result means that they did not have positive attitudes for female child marriages, in other words they did not support marriage. However, it was found that the students still had positive opinions about some expressions which support female child marriage. These statements were "In some cases, girls may need to get married before the age of 18.", "Getting married before age 18 can help protect girls from sinister people.", "If a girl finds the right person at an early age, marriage of a girl before the age of 18 can be supported.", " If a girl has a reliable spouse, she can marry before the age of 18 without a risk.". The percentages of the participants who aggreed these statements weakly/strongly/absolutely were 24.1%, 20.1%, 18.8% and 18.7%, respectively (Table 2). This situation suggests that university students still do not have enough awareness about this subject. No significant difference was found between the students' grade, place of living, income status and total scale score ($p>0.05$). The total scale scores of the students who had nuclear families were significantly lower compared to the students which had extended families ($p <0.05$).

The scale scores of the families which had "neither positive nor negative" opinions about the marriage of girls under the age of 18 were significantly higher ($p<0.05$). In this case, those who had extended families, who had neither positive nor negative opinions seem to have more positive attitudes towards female child marriage at a young age.

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Table 1. Sociodemographic Features (n=432)

	n	%
Age	**Mean/sd =20.53 ± 2,01 (min=17 max=35)**	
Grades		
1. grade	104	24.1
2. grade	166	38.4
3. grade	96	22.2
4. grade	66	15.3
Your Family Structure		
Nuclear	352	81.5
Extended	80	18.5
Opinion of Your Family about female child marriages under age 18		
Positive	8	1.9
Negative	398	92.1
Noncommittal	26	6
Where Have You Lived the Longest?		
Village/town/county	193	44.7
City	239	55.3
How do you express your income status?		
Income<Outcome	36	
Income=Outcome	333	77.1
Income>Outcome	63	
Are anyone in your family who get married before the age of 18?		
Yes	63	14.6
No	369	85.4

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Table 2. Attitudes towards Female Child Marriage Scale(n=432)

Attitudes towards Female Child Marriage Scale	No I do not agree	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Yes I agree
1. The female children under the age of 18 do not have the physical qualification necessary for marriage.	%4,2	%2,3	%3,2	%6,5	%15	%68,8
2. Early married girls can adapt to marriage and new life more easily.	%64,6	%16,7	%7,4	%4,4	%2,8	%4,2
3. I would not allow my daughter get married before the age of 18 in any case.	%4,9	%4,2	%2,8	%4,6	%17,4	%66,2
4. Getting married before the age of 18 can help the protection of girls from sinister people.	%57,6	%14,1	%8,1	%9,7	%2,5	%7,9
5. After a thorough search, candidates who want to marry a girl under 18 can be positively responded.	%61,8	%15,5	%4,9	%7,6	%4,2	%6
6. I am against the marriage of girls under the age of 18.	%7,2	%2,3	%3,5	%2,5	%13,4	%71,1
7. If a girl has a reliable spouse, she can marry before the age of 18 without a risk.	%56,7	%14,6	%10	%8,6	%6,2	%3,9
8. If she finds a right person at an early age, marriage of a girl before the age of 18 can be supported.	%58,1	%16,2	%6,9	%10	%4,6	%4,2
9. I see no harm in marriage of a girl before the age of 18, if she has mutual love, respect and understanding in her marriage.	%56,2	%16,7	%9,7	%7,9	%5,8	%3,7

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10. In some cases, girls may need to get married before the age of 18.	%50,5	%15,5	%10	%16,7	%4,2	%3,2
11. A girl can get married before the age of 18 if she does not want to continue her education.	%61,1	%15,7	%8,3	%8,1	%4,2	%2,5
12. Marriages of girls before the age of 18 is a social problem.	%7,9	%2,5	%4,9	%6,7	%14,1	%63,9

Table 3. Attitudes for Female Child Marriages According to Sociodemographic Informations (N=432)

Socio-demographic Features	Scale Order Mean	χ^2	p	z
Grade				
grade	214,95	3,924	0,270	
grade	205,49			
grade	220,69			
grade	240,55			
Opinion of Your Family about female child marriages under the age of 18				
Positive	299,06	40,438	0,000	
Negative	205,61			
Noncommittal	357,75			
Income Status				
Income<Outcome	228,90	1,353	0,508	
Income=Outcome	218,02			
Income>Outcome	201,36			
Family Structure				
Nuclear family	206,48		0,000	-3,526
Extended family	260,58			

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Where Have You Lived the Longest?			
Village/town/county	217,54	0,876	-0,156
City	215,66		
Are anyone in your family who get married before the age of 18?			
Yes	235,87	0,179	-1,343
No	213,19		

DISCUSSION

The frequency of female child marriages varies geographically and culturally, but female child marriage is an important social problem that causes similar problems in communities where such marriages are observed. Sexuality in the early ages, maternal and child health problems related with maternity, falling behind the men in education and employment, social exclusion, exposing more pressure and violence from husband and husband's family are the results of early marriages. (Yüksel Kaptanoğlu & Ergöçmen, 2012) In order to prevent the health risks related with child marriage, these marriages and causes should be prevented first. Nurses who have the responsibilities as the protection and development of women's health have a position which provide an important responsibility in the prevention of these marriages. In the study, the opinions of nursing education about girls' marriages were evaluated.

The factors as poverty, low level of education, traditional practices came to the foreground when the underlying causes of female child marriages were analyzed (Özcebe and Biçer, 2013). In addition, it was emphasized that the normal acceptance and legitimation of female child marriages by the society play a critical role in the continuity of these marriages (Çakır, 2013; Özcebe & Biçer, 2013). In this study, it was found that most of the students' families (92.1%) had negative opinions about the marriages of girls under the age of 18 years. On the other hand, the scale scores of the students whose families had "positive or negative" attitudes for the marriages of girls under the age of 18 years and who had extended families were significantly higher compred to the other groups. According to this result, it can be said that the students' attitudes and attitudes about these marriages are affected by their families which are the most basic units of their social environment.

In the study, a small part of the students had positive opinions about "marrying before the

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age of 18 years protect girls from sinister people in some cases" (12.2%). 20.9% of them supported 'In some cases, girls may need to get married before the age of 18' . In a study conducted in Turkey, early marriage was found to be supported by the traditional practices such as the protection of the woman's honor, the transfer of the woman's economic burden on another, and the prestige gained by marriage for women and the family (Burcu et al., 2015). Families are considered to be a protective institution to save their daughter's honor and prevention of premarital sexual intercourse (Yalkıt & Coşkun 2014). Substantially, it is observed that the girls who are married at an early age encounter many problems, therefore the protection prescribed by their parents actually harms these children.

Many negative consequences are encountered by child brides as a result of marriage such as education breaks, adolescent pregnancies, maternal deaths, stress/ depression, substance abuse, sexually transmitted infections, withdrawal from friends, lack of self-confidence and withdrawal from social activities (Mıhçıokur, 2010). In the study conducted by Soylu and Ayaz (2013), it was determined that 27.1% of the women who married when they were children, were exposed to emotional abuse/ exploitation and 14.6% of them were exposed to physical abuse/ violence by the person who married them.

81.3% of the student did not support the statement as "Girls marry in early ages can adapt more easily to marriage and new life". The ratio of the students who support the expression as "The girls who are younger than the age of 18 years do not have the physical qualification for marriage" was 83.8%. It can be stated that the students who participated in the study had a high awareness of the negative effects of early marriages on girls. Aydın and Akay (2017) found that nursing students' need knowledge related to the consequences of early marriage. In a study conducted in Pakistan, it was stated that women have insufficient knowledge about the risks of early marriage (Nasrullah et al., 2014). It is thought that differences between the results of the studies are due to the influence of cultural and social factors.

When the communities in which early marriages are observed, it is seen that such marriages are widely accepted in developing regions and the regions where patriarchal culture is dominant. In these societies, the parents or even family elders approve of child marriages because of several material or spiritual reasons. Mothers and children remain passive and silent concerning child marriages. The woman who is married without her own consent and who becomes mother, cannot express her feelings for the future of her own female child (Land 2015).

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Montazeri et al. (2016) reported that female children were not autonomous as a result of lack of adequate life skills including decision-making, problem solving, discussion and critical thinking skills, these are important factors which lead young girls to early marriage. The agreement rates of the students who participated in the study were low for the statements that affirm marriage at early ages. (74.3% of them disagreed with the statement that "a girl can marry before the age of 18, if she found the right person at an early age" and 72.9% of them who disagreed with the statement that "I see no harm in marriage of a girl before the age of 18, if she has mutual love, respect and understanding in her marriage.").The rate of female child marriages varies from country to country. Central African countries such as Nigeria (75%), Chad (72%), Bangladesh (66%), Benin, Cameroon, Ethiopia, Congo, Arabian countries such as-Jordan, East Asia and Pacific countries such as Indonesia and South Asia countries such as Philippines, Nepal and Bangladesh, Eastern Europe and Central Asia countries such as Armenia, Latin America and Caribbean countries such as Bolivia are considered to be the countries where child marriages are most prevalent in the world (UNFPA, 2017).

It was not possible to precisely determine the number of early marriages in Turkey because early marriages are unofficial marriages (religious marriage) and they are not registered (Boran et al., 2013, Özcebe and Biçer 2013). According to official records, the number of female child marriages in Turkey is 27637, which constitutes 4.6% of official registered marriages (TURKSTAT, 2016). High number of early marriages in their families negatively affect children and encourage them to marry (Mıhçıokur et al., 2010). The ratio of the participants who had family members who married before the age of 18 was 14.6%. When their affinity was analyzed, 8.3% of them were mothers, 1.5% of them were second degree relatives, 4% of them were third degree relatives.

The scores of students for "Attitudes towards Female Child Marriage Scale" were at medium level (23±11.129), this shows that they did not have a positive attitude towards female child marriages. In a study conducted in Pakistan where female marriages are common, it was found that a small of the university students (4.9% of female students, 17.2% of male students)have the opinion that female children can marry at an early age (Kamal et al. 2015). In a study conducted with nursing students in Turkey, 92.2% of the students stated that child marriage is a social problem (Aydin & Akay, 2017). When the related literature was evaluated, it was seen that university students have an awareness about female child marriages.

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CONCLUSION

It may be said that the scores of nursing students from "Attitudes towards Female Child Marriage Scale" were in the middle level and they generally have negative opinions on female child marriages. It is the responsibility of health professionals and the whole community to carry out social, economic and legal studies on the underlying causes (poverty, education level, traditional practices etc.), to raise public awareness, because female child marriages are still among the serious problems in our country. We esteem that a healthy, successful and happy society is dependent on women.

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AN EXAMINATION OF FREE TIME HABITS OF THE ATHLETES IN THE UNIVERSITY KARATE DO TEAM [1]

ÜNİVERSİTELERİN KARATE DO TAKIMLARINDA YER ALAN SPORCULARIN SERBEST ZAMANLARINI DEĞERLENDİRME ALIŞKANLIKLARININ İNCELENMESİ

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Öz: Amaç: Bu araştırmada, üniversitelerin karate do takımlarında yer alan sporcuların serbest zamanlarını değerlendirme alışkanlıklarının incelenmesi amaçlanmıştır. **Yöntem**: Araştırma evrenini; Elazığ'daki Üniversiteler arası Karate şampiyonasına katılan (37 üniversite, 130 erkek ve 77 kız öğrenci) toplam 207 sporcusu oluşturmaktadır. Araştırmanın örneklemini; araştırmaya katılmak isteyen (89'u erkek 68'i kız öğrenci) toplam 157 sporcu oluşturmaktadır. Araştırmaya katılan bireylerin demografik dağılımlarını belirlemek için yüzde (%) ve frekans (f) analizleri yapılmıştır. Araştırmada sporcuların serbest zaman tercihlerinin cinsiyet, yaş, doğum yeri ve gelir durumuna göre değişimi incelendi ve α=0.05 anlamlılık düzeyinde yapılan ki kare testi uygulandı. **Bulgular**: Sporcuların yaş değişkenine göre serbest zaman etkinliklerinin bıraktığı etkiler arasındaki farkın (,041) istatiksel olarak anlamlı olduğu görüldü (p>0,05). Ayrıca sporcuların gelir düzeyi değişkenine göre; katılma şekli (,041), tercih ettikleri etkinlik şekli (,034), etkinliklerinin tercih edilme nedenleri (,000) ve etkinliklerinin bıraktığı etkiler (,036) arasındaki farkın istatistiksel olarak anlamlı olduğu görüldü (p>0,05). **Sonuç**: Sporcuların, yaş ve gelir durumu gibi değişkenlerinin sporcuların seçmiş oldukları serbest zamanı değerlendirme türü, şekli, bu etkinlikleri seçme nedeni üzerinde etkisi olduğu görüldü. Ancak sporcuların, cinsiyet ve doğum yeri değişkenine göre istatiksel olarak anlamlı bir sonuca ulaşılamamıştır. Araştırma farklı gruplar üzerinde yapılarak, bireylerin daha etkin bir şekilde serbest zaman aktivitelerine katılmalarına ve bu sürecin iyi yönetilmesine etkisi olabilir.

Anahtar Kelimeler: Serbest Zaman, Rekreasyon, Karate-Do

Abstract: Objective: The purpose of this study is to examine the free time habits of the athletes in the university karate do team. **Method**: The population of the research consists of a total of 207 athletes (37 universities, 130 male and 77 female students) who have participated in the Inter-University Karate Championship in Elazig. The sample of the research consists of 157 athletes (89 male and 68 female students). Percentage (%) and frequency (f) analyses have been performed in order to determine demographic distribution of the participants. Free time preferences of the athletes have been examined according to their gender, age, place of birth and income statuses and chi-square test in 0.05 significance level was applied in the study. **Results**: It has been seen that there is statistically a significant difference (.041) relating to the effects of free time events depending on the age variable of the athletes (p<0.05). Moreover, it has been observed that there is a statistically significant difference among participation type (.041), the preferred activity type (.034), reasons for the preferences of the activities (.000) and the effects of the activities (.036) (p<0.05). **Conclusion**: It has been found out that some variables such as age and income status have some effects on the reason of athletes' preferring evaluation type and method of free times. However, there is not a statistically significant difference according to ages and places of birth of the athletes. Conducting the research on different groups may make individuals lean to free-time activities more efficiently and have an effect on better management of this process.

Key Words: Free Time, Recreation, Karate-Do

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INTRODUCTION

Social and mental development as well as physical development accompany to each sports branch due to the fact that young generations learn collective working through sports activities. In addition, the gate of friendship and socialization is also opened (Kızılkaya, 2009'den akt: Kanat vd., 2013: 461; Kırımoğlu vd., 2010: 103). Particularly, athletes consolidate their sense of socialization in their free times and they turn competitive environment into a more socialized place.

Tezcan defines free time as the time remaining after all compulsory liabilities are performed regarding job, life and other duties and in which the individual has the right to use freely. Free time is described as "the time in which an individual gets rid of all difficulties or connections concerning both the individual herself/himself and the others and in which she/he engages in an activity chosen willingly" (Tezcan, 1982: 10).

According to Parker, free time is a period in which an individual gets rid of all difficulties or connections concerning both the individual herself/himself and the others and in which she/he engages in an activity chosen willingly (Tezcan, 1994'den aktaran: Güngörmüş vd., 2006: 655).

Free time audits remain ordinary and within the borders of some stereotypes when free time trainings are insufficient and when stable, constructive, creative organization and traditions are not adopted and where this culture does not become efficient regarding free time. It is necessary for an individual to see free time as a way of elevation. There, the individual proceeds by realizing herself/himself and that is the thing that should be learned (Erdemli, 2002: 50).

There are also some views that it is not needed to have/receive a special training to how to utilize free time; this happens spontaneously, it is a free time and the individual does whatever she/he wants. This kind of view expresses evaluating and utilizing free time wrongly. Traditionally, free time training can be seen as learning information and skills. This training enables use of free time programs efficiently and it also takes place within non-formal training. It is the aim of free time training to benefit from free time constructively and wisely (Tezcan, 1994: 76'dan aktaran: Ağaoğlu vd., 2006: 315).

In the 20th century, many factors forced free time training to change in terms of purpose and function. Human rights, developments in science and technology and alterations in the socio-economic status of the society caused increase in the expectation from training and it forced free time training to change in favor of individuals by suppressing the traditional training. Free time training composes a sig-

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nificant element within changing training manner. At the same time, it also supports training directly or indirectly except for the formal training. Free time training takes an important place in the functionality of training process (Torkildsen, 1992: 25).

According to Karaküçük, recreation is called the activities carried out individually or with a group of friends willingly and voluntarily within the independent and disconnected free time remaining from working and other compulsory tasks in order to enable personal satisfaction, to get pleasure, to regain, protect or maintain mental and physical health which is affected or imperiled from routine life style or negative environmental factors as well as intensive working load. In modern terms, recreation as a social institution, accumulation of information and a professional working area is a full and happy life tool which meets many needs of an individual and which is precious within itself independent from work. (Karaküçük, 2001: 55-60).

On the other hand, karate is derived from the words "kara" meaning empty and "te" meaning hand and associated with unarmed hand. "Kara" is also expressed as "the space whose end is not seen". At first, 'tô was called as "de" meaning hand (hands of China) in China. Then, the term 'Okinawa te' (hands of Okinawa) and in the latter definition the term 'Karate jutsu' was used. Here, "karate" was used as karate and "jutsu" was used as technique which means the technique of karate together. In its latest form, it means "empty, unarmed hand". Hand is the symbol of productivity in Far Eastern cultures like in many cultures of the world. As its opposite meaning, punch is the symbol of power and conflict while open hand is accepted as the sign of productivity, virtue, peace and friendship (for example Ying Yang). In short, karate, that is, "open hand" can be described as peaceful move in which the phenomenon of goodwill becomes prominent. Karate-do is divided into two as traditional and sport karate within itself. The traditional karate-do is an individual improvement path within the efforts of individual's becoming the best. At the same time, it reveals the skills of controlling one's ego instead of competitiveness and rivalry perception. However, sport karate possesses modern sports understanding getting its origins from karate-do, but proceeding with the ideal of Olympic soul. Competitions in sport karate are performed within universal and international sportive rules based on the understanding of evaluating physical skills with specific provisions. It emphasizes the fight of phenomenon with only the ego within the individual as well as the endeavor to be respectful and fair towards the self, environment and living nature.[1]

1 (http://www.karate.gov.tr, 01.07.2016).

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Universities are the places where individuals form their free time activities for their future life. The habits acquired in this period show their effects in the future life of individuals. In our study, it was aimed at determining free time habits of the athletes studying in universities and performing karate-do, and then examining whether they differ according to different demographical features.

MATERIAL and METHOD

Population of the Research

The population of the research consists of a total of 207 athletes 130 of whom are male and 77 of whom are female students who participated in the Inter-University Karate Championship in Elazig.

Sample of the Research

The sample of the research consists of 157 athletes 89 of whom are male and 68 of whom are female students.

Research Method

The questionnaire applied by Yılmaz (2011) was used in the research. SPSS 21 statistical packet program was used for arranging the data. Percentage (%) and frequency (f) analyses were carried out in order to determine demographical features of the participants. The difference between free time habits of the athletes and their gender, place of birth and income status was examined and the significance level ($p<0.05$) between those differences were determined by Chi-Square test.

Research Group

Study group of the research consists of a total of 207 athletes 130 of whom are male and 77 of whom are female students from 37 universities who participated in the Inter-University Karate Championship in Elazig between 27 and 29 April 2016. Questionnaire was conducted on the study group and the free time activities of university students who were engaged in karate-do and the types of attending those activities were examined.

Significance of the Research

In the research, it is deemed significant to determine the participation rate of the athletes studying in universities and performing karate-do in their free time activities and to examine the effect of participation to free time activities on their education life.

Universities are the places where individuals form their free time activities for their future life. The habits acquired in this period affect the individual's future life, as well. The studies to be conducted on the athletes engaged in karate sports will determine socializing levels of these individuals and reveal the contributions of this sports branch on the development of the individuals.

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Aim of the Research

This research aimed at determining free time habits of athletes studying in universities and performing karate-do, and then examining whether they differ according to different demographical features.

Table 1. Universities and Number of Athletes Participating in Karate Do Championship

Sıra No	Participating Universities	Female Athlete	Male Athlete	Total
1	Ahi Evran University		6	**6**
2	Akdeniz University	1	2	**3**
3	Ankara University	2	7	**9**
4	Bartın University	9	7	**16**
5	Başkent University		1	**1**
6	Celal Bayar University	5	4	**9**
7	Çukurova University	5	7	**12**
8	Düzce University	7	10	**17**
9	Gazi University	3	5	**8**
10	Hacettepe University		1	**1**
11	İskenderun Technical University		1	**1**
12	İstanbul Aydın University	5	9	**14**
13	İstanbul Işık University	1		**1**
14	İstanbul Medipol University	1		**1**
15	İstanbul Commerce University	3	4	**7**
16	İzmir University		1	**1**
17	Karamanoğlu Mehmet Bey University	1	1	**2**
18	Marmara University	4	7	**11**
19	Mersin University	1		**1**
20	Mustafa Kemal University	3	5	**8**
21	Middle East Technical University	3	2	**5**
22	Pamukkale University	4	5	**9**
23	Sabancı University		2	**2**
24	Süleyman Demirel University	3	5	**8**

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25	Uludağ University		3	**3**
26	Trakya University	5	7	**12**
27	Fırat University	2	7	**9**
28	Anadolu University	2	1	**3**
29	Afyon Kocatepe University	1		**1**
30	Abant İzzet Baysal University	4		**4**
31	Gaziosmanpaşa University	2	1	**3**
32	Atatürk University		6	**6**
33	Zirve University		1	**1**
34	Balıkesir University		7	**7**
35	Muş Alparslan University		1	**1**
36	Dumlupınar University		3	**3**
37	Bayburt University		1	**1**
Grand Total		**77**	**130**	**207**

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RESULTS

Table 2. Demographical Variables

VARIABLES		N	%
Gender	Male	89	56.7
	Female	68	43.3
Age	20 years old and below	33	21.0
	Between 21 and 22 years old	**60**	**38.2**
	Between 23 and 24 years old	45	28.7
	25 years old and above	19	12.1
Place of Birth	Village	14	8.9
	Town	20	12.7
	City	**75**	**47.8**
	Municipality	46	29.3
	Abroad	2	1.3
Monthly Income	Between 550 TL and 1000 TL	3	1.9
	Between 1001 TL and 2000 TL	**64**	**40.8**
	Between 2001 TL and 3000 TL	56	35.7
	3001 TL and over	34	21.7

When the distribution of participant students is examined according to their gender, it is seen that 56.7% of them (89 individuals) are men and 43.3% of them (68 individuals) are women. Most of the participants are composed of male university students.

When the distribution of participant university students is (özne distribution değil mi? O zaman tekil olmalı) examined according to their ages, it is seen that 21.0% of them (33 individuals) are below 20 years old, 38.2% of them (60 individuals) are between 21 and 22 years old, 28.7% of them (45 individuals) are between 23 and 24 years old and 12.1% of them (19 individuals) are 25 years old and above. Most of the participants are between 21 and 22 years old.

When the distribution of participant university students is examined according to their places of birth, it is seen that 29.3% of them (46 individuals) were born in municipalities, 47.8% of them (75 individuals) were born in cities, 12.7% of them (20 individuals) were born in towns, 8.9% of them (14 individuals)

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were born in villages and 1.3% of them were born abroad. It is observed that most of the participants were born in cities.

As seen in the Table, 1.9% (3 individuals) of the participants' monthly income is between 550 TL and 1000 TL, 40.8% (64 individuals) of them is between 1001 and 2000 TL, 35.7% (56 individuals) of them is between 2001 and 3000 TL, and 21.7% of them is over 3000. It is seen that most of the participants' income level is between 1001 TL and 2000 TL.

Table 3. Utilizing Free Time

Variables		N	%
3.1. Specify your participation type to free time activities in general terms.	Generally alone	23	14.6
	Generally with my family	33	21.0
	Generally with my friends	**99**	**63.1**
	Generally under the guidance of specialists	2	1.3
3.2. How much time do you allocate to yourself after the daily compulsory duties?	None	6	3.8
	1-2 hours	**47**	**29.9**
	3-4 hours	40	25.5
	5-6 hours	26	16.6
	7-8 hours	10	6.4
	More than 8 hours	28	17.8
3.3. Which of the following activities do you generally prefer in your free times?	I generally go to the cinema and theatre	16	10.2
	I generally go out for market, bazaar, fair, park, etc.	43	27.4
	I generally play sports	**85**	**54.1**
	I am generally engaged in handicraft and art requiring skill	10	6.4
	I generally participate in the activities of NGOs and associations	3	1.9
3.4. What are the reasons of choosing free time activities?	Because they are suitable for my skills and they make me adopt habit	39	24.8
	For staying away from work environment and acquire a social environment	**78**	**49.7**
	Because the facilities, tools and devices regarding the activity I demand are sufficient	29	18.5
	For health reasons	8	5.1
	Because it does not necessitate to spend much money	3	1.9

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3.5. What are the reasons of not attending free time activities sufficiently?	Because the related institutions do not possess the programs that address to me	43	27.4
	Economic insufficiency	36	22.9
	Because I do not have a habit of filling my free times with specific activities	**63**	**40.1**
	Because I do not have friend and social environment encouragements that will divert me to the activities	14	8.9
	Because there are not facilities, tools and devices	1	.6
3.6. What are the effects of free time activities?	Relaxes	20	12.7
	Entertains	**64**	**40.8**
	Protects health	42	26.8
	Provides different lives	14	8.9
	Provides social status and good relationships with my environment	17	10.8

When the participation types of university students in free time activities are examined, it is seen that 63.1% (99 individuals) of the athletes participate in free time activities with their friends and 21.0% (33 individuals) of them with their family. Most of the participants usually spend their free time activities with their friends.

When the time allocated for daily free time activities of the participants is examined, it is seen that 29.9% of them (47 individuals) spend 1-2 hours; 25,. % of them (40 individuals) spend 3-4 hours; 17.8% of them (28 individuals) spend more than 8 hours, 16.6% of them (26 individuals) spend 5-6 hours, 6.4% of them (10 individuals) spend 7-8 hours and 3.8% of them (6 individuals) spend no time on these activities. It is observed that most of the participants allocate time for free time activities between 1-2 hours and 3-4 hours.

When the mostly preferred free time activities of university students are examined, it is seen that 54.1% of them generally play sports, 27.4% of them generally go out for market, bazaar, fair, park, etc., 10.2% of them generally go to the cinema and theatre, 6.4% of them generally engage in handicraft and art requiring skill, 1.9% of them generally participate in the activities of NGOs and associations. It is observed that most of the participants prefer playing sports in their free times.

When the reasons of choosing free time activities of the participants are examined, it is seen that 49.7% of them choose free time activities for staying away from work environment and acquire a social environment,

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24.8% of them for being suitable for their skills and they make them adopt habit, 18.5% of them for the fact that the facilities, tools and devices regarding the activity they demand are sufficient, 5.1% of them for health reasons, 1.9% of them for the fact that they do not necessitate to spend much money. It is observed that among the reasons of preferring free time activities, most of the participants choose staying away from work environment and acquire a social environment.

When the reasons of participant university students' not attending free time activities sufficiently are examined, it is seen that 40.1% of the participants do not have a habit of filling their free times with specific activities, 27.4% of them specify that the related institutions do not possess the programs that address to them, 22.9% of them do not attend because of economic insufficiency, 8.9% of them do not have friend and social environment encouragements that will divert them to the activities, .6% of them specify that there are not facilities, tools and devices. It is observed that among the reasons of not attending free time activities sufficiently, most of the participants choose not having a habit of filling their free times with specific activities.

When the effects of free time activities on participant university students are examined, it is seen that 40.8% of the participants think that the activities are entertaining, 26.8% of them think they protect health, 12.7% of them think they provide social status and good relationships with their environment, 8.9% of them think they provide different lives. It is observed that among the effects of free time activities on the participants, most of the participants choose the entertaining item.

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Table 4. The Effects of Free Time Activities on the University Students Engaged in Karate Do Sports according to Age

Variables		The Effects of Free Time Activities?						
Age		Relaxing	Entertaining	Protecting health	Providing different lives	Providing social status and good relationships with my environment	Total	Chi-Square Tests Asymp. Sig
20 years old and below	Count	4	10	9	3	7	33	
	% within Age	12.1%	30.3%	27.3%	9.1%	21.2%	100.0%	
Between 21 and 22 years old	Count	8	31	11	6	4	60	.041
	% within Age	13.3%	51.7%	18.3%	10.0%	6.7%	100.0%	
Between 23 and 24 years old	Count	4	15	20	4	2	45	
	% within Age	8.9%	33.3%	44.4%	8.9%	4.4%	100.0%	
25 years old and above	Count	4	8	2	1	4	19	
	% within Age	21.1%	42.1%	10.5%	5.3%	21.1%	100.0%	
Total	Count	20	64	42	14	17	157	
	% within Age	12.7%	40.8%	26.8%	8.9%	10.8%	100.0%	

$p < 0.05$

When Table 4 is examined, it has been determined whether there is a significant difference among the views of athletes regarding the effects of free time activities and Chi-Square analysis has been conducted depending on the answers of the athletes according to age factor of the students. Analysis results have showed that there is a significant difference among the effects of free time activities

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according to age factors of the athletes. When the questions responded by the athletes according to age variable have been examined, a statistically significant difference has been determined ($p<0.05$).

Table 5. General Participation Types of University Students Engaged in Karate Do Sports to Free Time Activities According to Monthly Income

Variables		Specify your participation type to free time activities in general terms				Total	Chi-Square Tests Asymp. Sig
Monthly income		Generally alone	Generally with family	Generally with friends	Generally under the guidance of specialists		
Between 550 tl and 1000 tl	Count	2	1	0	0	3	
	% within monthly income	66.7%	33.3%	.0%	.0%	100.0%	.041
Between 1001 tl and 2000 tl	Count	11	14	39	0	64	
	% within monthly income	17.2%	21.9%	60.9%	.0%	100.0%	
Between 2001 and 3000 tl	Count	8	12	36	0	56	
	% within monthly income	14.3%	21.4%	64.3%	.0%	100.0%	
3001 tl and higher	Count	2	6	24	2	34	
	% within monthly income	5.9%	17.6%	70.6%	5.9%	100.0%	
Total	Count	23	33	99	2	157	
	% within monthly income	14.6%	21.0%	63.1%	1.3%	100.0%	

$p< 0.05$

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When Table 5 is examined, it is determined whether there is a significant difference among the views of athletes regarding participation type to free time activities in general terms and Chi-Square analysis has been conducted depending on the answers of the athletes according to monthly income variable of the students. Analysis results have showed that there is a significant difference among participation type to free time activities in general terms according to monthly income variable of the athletes. When the questions responded by the athletes according to monthly income variable of the athletes is examined, a statistically significant difference has been found ($p<0.05$).

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Table 6. The Preferred Free Time Activities by the University Students Engaged in Karate Do Sports According to Monthly Incomes of the Athletes

Variables		Which of the following activities do you generally prefer in your free times?						
Monthly income		I generally go to the cinema and theatre	I generally go out for market, bazaar, fair, park, etc.	I generally play sports	I am generally engaged in handicraft and art requiring skill	I generally attend in the activities of NGOs and associations	Total	Chi-Square Tests Asymp. Sig
Between 550 tl and 1000 tl	Count	0	0	2	0	1	3	.034
	% within monthly income	.0%	.0%	66.7%	.0%	33.3%	100.0%	
Between 1001 tl and 2000 tl	Count	5	20	35	3	1	64	
	% within monthly income	7.8%	31.3%	54.7%	4.7%	1.6%	100.0%	
Between 2001 and 3000 tl	Count	7	13	30	6	0	56	
	% within monthly income	12.5%	23.2%	53.6%	10.7%	.0%	100.0%	
3001 tl and higher	Count	4	10	18	1	1	34	
	% within monthly income	11.8%	29.4%	52.9%	2.9%	2.9%	100.0%	
Total	Count	16	43	85	10	3	157	
	% within monthly income	10.2%	27.4%	54.1%	6.4%	1.9%	100.0%	

$p < 0.05$

When Table 6 is examined, it has been determined whether there is a significant differ-

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ence among the views of athletes regarding which of the following activities they generally prefer in their free times and Chi-Square analysis has been conducted depending on the answers of the athletes according to monthly income variable of the students. Analysis results have showed that there is a significant difference among the activities they generally prefer in their free times according to monthly income variable of the athletes. When the questions responded by the athletes according to monthly income variable of the athletes have been examined, a statistically significant difference has been found ($p<0.05$).

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Table 7. The Reasons of Choosing Free Time Activities by the University Students Engaged in Karate Do Sports According to Monthly Incomes of the Athletes

Variables		What are the reasons of choosing free time activities?						
Monthly Income		**Because they are suitable for my skills and they make me adopt habit**	**For staying away from work environment and acquire a social environment**	**Because the facilities, tools and devices regarding the activity I demand are sufficient**	**For health reasons**	**Because it does not necessitate to spend much money**	Total	**Chi-Square Tests Asymp. Sig**
Between 550 tl and 1000 tl	Count	1	0	0	0	2	3	**.000**
	% within monthly income	33.3%	.0%	.0%	.0%	66.7%	100.0%	
Between 1001 tl and 2000 tl	Count	13	35	13	3	0	64	
	% within monthly income	20.3%	54.7%	20.3%	4.7%	.0%	100.0%	
Between 2001 and 3000 tl	Count	12	30	11	2	1	56	
	% within monthly income	21.4%	53.6%	19.6%	3.6%	1.8%	100.0%	
3001 tl and higher	Count	13	13	5	3	0	34	
	% within monthly income	38.2%	38.2%	14.7%	8.8%	.0%	100.0%	
Total	Count	39	78	29	8	3	157	
	% within monthly income	24.8%	49.7%	18.5%	5.1%	1.9%	100.0%	

$p < 0.05$

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When Table 7 is examined, it has been determined whether there is a significant difference among the views of athletes regarding the reasons of choosing free time activities and Chi-Square analysis has been conducted depending on the answers of the athletes according to monthly income variable of the students. Analysis results have showed that there is a significant difference among the reasons of choosing free time activities according to monthly income variable of the athletes. When the questions responded by the athletes according to monthly income variable of the athletes are examined, a statistically significant difference has been found ($p<0.05$).

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Table 8. The Effects of Free Time Activities on the University Students Engaged in Karate Do Sports According to Monthly Incomes of the Athletes

Variables		What are the effects of free time activities?						
Monthly Income		Relaxes	Entertains	Protects health	Provides different lives	Provides social status and good relationships with my environment	Total	Chi-Square Tests Asymp. Sig
Between 550 tl and 1000 tl	Count	1	0	1	0	1	3	.036
	% within monthly income	33.3%	.0%	33.3%	.0%	33.3%	100.0%	
Between 1001 tl and 2000 tl	Count	2	33	17	6	6	64	
	% within monthly income	3.1%	51.6%	26.6%	9.4%	9.4%	100.0%	
Between 2001 and 3000 tl	Count	11	16	20	5	4	56	
	% within monthly income	19.6%	28.6%	35.7%	8.9%	7.1%	100.0%	
3001 tl and higher	Count	6	15	4	3	6	34	
	% within monthly income	17.6%	44.1%	11.8%	8.8%	17.6%	100.0%	
Total	Count	20	64	42	14	17	157	
	% within monthly income	12.7%	40.8%	26.8%	8.9%	10.8%	100.0%	

$p < 0.05$

When Table 8 is examined, it has been determined whether there is a significant difference among the views of athletes regarding the effects of free time activities and Chi-Square analysis is conducted depending on the answers of the athletes according to monthly income variable of the students. Analysis results have showed that there is a significant

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difference among the effects of free time activities according to monthly income variable of the athletes. When the questions responded by the athletes according to monthly income variable of the athletes are examined, a statistically significant difference has been found ($p<0.05$).

DISCUSSION

In Table 3, it is seen that most of the participant university students, 63.1% of them, participate in free time activities with their friends. Most of the participants usually allocate their time to free time activities. It is observed that most of the participants generally prefer sports for their free time activities. In the study of Özdilek et al. "Comparison of Participation Reasons and Levels of School of Physical Education And Sports Students Studying in Dumlupınar and Sakarya Universities to Free Time Activities", 19.9% of 336 students specify that they play sports in their free times (Özdilek vd., 2007: 9). In the study of Göktaş., "A Research Study on Directorate of Tax Administration Personnel's Evaluating their Free Times (Balıkesir Sample)", 52% of the personnel specify that they attend sports activities in their free times remaining from their institution (Göktaş, 2007: 20). This finding shows similarity with the findings in our research.

In Table 3, when the time allocated for daily free time activities of the participants is examined, it is seen that 29.9% of them spend 1-2 hours and 25.5% of them spend 3-4 hours. In the study of Çolakoğlu (2005) titled "A Research on Recreational Activities of Lecturers of University", it has been determined that 40.4% of these lecturers have 1-2 hours of free-time daily and 75% of them spend their time by watching TV; however, 16% of them do sports as a recreational activity. It has also been stated that 47.1% of the participants cannot participate in recreational activities due to the fact that they do not have enough time and 54.8% of the participants have stated that they can participate in sports activities in their free-time if the necessary environment and conditions are met.

In Table 3, when the reasons of choosing free time activities of the participants are examined, it is seen that 49.7% of them choose free time activities for staying away from work environment and acquire a social environment and 27.4% of them specify that the related institutions do not possess the programs that address to them. In the study of Kandaz and Hergüner, "Examining Types of Utilizing Free Times of Physical Education and Sports Teachers (Sakarya Province Sample), physical fitness and staying healthy take the first place with the rate of 63.8% as the reason of attending free time activities (Kandaz ve

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Hergüner, 2006: 6). This finding shows similarity with the findings in our research.

In Table 3, it is observed that among the reasons of not attending free time activities sufficiently, most of the participants choose not having a habit of filling their free times with specific activities. Kandaz and Hergüner, have determined that the reasons for not attending the free time activities which actually they want to attend as the lack of monetary opportunities with 43.6% and then lack of time for attending the mentioned activities with 30.1% (Kandaz ve Hergüner, 2006: 6). This finding differs from our research. In Table 3, it is observed that among the effects of free time activities on the participants, most of the participants choose the entertaining item with a rate of 40.8%. In the study of Kurumlu (2014) titled as evaluation of free-time of the students at 11th grade in Ankara province and their participation in recreational activities in athletic manner, 78.1% of the participant students have uttered concerning the question how they are affected from recreational activities that these activities are fun. This condition complies with our study.

In Table 4, it is examined whether there is a significant difference among the views of athletes regarding the effects of free time activities by conducting Chi-Square analysis test and it is found a significant difference statistically in the athletes between the ages of 21 and 22 when compared to other age groups regarding the effects of free time activities ($p<0.05$).

In Table 5, it is examined whether there is a significant difference among the views of athletes regarding participation type to free time activities in general terms by conducting Chi-Square analysis test and it has been found a significant difference statistically in the athletes possessing income level between 1001 TL and 2000 TL when compared to other income levels regarding participation type to free time activities in general terms ($p<0.05$).

In Table 6, it is examined whether there is a significant difference among the views of athletes regarding which of the following activities they generally prefer in their free times by conducting Chi-Square analysis. It is seen that the most preferred free time activity by the athletes is playing sports according to income variable of the athletes. It is found a significant difference statistically in the athletes possessing income level between 1001 TL and 2000 TL when compared to other income levels ($p<0.05$). In the study of Kurumlu (2014), it has been determined that the students living in Ankara have more free-time a week and those living in Polatlı allocate more time to sports in their free-time.

In Table 7, it is examined whether there is a significant difference among the views of

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athletes regarding the reasons of choosing free time activities by conducting Chi-Square analysis. It is seen that the views of the athletes have generally focused on staying away from work environment and acquire a social environment according to income level variable and it is found a significant difference statistically in the athletes possessing income level between 1001 TL and 2000 TL when compared to other income levels ($p<0.05$). This condition yields similar results with the study of Gökalp (2007). 6.8% of the participants have stated that these activities help their friend circle to be extended, 11.8% of them think that they have obtained different experiences, 16.1% of them say that they have got rid of work stress thanks to them, 8% of them have uttered that they have obtained social status and 11.3% of them have specified that they become involved in interaction and communication with people.

In Table 8, it is examined whether there is a significant difference among the views of athletes regarding the effects of free time activities by conducting Chi-Square analysis. It is seen that the views of the athletes have generally focused on entertaining effect of the activities according to income level variable and it is found a significant difference statistically in the athletes possessing income level between 1001 TL and 2000 TL when compared to other income levels ($p<0.05$). According to the findings stated in the study of Gökalp (2007), 16.9% of the participants have stated that recreational activities are fun and exciting.

CONCLUSION

This study examined the applied activities, types of participation to those activities, reasons of preferring those activities and reasons of not preferring the mentioned activities by the university students who were engaged in karate do sports in order to utilize their free times and examined whether the above mentioned factors differed according to the personal features of the students, and with reference to gender, age, place of birth and income level.

It has been found that the difference among the effects of free time activities is statistically significant according to age variable of the athletes. This situation shows that the effects of free time activities on different age-group students are significant. It has been determined that the difference among participation types of the athletes to free time activities in general terms, the most preferred free time activity, reasons of preferring free time activities and the effects of free time activities are statistically significant according to income level variable of the athletes.

When the results of the research are evaluated in general terms, it has been observed that the

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variables of the athletes such as age and income level have effect on the utilizing type, style, reason and level of athletes' preferring free time activities. There has not been found a significant result according to gender and place of birth variables of the athletes statistically.

Recommendations

State institutions and organizations may conduct the necessary practices together with universities in order to organize free time activities and divert university students to these activities as a result of which students will stay away from technology for a while.

University students may be inclined to the activities such as sports and handicraft as a free time activity and the necessary practices as well as collaboration with other institutions may be carried out in order to spread these activities among individuals.

The research may be applied to the athletes engaged in different sports branches and the results may be reexamined according to the sports branch.

With the collaboration of universities, municipalities and other institutions, the activities from which the athletes in the universities and other individuals can benefit may be organized free of charge.

The numbers of facilities through which the athletes can attend free time activities may be increased and various seminars, classes and activities may be conducted according to the demands of the young individuals.

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AN ANALYSIS OF THE FACTORS IN PREFERENCES OF STUDENTS FOR VOLLEYBALL ON CAMPUS AND FAMILY AND SOCIETY FACTORS [1]

KAMPÜSTE VOLEYBOL SPORUNU TERCİH EDEN ÖĞRENCİLERİN BU TERCİHLERİNDEKİ ETKENLER İLE AİLE VE TOPLUM FAKTÖRLERİNİN İNCELENMESİ

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Öz: Amaç: Bu araştırmada, Fırat Üniversitesi kampüsünde voleybol sporunu tercih eden öğrencilerin bu seçimlerindeki etkenler ile aile ve toplum faktörlerinin etkisini belirlemek amaçlanmıştır. **Yöntem**: Araştırma grubunu Fırat Üniversitesi kampüsünde voleybol sporunu tercih eden, bayan-erkek öğrenciler oluşturmaktadır. Araştırmada tarama (survey) modeli kullanılarak veri toplama amacıyla anket uygulanmıştır. 23 sorudan oluşan ankette toplam 97 birey anketi değerlendirilmeye alınmıştır. İstatistiki çözümler için SPSS 21.0 paket programından yararlanılmıştır. İstatistiksel işlem olarak ki-kare, frekans ve yüzde testleri uygulanmıştır. Anlamlılık değeri $p<0.05$ olarak alınmıştır. **Bulgular**: Ailelerin çocuklarının spor yapmalarına her zaman olumlu yaklaştıkları görülmüş (%66), ve cinsiyet arasında anlamlı bir farklılığa rastlanmamıştır. Öğretmenlerin bireylerin voleybol branşını seçmelerinde daha etkili olduğu (%54,6), bunun yanı sıra arkadaşlarının etkisinin ise %29,0 olduğu görülmüştür ($p<0,05;002$). Ayrıca cinsiyet arasında anlamlı bir farklılığa da rastlanmamıştır. **Sonuç**: Yapılan çalışmada özellikle öğretmenlerin öğrencilerin voleybol sporunu yapmalarında olumlu etki sağladığı görülmüştür. Kampüste spor malzeme ve tesis yetersizliğinin bireyleri olumsuz yönde etkilediği düşünülmektedir.

Anahtar Kelimeler: Öğrenci, Voleybol, Toplum, Aile

Abstract: Objective: The purpose of this study is to determine the effect of family and society factors on individuals preferring and doing volleyball on campus of Fırat University. **Method**: The study groups are composed of female and male students in Fırat University who prefer volleyball. Survey model has been used in the research and the questionnaire has been applied for the purpose of data collection. The questionnaire composed of 23 items has been evaluated and a total of 97 individuals have participated in the study. SPSS 21.0 software package has been utilized for statistical solutions. Chi-square, frequency and percentage tests have been applied. Significance has also been obtained as $p<0.05$. **Results**: It has been observed that families positively approach to their children's doing sports (66%) and no significant difference has been observed between sexes. It has also been determined that teachers are more effective in preference of individuals for volleyball (54.6%) and the effect of friends is 29.0% ($p<0.05$; 002). No significant difference has been observed between sexes. **Conclusion**: It has been established that especially teachers provide positive effect to students in playing volleyball. It is thought that the inadequacy of sports materials and facility on campus negatively affect individuals.

Key Words: Student, Volleyball, Society, Family

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INTRODUCTION

The importance of physical education and sports is huge for individuals to establish good relations with each other and within society. Sports is a process with physiological, psychological, social and sensitive effects (Kanat vd., 2013: 461; Kırımoğlu vd., 2010: 101-108). Physical education is a general concept that includes all educational physical activities such as play, gymnastics and sports and is training carried out within and through the physical activities (Larson, 1970). Sports, which is an integral part of physical education, is presented as a competitive, solidaristic and cultural concept that allows socialization, improves spiritual and physical skills and is performed as a profession individually or in a group, with or without tools under certain rules in a way to occupy leisure or all time (Özmen, 1999: 1-208; cited from Erkal, 1998: Cengiz and Taşmektepligil, 2016: 220-240). In another definition, sport can be defined as activities requiring physical and mental activity and based on competition and contest that individuals or groups do for health, entertainment, show or adventure where individuals' cognitive, emotional and psychomotor features are planned and programmed in accordance with certain rules (Sunay, 2010: 1-162; Özbayraktar vd., 2008). Physical education and sports being an important part of human life enable a person to have a balanced personality by strengthening both the soul and the body structure and health (Sunay, 2010).

Thinking sports together with physical education concept is the right approach while relating sports with the education. Physical education and sports are mutually complementary facts within the modern sense of education (Özbayraktar vd., 2008). Physical education and sports are the most effective education and health activity that is directly related to human health, character development, morale and efficiency in individualistic terms and to the potential and existence of manpower with strong, stable and common feelings and behaviors in national terms (Yetim, 2005).

The first place where individuals see the world of physical education and sports is family. This effect of family on socialization determines whether children will participate in physical education and sports activities and in what way they will if they participate. The approach of families in this matter is nearly the most determinant factor concerning whether children will participate in these activities (DPT, 1983).

The fact that parents are involved in sports has a positive effect on the child's participation in the sport, even in the majority of the sports community (Erdemli, 1991; Öztürk, 1998). Positive appraisal of sports by parents increases the interest in sports between gen-

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erations. In addition, children may be interested and participate in sports more if families continue doing sports or watch sports programs on TV regularly, if families encourage their children for the active participation in sports and sports is a general subject in the family (DPT, 1983; Öztürk, 1998). Sports are of great importance in directing children to sports activities as of primary school and having them adopt a good habit. The subject of the sports has also been addressed by the world countries. The US encouraged successful students for sports by awarding scholarships and prizes while the physical education courses at schools were increased with a law in France (Mcpherson et al., 1986).

In these definitions, physical education and sports have many benefits for the individuals. Physical education and sports have significant effects in socialization, self-expression and development of individuals. Therefore, physical education and sports should be remembered as important factors allowing the personality development and self-knowledge of individuals. One of the important factors here is education, for sure.

Education can be seen in a broad sense as a process that helps people believe in community behavior, moral and aesthetic measures and their healthy harmonization of sense of life (Mengütay, 2006: 1-144). The education that starts in the family after the child is born is sustained?? with the interaction between friends and through the mass media such as radio, television, cinema, theatre and artistic and literature works (Varış, 1994). The dissemination of education and the participation of sports in the school curriculum programs as well can positively affect the participation of the individuals in the sports. Likewise, "sociologists have found that, individuals widely participate in leisure time activities when the education level increases. Education also makes individuals open to the society through socializing them" and increases their tendency to participate in the fields of social activity. Sports can also become a subject for those who are socialized or increasingly inclined to socialize (Kongar, 1993: 1-207.).

Sports is an aesthetic, technical, physical, competitive and social process based on the use of main skills and the battling methods with or without tools developed by people while fighting with nature alone or all together peacefully and through simulation for games, distraction and a getaway from work in parallel to the increase in leisure time (Taşmektepligil, 1995; Fişek, 1998).

In modern life, sports is accepted as an integral part of the planned studies suggested by the pedagogues in order to ensure the personality formation and development of individual capabilities and is increasing its importance day by day (Fişek, 1998). According

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to basic principles of the National Education, physical education means ensuring the physical, mental and intellectual development of individuals. The fact that individuals live in accordance with the social rules is related to being able to give a good example of relations with each other, being helpful, smart, physically and mentally healthy and showing respect to human rights. Physical education plays a big role in socialization of individuals and helping them find their personality and lead on a straight line (Özbayraktar vd., 2008).

In the sport environment, individuals learn to recognize their own talents and the talents of others, to compete on equal conditions, to appreciate others by accepting defeat, to be modest when they win, to help others and to optimize their time and effort by competing with nature and time. In this regard, sports are an important tool of modern education system that aims to prepare a person for life in a versatile way (Fişek, 1998). Very hardworking individuals get the result in sports just like in education. The difference between those who have adopted sports as a lifestyle and those avoiding sports can only be removed with education. Although it is not possible for everyone to turn to the sport with the same enthusiasm and excitement, it is not impossible to raise the pleasure of doing sports to a certain level. Development of sports potential can only be ensured with a systematic education. Since cultural change will improve the values of the community in a positive way, directing towards sports by taking others as an example can reach to significant dimensions (İnal, 2003).

The factor having the highest effect on individual is environment in family, childhood, adolescence and even in early life. Its effect may decrease a bit from childhood to youth. The reason isn't the reduced interest shown by family towards children. In adolescence and youth, individuals tend towards environment apart from family (Öztürk, 1998: 61). Groups of friends are generally composed of the individuals with the same socio-economic and cultural structure. This shows that the young people with lots of things in common get together. In team friendships of sports branches, the common feature is observed to be the sports skills possessed regarding the failure of these rules (Karasüleymenoğlu, 1995). Turning towards a place, a thing, a person or an event means choosing it as a purpose, adopting it, taking care of it and devoting oneself to it (İnal, 2003; Cited from Büyük Larousse,1986: İkizler and Tekin, 2008: 29). Guidance is the organization process of the elements required to produce a more productive work in relation to the work to be done. These elements may differ depending on the fields to be guided. The most effective way

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to guide people is interaction. Interaction exercises control over people. The stronger the interaction is, the more powerful guidance becomes (Kılcıgil, 1998: 1-169.).

Youth's leisure-time tendencies sometimes do not meet the demands of their families, which leads to generation conflicts. While families have been of the opinion that the activities not requiring spending money and doing homework should be done in leisure times not doing sports or watching TV and listening to the radio, it is observed that they give up this thought and agree on doing such activities as sports together with the social development in time. Because sports plays important roles in the socialization of the individual, parents are not left out of the sports phenomenon allowing children be more social (Öztürk, 1998: 61).

The common idea in our society that sports negatively affects academic success and causes injuries is one of the factors causing parents to have a negative attitude for the participation in physical education and sports activities. Although there is no clear finding that the sports affects academic achievement negatively, it has been found in many studies that participation in physical education and sports activities has positive effects on academic achievement on the contrary. However, the lack of awareness and the inability of the education system to allow for the academic and sports life together cause families to get negative ideas in this matter (DPT, 1983; Güven ve Öncü, 2006: 81-90). Today, families approach to sports more positively when compared to past and direct their children towards sports. Currently there are families who think that sports activities prevent the child from succeeding in the classroom but many families also register their children for sports courses by paying a certain fee (Öztürk, 1998: 61).

School is the most effective social institution in education of individuals. Education is a social institution and organized community being the most effective factor in efficient work of people and country's development and not abandoned by any population. School community is composed of managers, educators and students. School brings success to working law and people of the country (Öztürk, 1998).

Volleyball comes at the forefront of sports that can be used by educators to raise children and youth as good people. Because the only group sport closed to violence is volleyball (Fröhner, 1999). Volleyball is a sport characterized by maximal effort, team work and close interaction of deep harmony. The concept of team work refers to the cooperation of a group of people for a common target universally. Cooperation is in every part of life and an important element of each achievement (Bengü, 1987: 1-144).

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Within the scope of sport project on campus, the purpose is to determine the factors affecting the preferences of individuals for volleyball and the effect of family and society factors. The aim is here to determine whether the attitudes of families of individuals preferring volleyball towards the sport and the branch selected, the expectations of individual in volleyball, the reasons being effective in selection of branches differ by the personal information of individuals, the existence of an individual doing sports in family and by sex. The purpose of this study is to determine the effect of family and society factors on individuals preferring and doing volleyball on campus.

MATERIAL and METHOD

The survey method was used in the research, analyses were performed by using data obtained from the individuals who preferred volleyball.

This method was used due to the fact that the purpose was to analyze the reasons of individuals for starting volleyball, the reasons affecting the selection of volleyball branch, the attitude of families towards volleyball, the expectations of families from volleyball, the opportunities on campus and their disponibility and their goals about volleyball in terms of family, society and the different variables in their personal information. Questionnaires that were previously used as information collection tool with the tested necessity and reliability were used as the data collection tool.

Population and Sample

The research group is composed of female and male students preferring volleyball on campus of Fırat University. Survey model was used in the research and the questionnaire was applied for the purpose of data collection. 103 individual participated in the 23-question survey and a total of 97 surveys were evaluated after faulty and missing ones were excluded.

Data Collection and Analysis

Questionnaires that were previously used as information collection tool with the tested necessity and reliability were used as the data collection tool. The questionnaire applied to individuals is related to effect of their personal information, opinions about being a volleyball player, campus, family and society factors. The questionnaire was taken from the master's thesis of Seher Aslan Esen titled "the reasons for the preferences of students studying in primary schools to be a volleyball player and the effect of school, family and society factors" prepared in Marmara University Institute of Educational Sciences Department of Physical Education and Sports in 2010 (26). The questionnaire was distributed by the researcher during the volleyball training programs on campus of Fırat University.

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The reason for application of questionnaire was explained and the survey was applied after the individuals were informed about how to fill the survey. The questionnaires were collected by the researcher.

Data Analysis

SPSS 21.0 package program was used for the statistical solutions. Chi-square, frequency and percentage tests were applied as the statistical activity. The significance level was taken as p<0.05'.

RESULTS

Table 1. Demographic Information of Research Group

VARIABLES		N	%
Sex	Female	56	57.7
	Male	41	42.3
	Total	97	100
Age	20 and below	30	30.9
	21-23	50	51.5
	24 and above	17	17.5
Height	160 cm and below	17	17.5
	161 cm - 166 cm	24	24.7
	167 cm and above	56	57.7
Weight	55 kg and below	37	38.1
	56 kg - 61 kg	27	27.8
	62 kg - 67 kg	20	20.6
	68 kg and above	13	13.4

According to the research data, 57.7% of the individuals preferring volleyball on campus are women and 42.3% of them are men. The percentage of those aged 20 and below is 30.9%, 51.5% is aged between 21 and 23, 17.5% is aged 24 and above.

Concerning the height ratios of individuals, 17.5% is 160 cm and shorter, 24.7% is between 161 cm – 166 cm tall, 57.7% is 167 cm and taller.

Regarding the weights of individuals, the weight of 38.1% is 55 kg and less,

27.8% weighs between 56 kg and 61 kg, 20.6% weighs between 62 kg - 67 kg and the weight of 13.4% is 68 kg and more.

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Table 2. Table on The Reasons for Preference of Individuals for Volleyball and The Factors of Family and Society

VARIABLES		N	%
Where did you first play volleyball?	Primary School	23	23.7
	Secondary School	10	10.3
	High School	26	26.8
	University	37	38.1
	Sports Club	1	1.0
Are there anyone else doing sports in your family?	Father	1	1.0
	Sibling	45	46.4
	None of them	51	52.6
Who has a share in your preference for volleyball?	Family	4	4.1
	Friends	29	29.9
	Teachers	53	54.6
	Famous Athletes	11	11.3
Who affected you most in choosing volleyball aside from the family members?	Physical Education Teacher	68	70.1
	Friend	26	26.8
	Close relative – aunt, uncle etc.	3	3.1
Does your family support you positively for doing sports?	Always	66	68.0
	Sometimes	25	25.8
	Frequently	3	3.1
	Never	3	3.1
Do your household follow any newspapers, magazines and TV programs about sports?	Always	42	43.3
	Sometimes	36	37.1
	Frequently	10	10.3
	Never	9	9.3
Is your family of the opinion that sports negatively affect you?	Always	8	8.2
	Sometimes	41	42.3
	Frequently	2	2.1
	Never	46	47.4

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Which fields you can do sports in your neighborhood?	Sport facility	34	35.1
	Schoolyard	25	25.8
	Neighborhood	18	18.6
	None of them	20	20.6
How often do you use these fields?	Always	11	11.3
	Sometimes	56	57.7
	Mostly	15	15.5
	Never	15	15.5
How often are the sports activities organized on campus?	Barely	42	43.3
	Rarely	15	15.5
	Sometimes	22	22.7
	Generally	10	10.3
	Frequently	8	8.2
Are there sufficient equipment and field for volleyball on campus?	Barely	32	33.0
	Rarely	16	16.5
	Sometimes	28	28.9
	Generally	18	18.6
	Frequently	3	3.1
How is the success of sports teams and the importance attached to athletes on campus?	Little	27	27.8
	A little	11	11.3
	Moderate	29	29.9
	Good	24	24.7
	Great	6	6.2
Do you play volleyball as a licensed player in any club?	Yes	12	12.4
	No	85	87.6
What are your future objectives for volleyball?	Being a national athlete	2	2.1
	Earning money	6	6.2
	Being a coach	42	43.3
	Being a physical education teacher	29	29.9
	Other	18	18.6

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23.7% of the participants of research started volleyball in primary school, 10.3% started in secondary school, 26.8% started in high school, 38.1% started to play in university and 1.0% started in a sports club.

Concerning the question 'Are there anyone else doing sports in your family?', 1.0% of the participants replied as father, 46.4% said sibling, 52.6% said none of them.

Regarding the responses given by the participants to the question 'Who has a share in your preference for volleyball?', 4.1% said family, 29.9% said friends, 54.6% said teachers, 11.3% said famous athletes.

The responses given to the question 'Who affected you most in choosing volleyball aside from the family members?' are as follows; 70.1% said physical education teacher, 26.8% said friends, 3.1% said close relatives such as uncle, aunt etc.

Concerning the responses given to the question 'Does your family support you positively for doing sports?', 68.0% said always, 25.8% said sometimes, 3.1% said frequently and 3.1% said never.

The responses given to the question 'Do your household follow any newspapers, magazines and TV programs about sports?' are as follows; 43.3% said always, 37.1% said sometimes, 10.3% said frequently, 9.3% said never.

The responses given to the question 'Is your family of the opinion that sports negatively affect you?' are as follows; 8.2% said always, 42.3% said sometimes, 2.1% said frequently and 47.4% said never.

Regarding the responses given to the question 'Which fields you can do sports in your neighborhood?', 35.1% said sports facility, 25.8% said schoolyard, 18.6% said neighborhood, 20.6% said none of them.

The responses given to the question 'How often do you use these fields?' are as follows; 11.3% said always, 57.7% said sometimes, 15.5% said mostly and 15.5% said never.

Concerning the responses given to the question 'How often are the sports activities organized on campus?', 43.3% said barely, 15.5% said rarely, 22.7% said sometimes, 10.3% said generally and 8.2% said frequently.

The responses given to the question 'Are there sufficient equipment and field for volleyball on campus?' are as follows; 33.0% said barely, 16.5% said rarely, 28.9% said sometimes, 18.6% said generally and 3.1% said frequently.

Regarding the responses given to the question 'How is the success of sports teams and the importance attached to athletes on campus?',

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27.8% said little, 11.3% said a little, 29.9% said moderate, 24.7% said good and 6.2% said great.

The responses given to the question 'Do you play volleyball as a licensed player in any club?' are as follows; 12.4% said yes and 87.6% said no.

The responses given to the question 'What are your future objectives for volleyball?' are as follows; 2.1% played volleyball for being a national athlete, 6.2% for earning money, 43.3% for being a coach, 29.9% for being a physical education teacher and 18.6% for other reasons.

Table 3. Findings Related To Whether Families Support Their Children Positively About Playing Volleyball

			Sex		Total
			Female	Male	
Does your family support you in playing volleyball positively?	Always	Number	37	29	66
		Total percentage	38.1	27.9	66%
	Sometimes	Number	16	9	25
		Total percentage	14.4	10.6	25%
	Frequently	Number	1	2	3
		Total percentage	1.7	1.3	3%
	Never	Number	2	1	3
		Total percentage	1.7	1.3	3%
Total		Number	56	41	97
		Total	57.7%	42.3%	100%
Chi-Square Tests		Asymp. Sig. (2-sided)	.727		

It has been observed that families approach to their children's doing sports positively all the time (66%), sigma value has been observed to be $p<0.05$; .727 following the Chi-Square test and no significant difference has been found between sexes.

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Table 4. Findings About The Relation Of The Question 'Who Has A Share In Your Preference For Volleyball?' With Sex

			Sex		Total
			Female	Male	
Who has a share in your preference for volleyball?	Family	Number	3	1	4
		Total percentage	2.3%	1.7%	4.1%
	Friends	Number	17	12	29
		Total percentage	16.7%	12.3%	29.9%
	Teachers	Number	29	24	53
		Total percentage	30.6%	22.4%	**54.6**%
	Famous athletes	Number	7	4	11
		Total percentage	6.4%	4.6%	11.3%
Total		Number	56	41	97
		Total	57.7%	42.3%	100%
Chi-Square Tests		Asymp. Sig. (2-sided)	.837		

It has been observed that teachers are effective in branch selection of individuals for volleyball with a rate of 54.6%; sigma value has been observed to be $p<0.05$; .837 following the Chi-Square test and no significant difference has been found between sexes.

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Table 5. Findings About The Relation Between The Questions 'Who Affected You Most In Choosing Volleyball Aside From The Family Members' And 'Where Did You First Play Volleyball?'

			Who affected you most in choosing volleyball aside from the family members?			Total
			Physical education teachers	Friends	Close relatives such as uncle, aunt etc.	
Where did you first play volleyball?	Primary school	Number	16	6	1	23
		Total percentage	16.1	6.2	.7	23.0
	Secondary school	Number	5	5	0	10
		Total percentage	7.0	2.7	.3	10.0
	High school	Number	20	6	0	26
		Total percentage	18.2	7.0	.8	26.0
	University	Number	26	9	2	37
		Total percentage	25.9	9.9	1.1	37.0
	Sports club	Number	1	0	0	1
		Total percentage	.7	.3	.0	1.0
Total		Number	68	26	3	97
		Total	70.1	26.8	3.1	100
Chi-Square Tests		Asymp. Sig. (2-sided)			.727	

It has been observed that 25.9% of the individuals start playing volleyball in university and 18.2% starts in high school for the first time aside from the family members, physical education teachers have the highest effect; sigma value has been found to be $p<0.05$; .727 following the Chi-Square test and no significant difference has been found.

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Table 6. Findings About The Relation Between The Questions 'Who Affected You Most In Choosing Volleyball Aside From The Family Members?' And 'Who Has A Share In Your Preference For Volleyball?'

			Who affected you most in choosing volleyball aside from the family members?			Total
			Physical education teachers	Friends	Close relatives such as uncle, aunt etc.	
Who has a share in your preference for volleyball?	Family	Number	2	1	1	4
		Total percentage	2.8%	1.1%	.1%	**4.0%**
	Friends	Number	15	14	0	29
		Total percentage	20.3%	7.8%	.9%	29.0%
	Teachers	Number	45	7	1	53
		Total percentage	37.2%	14.2%	1.6%	**53.0%**
	Famous athletes	Number	6	4	1	11
		Total percentage	7.7%	2.9%	.3%	11.0%
Total		Number	68	26	3	97
		Total	70.1%	26.8%	3.1%	100%
Chi-Square Tests		Asymp. Sig. (2-sided)			.002	

It has been observed that teachers are effective in branch selection of individuals for volleyball with a rate of 53.0% and friends are also effective with a rate of 29.0%. Sigma value has been found to be $p<0.05$; .002 following the Chi-Square test and this indicates that the result is significant.

DISCUSSION

In this paper, the differences between the reasons for the preferences of individuals for volleyball on campus and the effect of family and society factors have been analyzed.

The responses of the participant individuals for the question 'Who has a share in your preference for volleyball?' are as follows;

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4.1% said family and 54.6% said teachers. This condition shows similarity with the study of Esen (2010: 53).

The responses of the participant individuals for the question 'Who affected you most in choosing volleyball aside from the family members?' are physical education teachers from 70.1% and close relatives such as uncle, aunt etc. with 3.1%; This condition is similar to the study of Esen (2010: 53) (physical education teacher with the highest rate of 34.2%).

Regarding the question 'Are there sufficient amount of fields and equipment about volleyball in the campus?', 33.0% of the participant individuals have responded as little and this condition is similar to the study of Göktaş (1994: 35) titled as the effect of family on directing towards sports in which it has been determined that the first problem of the students concerning the participation in athletic activities is the inadequacy of facility's equipment. It is also similar to the study of Dalkıran et al. (2004: 14) titled the opinions of the physical education teachers working at public and private primary and secondary schools of Ankara province concerning the effective use of indoor sports facilities in extra-curricular activities, 100% of the physical education teachers agree with the opinion 'facility's equipment is highly important in performing the physical education activities appropriately'.

The responses of the participant individuals for the question 'Does your family support you positively for doing sports?' are as follows; 68.0% said always and this condition complies with the study of Esen (2010: 54).

The participant individuals have responded to the question 'Do your household follow any newspapers, magazines and TV programs about sports?' as always with 43.3% and this condition shares similarities with the study of Esen (2010: 54).

The responses of the participant individuals for the question 'Is your family of the opinion that sports negatively affect you?' are as follows; 42.3% said sometimes and 47.4% said never and it has been observed that the effect of society on directing individuals towards sports is high. This condition shares similarities with the study of Esen (2010). In the study of Yıldız (2015: 79) titled the analysis on socialization and happiness level of university students doing and not doing sports, it is observed that the secondary schools the students studying in the School of Physical Education and Sports have graduated, class levels and education and income levels of parents are effective on their socialization; their sex, personal communication and level of satisfaction from life cause an increase in their happiness, so it has been concluded that sports is an effective tool in socialization of individuals and increasing their happiness

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and the most of the families (47.4%) support the idea that sports doesn't affect individuals negatively.

It has been determined that individuals are affected from the physical education teachers more; teachers are effective in preferences of individuals for volleyball with a rate of 53.0%; in addition, friends are also effective with a rate of 29.0%. Sigma value has been observed to be $p<0.05$; .002 following the Chi-Square test and it indicates that the result is significant.

Although the rate of individuals doing sports in the families of the participant individuals isn't so low (47.4%), their families support them more in doing sports (68.0%). This indicates that families positively encourage the individuals to do sports.

CONCLUSION

It has been established that especially teachers provide positive effect to students in playing volleyball. It is thought that the inadequacy of sports materials and facility on campus negatively affect individuals.

Suggestions

By working in cooperation with the companies, institutions and organization that are engaged in sports, the awareness of families can be raised concerning the benefits of the participation in sports and sports activities and some projects can be held to direct individuals towards these activities.

The necessary interest should be paid to volleyball in mass media and informative and instructive broadcasts can be organized for this sport.

The sport institutions and organizations in the society should conduct the necessary studies to guide the families to the sport and should aim at the rule of doing sports for a healthy life of families and should help meeting the needs for the material, field, coach and physical education teachers being among the obstacles in front of sports.

Existing sports opportunities on campus should be improved, maintenance and repairs of sports fields should be made and the required studies should be performed to help individuals do sports in healthy environments and get the maximum benefit.

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ACUTE EFFECT OF SELF-MYOFASCIAL RELEASE EXERCISE VOLUME TO VERTICAL JUMP PERFORMANCE AND FLEXIBILITY IN WELL-TRAINED WOMEN VOLLEYBALL PLAYERS [1]

İYİ ANTRENMANLI BAYAN VOLEYBOLCULARDA KENDİ KENDİNE UYGULANAN MYOFASİAL GEVŞETME EGZERSİZ SÜRESİNİN DİKEY SIÇRAMA PERFORMANSI VE ESNEKLİK ÜZERİNE AKUT ETKİSİ

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Öz: Amaç: Bu çalışmanın amacı, kendi kendine uygulanan farklı süreli (30 saniye-60 saniye) miyofasiyal gevşetme egzersizlerinin alt ekstremite esneklik ve dikey sıçrama performansı üzerine akut etkilerinin incelenmesidir. **Yöntem**: Çalışmaya aynı takımda oynayan 18 bayan voleybolcu katılmıştır. Sporculara, 48 saat arayla, randomize crossover çalışma deseni kullanılarak, kontrol, 30 ve 60 saniye süreli foam roller egzersizi olacak şekilde üç farklı uygulama yaptırıldı. Her uygulamanın sonrasında sporculara esneklik (S&R) ve yaylanarak sıçrama testi (CMJ) uygulandı. **Bulgular**: Araştırmanın sonuçları incelendiğinde, üç uygulama arasında istatistiksel bir farka rastlanmadı (p>0.05). **Sonuç**: Sonuç olarak, hem 30 hem de 60 saniye süreli foam roller egzersizlerinin benzer etkiye sahip olduğu ve kontrol grubuyla karşılaştırıldığında esneklik ve dikey sıçrama performansı üzerinde olumsuz bir etkiye sahip olmadığı görüldü. Bu sebeple, foam roller ile yapılan self-miyofasiyal gevşetme egzersizleri antrenman ya da yarışmalardan önce alternatif ısınma aracı olarak sporcular tarafından kullanılabilir.

Anahtar Kelimeler: Voleybol, Foam Roller, Self-miyofasiyal Gevşetme, Dikey Sıçrama, Esneklik

Abstract: Aim: The aim of this study is to analyze the acute implications of myofascial releasing exercises with alternating periods (30-60 seconds) of self-training on the flexibility of lower extremity and vertical jump performance. **Method**: 18 female volleyball players playing in the same team participated in this study. The athletes were asked to take part in three different exercise routines as control, 30 and 60 seconds with the foam roller with 48 hours between each session using a random crossover design. At the end of each session, the athletes were tested on flexibility (S&R) and jumping performance (CMJ). **Results**: The results of the study have shown that there was no statistical difference between the three routines (p>0.05). **Conclusion**: In conclusion, both the 30-second and the 60-second foam roller exercises yielded similar effects, and when compared to the control group no negative effects regarding flexibility and vertical jumping performance were observed. For this reason, foam roller exercises can be used as an alternative warm-up method by athletes both before training sessions and competitions.

Key Words: Volleyball, Foam Roller, Myofascial Releasing, Vertical Jump, Flexibility.

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INTRODUCTION

In recent years, research studying the effects of different warm-up protocols on flexibility and athletic performance is rapidly increasing. These studies usually examine static stretching, dynamic stretching, mobility and self-miyofascial release (SMR) exercises (Beckett et. al, 2009: 445; Behm and Chaouachi, 2011:2636; Cramer et al., 2004; Fama and Bueti, 2011; Franco, et al., 2012: 2; Herda, et al., 2008: 810; Janot et al, 2012: 426; Joorkesh, 2007: 886; Marek, et al., 2007: 94; Keskin and Ates, 2016: 2). Particularly SMR exercises have been frequently used by athletes as an alternative warm-up technique due to their effects on the facia (Beardsley and Skarabot, 2015: 748). Regular exercise and performance create micro traumas in muscle tissue. These micro traumas cause damage in the facia over time, consequently leading to the loss of movement (Curran, et al., 2008: 433). Fascia is defined as a fibrous-collagen tissue that is part of the body's tensional force transmission system (Benjamin, 2009: 3). SMR exercises are among miyofascial release (MR) techniques. MR is a broad term used for manual therapy techniques applied by the therapists for many years to reduce fibrosis adhesions between the layers of fascia by applying pressure on the muscle and fascia (McKenney, Elder, Elder, & Hutchins, 2013). Fibrous adhesion is known as painful conditions that prevent normal muscle mechanics (Curran et al., 2008: 433). Fibrous adhesions usually occur when the fascia loses its elasticity and stiffens as a result of such conditions as disease, injury and inactivity (MacDonald et al., 2013: 814).

Athletes perform self-MR technique using various tools during SMR exercises. Foam roller equipments are among the most frequently used tools (Healey, et al., 2014: 62; MacDonald et al., 2013: 813; Peacock et al., 2015: 2311). Foam roller exercises have many acute and chronic effects. The best known are acute and chronic increase in flexibility, decrease in muscle pain, modulation of autonomic nervous system activity, and arterial and vascular endothelial function effects (Beardsley and Skarabot, 2015: 748; MacDonald et al., 2013: 813; Peacock, et al., 2014: 203). Although SMR exercises have many positive impacts, there is no clear consensus on the mechanisms of action. Studies are focused on the mechanisms of action on the fascia, yet there is not much clear information yet. Simmonds, et al. (2012) examined the mechanism of SMR exercises in two categories: mechanical and neurophysiological effects. Mechanical effects include thixotropy, piezoelectric, facial adhesions, cellular responses, myofascial trigger points and facial inflammation. Neurphysiological effects are related to the Golgi tendon organ

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and mechanoreceptors. Due to their positive effects on the fascia and practical-economical aspects that can be used in every training environment, SMR with foam roller are widely used by the athletes to avoid injuries and enhance sportive performance.

PURPOSE of STUDY

Literature reviews indicate that the duration of SMR exercises vary between 10 seconds to 2 minutes (MacDonald et al., 2013: 815; Mikesky, et al., 2002: 449; Peacock et al., 2014: 205). However, in practice, 30 and 60 second exercises are most frequently applied.

The purpose of this study is to explore the impact of SMR exercises performed at different times on well-trained female volleyball players' vertical jump performance and lower extremity flexibility. The hypothesis of the study is that "foam roller exercises performed in 30 and 60 second sessions have different effects on lower extremity flexibility and vertical jump performance".

MATERIAL and METHOD

Participants

18 well-trained female volleyball players who signed a voluntary participation consent form took part in the study. Bioethical committee agreement for the research conduction was received the medical ethics committee of the medical faculty of the local university (protocol number: 19/16) in accordance with the Declaration of Helsinki. Participation criteria for the athletes are as follows: exercising regularly for the past three months, exercising for at least eight hours a week and not having experienced a lower extremity injury or surgical operation that would affect the test results. In addition, it was noted that they did not have any health problems like diabetes, epilepsy, neurological or neuromuscular disorder that would prevent their participation in the test protocols explained in the details of the study. The athletes were asked to avoid exhausting physical activities, not to consume food and drinks containing caffeine and similar stimulants and, also alcohol at least 24 hours before the test sessions.

Study Design

The athletes completed the study protocol in three different days with 48 hour intervals to avoid possible negative impacts such as physiological, neurophysiological factors and fatigue during the study. The research protocol used a randomized crossover study design involving control (CON), 30 second foam roller (FR30) and 60 second foam roller (FR60) exercise. The protocols were performed at the same time of day (13.00-15.00) to reduce the effects of circadian rhythm on the results of the study. The same foam roller equipment was used in the [exercise] sessions (The Vyper Hyperice, USA). To teach the technique

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of foam roller exercises, all the athletes were provided training one week before starting the study.

Warm-up Protocol

In the study, the athletes performed a general warm-up on a peak bike (Monark Peak Bike, Sweden) with 74 watts (1.5 kg, 50 rpm) for five minutes before all exercises.

Control (CON)

1 minute after completing the warm-up protocol, the athletes performed jumping test. 3 counter movement jump tests were performed with hands on the waist at fifteen second intervals. 30 second after the last jumping test, a 3 sit-and-reach flexibility test was performed with 15 second intervals, and the average of the values was recorded.

Foam Roller Exercise (FR30 – FR60)

1 minute after the standard warm-up protocol, 30 sec foam roller exercise started. These exercises were bilaterally applied to hamstring, quadriceps, gluteal and calf muscle groups respectively (Figure 1) (Sağiroğlu, et al., 2017: 138). Both exercise sessions were performed in two sets with 30 second interval. During the performance, metronome was set to 40 bpm (Sağiroğlu, 2017: 25). 10 repetitions (rolling) were performed in 30 seconds in the FR30 session while 20 rolling exercises were performed in 60 seconds in the FR60 session. 1 minute after the exercises were completed, jumping test was performed. It was a 3 times counter movement jump test with hands on the waist with 15 second intervals. After 30 seconds from the last jumping test, a 3 sit-and-reach test was performed with 15 second intervals, and the average of the values was recorded.

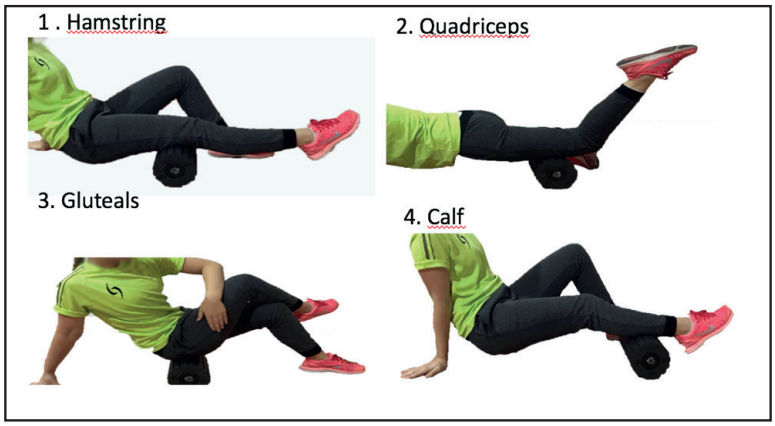

Figure 1. Foam roller exercises

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Counter Movement Test with Hands on the Waist

To determine the lower extremity explosive force of the athletes, the counter movement jump test was carried out. During the test, the jump height of the athletes was assessed using an accelerometer placed in the waist area of the athletes (Myotest Pro, Switzerland). The athletes immediately tried to jump as high as possible with hands on the waist as soon as they had squatted down so rapidly that the knee joint would be about 90 degrees (Sağiroğlu, 2017: 25).

Flexibility Test

The flexibility levels of the athletes were assessed using a sit-and-reach test stand (Artı Med Turkey). The athlete was instructed by the test manager not to bend her knees during the test and after holding on for two seconds at the farthest point she could reach, the score was recorded (Sağiroğlu, 2017: 25).

Statistical Analysis

IBM SPSS 20 package program (SPSS Inc. Chicago, Illinois, USA) was used for data analysis. Firstly, descriptive statistics of the athletes' independent variables were prepared. Then, the Shapiro-Wilk Test was performed to understand whether or not the data had a normal distribution. Both One-Way ANOVA Test and LSD post-Hoc test were used for statistical assessment between jump and flexibility data obtained after three different performances. The confidence interval was accepted as 95% and the error margin of 5% constituted the alpha value. The cases that p-value was smaller than the alpha value was accepted as significant ($p < 0,05$).

RESULTS

Descriptive statistical values of the athletes who participated in the study are indicated in Table 1.

Table 1. The Athletes' Descriptive Statistical Values (n=18)

	Mean	S.D.
Age (years)	21,16	1,15
Height (cm)	167	5,89
Weight (kg)	58,57	6,65
BMI ($m/^2$)	20,98	2,31
BF (%)	19,8	4,1
BMI: Body Mass Index, BF: Body Fat		

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Post-test flexibility values of the control, 30 second foam roller and 60 second foam roller exercises are indicated in Table 2. There was no statistically significant difference between the exercises.

Table 2. Post-Test Flexibility Values of the Control, 30 Second Foam Roller and 60 Second Foam Roller Exercises (N=18)

	Mean (cm)	S.D. (cm)	F	p
CON	9,79	7,98	0,060	0,942
FR30	10,68	7,12		
FR60	10,44	8,78		
CON: Control, FR30: 30 second foam roller, FR60: 60 second foam roller				

Post-test vertical jump values of the control, 30 second foam roller and 60 second foam roller exercises are indicated in Table 3. There was no statistically significant difference between the exercises.

Table 3. Post-Test Vertical Jump Height Values of the Control, 30 Second Foam Roller and 60 Second Foam Roller Exercises (N=18)

	Mean (cm)	S.D. (cm)	F	p
CON	30,13	3,26	0,468	0,629
FR30	29,38	4,05		
FR60	28,98	3,54		
CON: Control, FR30: 30 second foam roller, FR60: 60 second foam roller				

Post-test vertical jump speed values of the control, 30 second foam roller and 60 second foam roller exercises are indicated in Table 4. There was no statistically significant difference between the exercises.

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Table 4. Post-Test Vertical Jump Speed Values of the Control, 30 Second Foam Roller and 60 Second Foam Roller Exercises (N=18)

	Mean (cm/s)	S.D. (cm/s)	F	p
CON	219,66	27,84	0,552	0,579
FR30	218,86	21,62		
FR60	210,75	33,68		
CON: Control, FR30: 30 second foam roller, FR60: 60 second foam roller				

CONCLUSION

SMR exercise is an easily performed technique to reduce tension on soft tissues, fascia, tendons and muscles without reducing athletic performance, and to increase the range of motion of the joint. (Okamoto, et al, 2014: 69). Therefore, SMR with foam roller equipment are very popular among athletes.

There are contradictory results in literature on the effects of SMR exercises. The most significant reasons for these conflicting results can be as follows: the use of different SMG equipment in the studies, athletes' lack of experience in practice, the inability to exactly measure the pressure applied to soft tissue and variables such as application time and frequency. (Beardsley and Skarabot, 2015: 748). Clark, Lucett, and National Academy of Sports Medicine (2011) recommended 30 second exercise for high pain conditions and 60 second exercise for low pain conditions.

In their study on 11 athletically trained male subjects, Peacock, et al. (2014) compared the effects of dynamic warm-up and foam roller exercises on flexibility, power, strength, agility and speed performance. At the end of the study, it was stated that similar results were obtained for flexibility performance in both exercises while power, strength, agility and speed performance increased after foam roller exercise compared to the dynamic warm-up session. In another study, Behara and Jacobson (2017) compared the effect of dynamic stretching with foam rollers on hip flexibility, knee strength and vertical jump performance in college league American football players. According to the data obtained at the end of the study, there was no pre-test to post-test significant difference between vertical jump and knee strength values. However, it was found that hip elasticity values increased when tested after both exercises. Especially among the studies comparing foam roller exercises with static warm-up protocols, there are many studies indicating that there is no

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decline in power and strength performance as opposed to static stretching exercise while there is an increase in flexibility performance after foam roller exercises (Beardsley and Skarabot, 2015: 750, MacDonald et al., 2013: 818, Okamoto et al., 2014: 72, Peacock et al., 2015: 2314, Peacock et al., 2014: 210). In their study on 22 males, Jones, et al. (2015) found similar results for the effects of foam roller and dynamic stretching exercises on vertical jump performance and take-off velocity. Junker and Stöggl (2015) assigned 4-week foam roller exercise and proprioceptive neuromuscular facilitation (PNF) stretching exercise to 40 healthy males. At the end of the study, a similar improvement was found in hamstring flexibility in both exercise groups compared with the control group. They suggest that the increase in the flexibility performance after foam roller exercise may be due to a change in the thixotropic (liquid form) property of the fascia surrounding the muscle (Paolini, 2010). Fascia is composed of colloidal materials. When it is exposed to mechanical stress or heat with SMR exercises, it softens and becomes more fluid. When the stimulus disappears, it thickens again, its viscosity increases and it becomes stiffer (Lindsay and Robertson, 2008). Recent studies indicate that there is not a standard duration for SMR exercises, and it is proposed that the reason for obtaining contradictory results can be different exercise times preferred in the studies (Beardsley and Skarabot, 2015: 751; MacDonald et al., 2013: 814; Mikesky et al., 2002: 448; Peacock et al., 2014: 204; Sullivan and Silvey, 2013: 230). This study is the first to examine the effect of SMR exercises performed for different times (30 second and 60 second) on well-trained female volleyball players' vertical jump performance and lower extremity values.

When the results of the study were examined, similar to the studies in literature, no statistically significant difference was found in vertical jump performance between foam roller exercises and control exercise. However, as distinct from many studies, no statistically significant difference was found in flexibility performance as well between the control and foam roller exercises in the study. The reasons for this may be that the pressure applied to the fascia with foam roller may be insufficient or most of the subjects participating in the study did not have good lower extremity flexibility. Furthermore, the finding that both 30 second and 60 second SMR exercises do not have a negative effect on vertical jump and flexibility performance compared with the control group suggests that both times can be used by athletes. Thus, we can conclude that SMR exercises can be used as an alternative warm-up technique before competitions and training.

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Our Journal introduced its publishing activities in 2011. Publications are accepted from the fields accepted jointly by health sciences and sports sciences, especially including sports sciences. With the facilities brought by technology in today's conditions, our Journal entered into publication arena to meet the need for scientific studies, at least to some extent. It mainly accepts publications from such fields as sports sciences, sports education, sports medicine, history of medicine and ethics, nutrition for the athlete, athlete psychology, medical and biological sciences for sports, and "doping". Moreover, it accepts studies from the sub-branches of these scientific fields which are evaluated and assessed positively by referees expert in their fields. Studies which are included in the pharmacology, but are on athletes and athlete health are also accepted and evaluated in our Journal. Moreover, studies which are conducted in the field of forensic sciences for sports and athletes are accepted and evaluated in our Journal. Our Journal accepts and publishes studies which are originally scientific and will serve and contribute to the science world as well as research, collection and translation for these studies.

Our Journal publishes four issues every year, each of which is published as printed in the first quarter of the year. In line with the working principle, our Journal includes studies from all fields equally and fairly. Studies which come to our Journal are reviewed by two different field expert referees, and the time period of reviewing is two months within the scope of the workload of the referees. Studies approved by two referees are queued to be published as printed following the approval of the council of publication. Our magazine article writing rules should be prepared according to the examples in the journal website. Editorial office is responsible for all kinds of system of the Journal, no referee or author hold the responsibility of it. Authors have the right to publish in line with their independent will and knowledge, and they are regarded as accepted all the responsibility of studies which are accepted for publication and published. Our Journal serves as a bridge between publishers and readers. Our Journal and referees who review publications do not have any legal obligation for the published study. All kinds of obligations belong to authors. Our Journal does not have any impact and forcing sanction on referees in terms of publications. No study has any priority against another. Each study is subject to the same conditions and requirements. It does not have a priority or privilege. No author can have information about the referee who review and create an obligation on referees. Journal management and editor cannot decide that a study or author is priority. The system is operated with the same conditions and requirements for each study and author. Our journal writing language is English.

Our Journal is international and accepts studies with such qualities. Studies which have been sent to another journal for any reason are rejected even if they have been accepted to be published in our Journal, provided that a refutation is issued. Rights of a study which has been sent to our Journal have been given by the author to the Journal. It is regarded that the author has accepted it in advance. Such conditions and requirements begin to be operated once the publication is uploaded on our Journal's system. No special declaration or signature is requested from authors in this regard. In cases of legal problems occurring or likely to occur, legal advisors of our Journal reserve unilaterally the right to take all actions to protect our Journal and its referees.

The Article No. 101 has been brought as the condition to Apply for the Exam of Associate Professorship in the Main Area of Health Sciences by T.R. Head of Interuniversity Council. In this article, 1- (b) section of the international article part states that Original research articles (10 points) published in the journals indexed by international field indices (the journals in the indices apart from those specified in 1a) are required. International Refereed Academic Journal of Sports, Health and Medical Sciences (SSTB) is included in the criteria for the journals indexed in its field and evaluated accordingly.

INFORMATION FOR AUTHORS

1 The language of the journal is English. Original researches, analyses, compilations, case studies, projects and book launches are accepted (they must be in an article format).

2 If the editorial board and the administrative board approve the papers prepared in different languages, it is accepted. The journal acts unilaterally.

3 The journal has a printed and electronic version. The articles are downloaded from the website and the relevant manuscript can be used on condition that it is referred to our journal and "article". The readers can have an access to all volumes of the journal for free on the website.

4 Papers are accepted on condition that the author is registered to be a member of the journal.

5 None of the authors can assert legal rights on the journal.

6 The journal cannot be held ethically and biostatistically responsible for the papers; however, the author himself/herself is unilaterally responsible for the articles. Our journal cannot be put under an obligation. Author(s) must get the relevant approvals and inform the journal management for the articles requiring ethics board or institutional approval. The information of the papers requiring ethics board and institutional approval should be entered into the system by the responsible member author while uploading the article. In case of a problem, author(s) are unilaterally held responsible. Our journal never accepts liability in any matters.

7 The papers, submitted to the journal, should not have been sent to another journal previously and under consideration of another journal for publication simultaneously. Also, if it is determined that an article sent and processed in our journal has been in the publication process at the same time, our journal unilaterally reserves its legal rights against the relevant author(s). If such cases occur, the article is rejected on condition that refutation is published and the journal imposes the required sanctions on the author(s).

8 Each study is evaluated by the two referees, and the approved papers by the two referees are saved to be published in the following issues. Evaluation period of papers is three months according to the responses of referees. The papers that don't yield any response regarding the evaluation within three months are directed to another referee. In this case, a time extension is in question and a demand cannot be raised. The author cannot claim any right or withdraw the article from the system. The manuscripts in the referee evaluation process must be analyzed in terms of plagiarism and they should be sent to us and uploaded to the

system in line with the scientific ethical rules. In case it has been determined that the articles published in our journal don't comply with the scientific ethical rules, we reserve our legal rights against the relevant author(s).

9 None of the studies and authors has privileges in the journal. Each author and study has the same rights and they're equal. No privilege is granted.

10 The names of the referees-experts in their fields will not be revealed to the authors. Information concerning the authors is known only by the system manager and the editor. It is kept confidential.

11 The papers uploaded to the system are first evaluated by the editor. A correction demand can be raised by our editorial board for the manuscripts not complying with the spelling rules. The articles edited in line with the spelling rules are sent to referee evaluation. The corrections demanded by the referee can be seen on the system by the relevant responsible author with the membership information and the correspondent author is informed via the system by e-mail. Every referee has the right to claim correction three times for a paper. If the correction isn't still made after three demands, the paper is automatically "REJECTED". The papers corrected in accordance with the referee suggestions are "ACCEPTED" or "REJECTED" after being evaluated by the editor again. The correspondent author is informed via the system by e-mail. The paper can be REJECTED with the decision of chief editor even though it has gone through the referee approval. All rights belong to the chief editor in this matter. None of the author(s) can impose a sanction on the decisions of chief editor or raise any demand.

12 If the article is produced from the thesis, presentation, and so on, it should be stated and explained in the footnote. Otherwise the author is accused of plagiarism. In that case, the journal cannot be held responsible for this situation.

13 If the paper is not within the scope of the journal, it is the editors and the administrators who will accept or reject the paper unilaterally. The author cannot assert any legal rights.

14 The uploaded study belongs to the journal with its exclusive rights by author(s). For this reason, it is not necessary for the author(s) to sign any other documents. The studies uploaded to the system are regarded as being transferred to our journal with all rights. If necessary, author(s) can be demanded a transfer contract with wet signature.

15 In the articles evaluated in our journal, the correspondent author is regarded as the addressee; other authors are not communicated and informed. The journal is not supposed to give information to other authors.

16 The referees act independently in the journal. Authors cannot exercise power over the referees or cannot demand anything from the referees.

17 The journal publishes four times a year in March, June, September and December. However, there might be changes in the periods depending on the publication process. The journal cannot be held responsible for this.

18 Following the evaluation process of the papers, the referee report can be seen on the system and sent to the correspondent author by e-mail. After completing the two-referee evaluation process, correction demand can be made via the system by e-mail. The corrections made before that cannot be allowed in the system. The edited paper should be uploaded again with the registered ID number. The authors should make the required corrections in 15 days. If the corrections are not made within 15 days, the article is rejected by the system automatically. None of the authors can impose sanctions on the journal in this case.

WRITING RULES OF THE JOURNAL

- The bibliography is arranged according to the Turkish alphabet order. The sample article for the writing rules and preparation of papers can be found on our website in Word format. All authors are required to take into account the writing format in the last volume of the journal.
- The main text of papers, abstract, tables and footnotes that will be sent to the journal must be written in MS Word Program, with Times New Roman in 12 pt. and single spaced.
- Page layout must be with 3 cm margin in the top, bottom, left and right.
- Texts must be between 15-20 pages, they must be no longer than 20 pages and page number must be indicated at the bottom of the page. Annex documents, tables, figures, charts and similar materials aren't included in the number of pages.
- Page layout must include the titles, abstract and tables written in one column, the main text and the references should be given in two columns, justified and without indentation, spacing 12nk below the titles and paragraphs. Extended English Abstract must be provided after the references in 12 pt. and one column.
- On the first page, Özet and Anahtar Kelimeler in Turkish must be below the Turkish heading, Abstract and Key Words must be below the English heading. Abstract in Turkish and English must be no longer than 150-200 words in 12 pt. Sub-headings must include Abstract, Aim, Method, Findings, Conclusion and Key Words. Anahtar Sözcük(Ler)/Key Words must be given in 3-7 words below the Abstracts by capitalizing the first letters of each word. In addition to this, key words must be written in the space provided by the system by capitalizing the first letters of each word and by separating each word by comma. It is necessary to choose the Turkish keywords according to "Türkiye Bilim Terimleri" and English key words in accordance with the "Index Medicus Medical Subject Heading (MeSH)" standards (http://www.bilimterimleri.com).
- If the article has been presented in a conference, the title of the conference, the date and the place of the conference and the type of the presentation must be provided below the "Author's note," after the References part. For example, Author's Note: This study has been presented at "1.Ulusal Ana Çocuk Sağlığı Kongresi," on 19-20 December 2014, in İzmir as an oral presentation.
- The names and the affiliations of the authors must not be given on the text below the title; this information must be uploaded to the system on the website.

- It should be stated that research articles have been prepared according to the scientific ethical principles and ethical board report information (Name of the institution from which report is received, its date and the serial number of report) must be added to the system. It is also necessary to scan the ethical board's report and the institution's permit document and to send to our editorial office via e-mail. For the papers without ethical board report, a signed document indicating that it doesn't have the ethical board report must be sent to the editorial board via e-mail.

- The main text must include such parts as Introduction, Method, Findings, Discussion, Conclusion, References, Acknowledgement (persons and institutions not participated in the study but contributed to the development of the study should be acknowledged here) and Extended Abstract. Extended English Abstract must be 750 words and more. Extended abstract must be prepared apart from Turkish abstract. It must be added to the paper after the references. The title (Extended English Abstract) must be written in capital letters, bold and centered, and the text must be justified without indentation, in 12 pt. and one column. Below the titles of Definition and Importance (references can be given only in this part), Aim, Method, Findings, Results and Conclusion, data concerning the article must be provided.

- Tables and figures must be placed in the text appropriately. Numbers and headings of tables/figures must be above the table; sentence case must be used in 12 pt., bold and justified. There must be a full stop between the table number and heading. Tables must only contain horizontal line. Each table must be referred to within the text. Items in the table must be in 1 line spacing and 12 pt. Explanations of the tables must be indicated below the table in 10 pt. and by putting * before it. E.g.: *Saraçoğlu, 2004:416-21.. Explanations about the abbreviations must be stated below the table and figure by using "*,**" or "a, b" in 12 pt. The number of tables and figures must be no longer than 6.

- Reviews must incorporate Turkish and English Headings, Abstract, Text, References and Extended English Abstract. Text should include a structure within a purpose, Conclusion parts must be completed. Headings, Abstract must be in one column; Text, References and Extended English Abstract must be in two columns, justified without indent and with 12 nk spacing in heading and at the end of the paragraph. Extended English Abstract must be 750 words and more. Extended abstract must be prepared apart from Turkish abstract. It must be added to the paper after the references. The title (Extended English Abstract) must be written in capital letters, bold and centered, and the text must be justified without indentation, in 12 pt. and one column. Below the titles of Definition and Importance, Aim, Method, Findings, Results and Conclusion, data concerning the article must be provided within the Extended English Abstract.

- Case reports must include Turkish and English headings, Abstract, Introduction, Case Report, Discussion, References and Extended English Abstract. Headings and Abstracts must be 12 pt. and in one column; Introduction, Case Report, Discussion, References must be 12 pt. and in two columns justified without indent and with 12 nk spacing in heading and at the end of the paragraph. Extended English Abstract must be 750 words and more. Extended abstract must be prepared apart from Turkish abstract. It must be added to the paper after the references. The title (Extended English Abstract) must be written in capital letters, bold and centered, the text must be justified without indentation, in 12 pt. and one column. Below the titles of Definition and Importance, Aim, Method, Findings, Results and Conclusion, data concerning the article must be provided. Reports can be supported with photos and flow charts. Necessary permissions must be taken for photos and flow charts and references must be indicated in 10 pt. with "*". E.g.: *Saraçoğlu, 2004:416-21.

REFERENCES WITHIN PAPER

- The sample article in the system must be used for citation rules. In other words, references are indicated with the name of author, the year of publication and page numbers in parentheses beside the main text (Surname, Year of Publication: Cited Page Number).
- Footnotes of extra explanations about the content and other explanations must be given below the page. Notes numbered in the text are located below the page by numbers with the explanations.
- Citations made from a source are indicated between double quotes in the text.
- Citations longer than 30-40 words are given as an indented paragraph without using quotes.
- While providing references, if the name of the author isn't within the text, the surname of the author and date of publication and the cited page are indicated in parenthesis: (Korkmaz, 2007: 23-45).
- If the name of the author is in the text, only the publication date of source and page number is given in parenthesis: Oskay et al.. (2005:36) in his/her study…….
- In sources with two authors, the surnames of both authors are indicated. If it is an English publication, it is separated with "and" (Morley and Robins, 2007:20).
- If it is Turkish, in sources with more than two authors, "vd." is indicated: (Yücel vd., 2012:236).
- If it is English, in sources with more than two authors, "et al." is indicated: (Hossain et al., 2007:156).
- If more than one study from the same author published in the same year must be used, the sources are separated by adding the letters like a, b, c: Such as (Ortaylı, 1999a:25) (Ortaylı, 1999b:43).
- If more than one source about the same subject is cited within the text, sources are separated with a semicolon: (Geray, 2005:33; Moran, 2006:36).

WRITING REFERENCES

- Only the sources cited in the text must be included in the references and those sources must be put in order alphabetically by the surnames of authors. If more than one study belonging to the same author is included in the references, it must be sorted by the date of publication (from old to new).
- If the number of the authors is 6 or less, all the authors must be listed, if it is 7 or more, the first 6 authors must be listed and “vd.”, for Turkish articles and “et al.” for English articles must be used. After the last author, “&” must be used before “vd.” or “et al.”
- Anonymous writers from Internet sources must not be cited.

*** BOOKS**

SEVİL, Ü., YANIKKEREM, E., (2006). Kadına yönelik aile içi şiddet. İzmir, Türkiye: İzmir Güven Kitabevi, ss.36-66

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TAŞKIN, L., YANIKKEREM, E., (2014). Aile planlaması. İçinde Kadın Sağlığı Hemşireliği, 12. Baskı, Ankara, Türkiye: Özyurt Matbaacılık, ss.527-545

SEVİL, Ü., YANIKKEREM, E., (2008). Adölesan dönemi. İçinde A. Şirin (Ed.), Kadın Sağlığı , İstanbul, Türkiye: Bedray Basın Yayıncılık, ss.57-90

BAYIK, A., SEVİL, Ü., (2004). Hemşirelik disiplini ve araştırma. İçinde İ. Erefe (Ed.), Hemşirelikte Araştırma İlke Süreç ve Yöntemleri, 3. Baskı, İstanbul, Türkiye: Odak Baskı Ofset, ss.13-26

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EGELİOĞLU, N., MUSLU, G.K., ŞEN, S., GÜNERİ, S.E., BOLIŞIK, B., SARUHAN, A., (2014). Ege Bölgesinde doğum sonu dönemde uygulanan geleneksel uygulamalar. Uluslararası Hakemli Hemşirelik Araştırmaları Dergisi (UHD), 1(1):22-35. Doi: 10.17371/UHD.2014018935

ÖZCAN, B., KOCAMAN, H., (2016). Eşler Arasındaki Yaş Farkının Boşanmalar Üzerindeki Etkisi, ACED Dergisi, 10:1-17 Doi: 10.17359/ACED.20161024262

ŞEN, E., GÜNERİ, S.E., YANIKKEREM, E., HADIMLI, A., KAVLAK, O., ŞİRİN, A., et, al., (2012). Determination of knowledge requirements and health practices of adolescent pregnant women. International Journal of Caring Sciences, 5(2):171-178

PUBLICATION PRINCIPLES

1 Papers which are submitted to the journal for publication are expected not to have been published somewhere else, not to be in the evaluation process of another publication organ. If it is determined that the manuscript uploaded by the relevant author(s) has been sent for evaluation or REJECTED by another journal, we reserve all kinds of legal rights about the relevant author(s).

2 Papers outside the accepted disciplines and fields in our journal are rejected. The accepted fields are stated under the "DISCIPLINES" title of our journal. None of the papers outside these fields can be published or requested to be published in this journal.

3 The content and scientific responsibility of the papers cannot be imposed on the journal under any circumstances. The whole responsibility belongs to relevant author(s).

4 In articles with more than one author, the correspondent author is the one who ranks first. Or the member uploading the paper to the journal accepts and has to accept the whole responsibility.

5 The abstract should be prepared both in Turkish and English and between 150 and 250 words. The title should also be both in Turkish and English. The purpose of the paper, scope, method, limitations of research, findings and conclusion should be included in Turkish and English parts.

6 If the paper has been prepared from such organs as thesis, book etc., it should be stated at the end of references part with "Author's Note" by referring to the first title. If the paper has been prepared from a master's or doctoral thesis, the name of the advisor should be ranked in the second place. If the thesis advisor doesn't want to see her/his name in the relevant paper, our journal should be informed about this situation with a document. It should be a document with wet signature. Our journal and management doesn't have such a liability to question author(s) about the source of papers reproduced from thesis or another paper. The whole responsibility belongs to author(s). The author(s) already accept these conditions.

7 Sources used in the works must be prepared according to the appropriate template of the journal. This template is presented to all author(s) as a Word file on our website. Besides, the last volume of our journal should always be taken into account. Our journal and management unilaterally belongs the right to change these criteria in line with their own demands.

8 Every paper evaluated should get the approval of two referees. If one of the referees has rejected and the other one has approved, the editor sends the paper to the third referee. In

line with the opinions and suggestions of the third referee, editor acts in accordance with her/his own authority. Chief Editor of the journal unilaterally reserves the right to REJECT even if the paper has been approved by referees. In this case, none of the author(s) can claim a right or demand. All kinds of management, practice and procedure belong to the chief editor of the journal. The relevant paper prepared in English is evaluated by the English language editor. Also, every paper is evaluated in terms of the writing rules of our journal by the technical editor. If the English language editor decides that the paper is inappropriate for our journal, the authorized person who will REJECT or amend this decision is the chief editor. Language editor and technical editor don't have the right to REJECT. They transmit their suggestions to the chief editor and the chief editor unilaterally applies the decision in line with the demands and suggestions. Field editors transmit their opinions regarding evaluation and publication of the papers uploaded to the system to the chief editor. The chief editor acts with her/his own authority in line with the opinions and suggestions of field editors. Major or minor corrections can be made after the evaluation of papers. Author(s) are requested for corrections THREE times. If the corrections aren't made after three demands, the article is rejected after the chief editor is informed by the system editor. The manuscripts uploaded to the website are first analyzed by system editor or technical editor before sending to the referee. This analysis is performed within the framework of spelling rules. System or technical editor informs author(s) about the necessary demands. If these demands aren't satisfied, the chief editor is informed about the result. Chief Editor makes the final decision according to the information. This decision is unilaterally up to the chief editor either in a negative or positive way. None of the institutions and individuals has the right to impose sanction on the decision made.

9 English and Turkish abstracts should be written in Times New Roman with 12 pt. All author(s) are obliged to act and arrange their papers in accordance with the sample article format on our website.

10 The names of the institutions of author(s) should be written in 12 pt. and italic with Times New Roman. It is stated in the sample article format.

11 The paragraph spacing of the whole manuscript should be single spaced.

12 The references should be stated in a way that the reference is italic and the name and author's surname rank at the first place just like in the sample article. For example; ***Yılmaz, A., Güven, M., (2017). İşletmelerde Sağlık Yönetiminin Önemi, …… Dergisi, Sayı: 1, Cilt: 1, ss.1-2*** The references should be indicated within the text as (Yılmaz, 2017: 1-2) or (Yılmaz, ve diğ., 2017: 1-2). Internet resources are never used within the text. These sources are numbered and indicated at the bottom of the page. The citations

made from such internet resources as Wikipedia should never be used. If such use of resources is determined, the manuscript is unilaterally REJECTED. None of the author(s) can impose a sanction and raise a demand on our journal in this matter.

13 The internet resources should be indicated in the references part under the title of "INTERNET RESOURCES". The link should be included in the resources and the Access date should be after the link like "E.T. 01.01.2017).

14 Typesetting and editing of the paper should be in accordance with the sample article format on the website and the references within the text must be prepared as per the sample article.

15 The current papers are uploaded to the system by the author being the member of the system step by step. The paper uploaded is sent to the relevant field editor by the system manager and asked for approval for referee evaluation. If there are more than one author name in the paper, this information should be inserted in the system together with the names and institutions of author(s) while uploading the paper to the system. Our journal and management never accepts responsibility regarding the problems that may arise about the names and institutions of authors related to the article. This information must be unilaterally inserted in the system by author(s). Our journal and management aren't responsible to insert this information to the system. Our journal and management only take into account the information uploaded to the system by author(s).

16 The language of our journal is English. However, the papers prepared in different situations and principles are accepted in other languages. In this case, the publication board unilaterally reserves the right to use initiative or reject. Relevant author(s) cannot be effective or impose sanction on our journal in this matter.

17 The author cannot decide on which referee will evaluate the paper and won't know the information of the referee making the evaluation. After the referee evaluation of the relevant paper, the correspondent author who accepts the responsibility in uploading the paper to the system is informed via the web system. The e-mail address in the journal system should be valid and correct. The member author is unilaterally responsible for any delay and problem that may arise about the authors whose membership information isn't valid and correct in the system. Our journal doesn't address comments to other authors. The member author who uploads the paper to the system is the addressee and the responsibility belongs to the relevant author. If the paper is uploaded to the system by someone else whose name isn't in the paper, the relevant member becomes responsible for this situation. Our journal and management are never responsible for possible problems. All kinds of correspondences and information related to the article are directed to the member author. Our journal isn't supposed to inform other author(s).

18 Information about the authors and the materials of communication are confidential and it is only known by system manager and the editor. Therefore, authors don't have such a right to ask for referee evaluation or any other demand. Information on referees and authors are only shared with the system editor, technical editor, chief editor and the field editor.

19 The number of pages uploaded to the system is 20. This number can increase according to the subject of the paper. Annexes and tables can be excluded from this number. However, publication board, field editor and the chief editor unilaterally reserve their right to make a positive or negative evaluation. Author(s) cannot claim a right in this matter.

20 Our journal is an "e" electronic journal but is also published in paper version. Individuals who would like to get printed version of the journal can obtain it by paying the necessary fee to the relevant printing company. Our journal does not have to provide printed version of the journal to any author or individual. Annual membership fee should also be sent to relevant printing company for works sent to our journal. A reasonable amount of fee is requested from the author of the paper approved for publication considering the journal expenses and according to the conditions of that time. The relevant author or the person who makes the payment is sent a receipt about the payment by the beneficiary company.

21 Evaluation process of works uploaded to the system is two months. Works which are not evaluated within this period of time and about which information report is not received are sent to a different referee. Author(s) cannot claim a right on our journal and management because of this delay. It is out of question for the papers being in the referee evaluation process to be withdrawn from the journal under any circumstances.

22 Our journal publishes four times a year. The journal and publication board has a right to publish special issues. This is up to the initiative of journal management.

23 Publication and copyright of published papers belong to our journal. Publication right of every paper uploaded to the system is automatically transferred to the journal. The responsible author approves the transfer contract created at the same time with the button on the website while uploading the paper to the system. None of the authors are requested to sign the copyright agreement for this procedure. Journal management has the right to demand transfer agreement with wet signature if required. The papers being in the referee evaluation process cannot be withdrawn from the publication. A valid reason should be indicated for the papers that are withdrawn. Otherwise, legal action is unilaterally taken against the relevant author(s). Author(s) approve these conditions in advance for the paper uploaded to the system. None of the author(s) have a right to object.

24 Relevant author(s) are supposed to insert the ethics board or institutional approval while uploading the paper to the system if necessary. The whole responsibility unilaterally belongs to author(s) in case of a possible problem if the information of papers for which ethics board or institutional approval is required isn't inserted in the system or the journal management isn't informed. Our journal is never asked to accept such a responsibility. Our journal and management doesn't have to ask or monitor this information.

IT IS CONSIDERED THAT ABOVEMENTIONED 24 ITEMS OF PUBLICATION PRINCIPLES GUIDELINE ARE ACCEPTED BY AUTHOR OR AUTHORS WHO ARE INVOLVED IN THE SYSTEM. NO AUTHOR HAS THE RIGHT TO OBJECT TO THESE PRINCIPLES. OUR JOURNAL HAS UNILATERAL RIGHT IN TERMS OF PUBLICATION PRINCIPLES, AND PUBLISHING, EVALUATION OR REFUSAL OF WORKS. THIS RIGHT CANNOT BE CHANGED UNDER ANY CIRCUMSTANCES AND CONDITIONS. OUR JOURNAL HAS THE RIGHT TO USE ITS LEGAL RIGHTS WITHIN THE FRAMEWORK OF RELEVANT LAWS AND LIABILITIES IN CASE OF AUTHOR/AUTHORS WHO DO NOT ACT IN ACCORDANCE WITH RELEVANT PRINCIPLES AND RULES. EVERYBODY WHO IS INVOLVED IN THE SYSTEM HAS AUTOMATICALLY AGREED ON THESE POINTS IN ADVANCE.

FREQUENTLY ASKED QUESTIONS

1 Is your journal a refereed and international journal?

Our journal is a refereed, scientific and international journal. It is indexed by many international indices.

2 Which fields are accepted in your journal?

Only the papers in the fields accepted by the journal are approved.

3 Does your journal charge any publication fee?

A certain amount of fee is requested per the manuscript accepted for publication in return for some expenses. There is no such demand for the rejected papers.

4 Are the readers allowed to access to the volumes and the articles without being a member of the journal?

All the volumes can be downloaded from our website in pdf format without being a member.

5 What is the publication frequency of the journal?

The journal publishes three times a year; the volumes with full texts are uploaded to the system at the end of April, August and December. However, some special issues can be published in some cases.

6 Are the authors informed about the evaluation process of the submissions?

The journal is web-based, and the authors can follow all kinds of information concerning their submissions from the membership panel of the system. The authors will also be provided with the necessary information about the process and procedure.

7 How many referees evaluate a manuscript?

Manuscripts are firstly evaluated by the field editors and then the ones found appropriate are sent to the referees by the field editors. Field editors send the approved papers to two field referees and referee evaluation process begins. This process takes two months at most according to the referee evaluation. If evaluation reports are not received within three months, the article is sent to the third referee. If there is still not any progress, field referee, and the editorial board decide on the publication process.

8 Is any information concerning "the author and authors" confidential?

In this journal and all the international refereed journals, information, concerning the author(s) is known only by the system editors, field editors, chief editor and assistant chief

editors. This information is completely kept confidential. The referees or members of the journal are not allowed to access to the relevant information.

9 Are there a certain number of articles to be published in the journal?

There are not a certain number of articles in the journal. Each article, approved by the referees and the editorial board, is accepted to be published in the journal without delay and sent for the layout process which is the final stage.

10 Is an author allowed to submit more than one paper in the same issue?

It is out of the question in terms of ethics. However, more than one manuscript of the same author can be published in the same journal or the following issues if the publication and editorial board approve the articles. But this situation is only valid for specific cases and those requiring initiative. This case is only valid for special conditions and those requiring initiative.

11 Is there sufficient number of referees in all the fields that the journal accepts articles?

All the submissions sent to our journal are subjected to evaluation by expert academicians and scientists and referees are not getting paid for the evaluation they make. Evaluation and reports are only on a volunteer basis.

12 What is the duty of the science and advisory board?

The science and advisory board is responsible for solving the incompatibility problems that the referees experience; the board gives the final decision independently, and they act actively to solve such problems. The decisions of the science and advisory board are accepted without questioning. The decisions are applied accordingly. Their decisions cannot be changed and offered to be changed.

13 Is an author allowed to submit his/her paper to the science and advisory board in a negative situation?

This situation is out of the question. Functionality of science and advisory board occurs only with the approval of the editor-in-chief.

14 If an author submits her/his paper simultaneously to another journal for consideration, and the paper is accepted in that journal too, what kind of procedures is taken?

The executive board and editorial board give the final decision in such cases. As the publication board does not regard such attitudes as ethical, even if the paper has been published, it is removed from the system on condition that refutation is published, necessary institutions are informed, and the rights are reserved. However, in order to avoid such problems, the guidelines for the authors should be read carefully and the appropriate papers should be submitted. Our journal's all rights are kept reserved under the guidance of journal's

legal advisors within the framework of Turkish Commercial Law and Law on Intellectual and Industrial Rights in such negative conditions. It defends its material and moral rights within the framework of Laws of Turkish Republic.

15 Does your journal accept papers from other languages?

Currently, the language of our journal is Turkish and English. However, studies in English and other languages are also accepted.

16 Is an author allowed to get information about referees evaluating her/his paper?

It is out of question. The names of the referees will never be revealed to the authors even if they want to learn. The author cannot recommend a referee for the paper s/he sent. Only the editor-in-chief, assistant editors, field editor and system editor can decide on this. It is also out of the question to assign a referee outside those boards and to give information.

17 Is an author allowed to give a name of a referee that s/he does not want her/his paper to be evaluated by?

If such a problem occurs, and the referee is in the journal list, on condition that the process is confidential, the author should submit the necessary explanations and reasons in an official document to the editor-in-chief. If this is approved by the chief editor, necessary steps are taken; otherwise, common procedures and standard working are carried out.

18 Is an author allowed to suggest a referee to contribute to the evaluation process?

It is out of question. The field and system editors decide on the issue. Authors cannot interfere in this process.

19 Are the authors to sign the transfer agreement or publishing transfer contract?

This situation is stated on the main page of the journal in the section titled publication principles. All the submitted papers are accepted to be transferred to the journal with exclusive rights. The author is not asked to **sign the document** concerning the submission. However, in some cases the author should sign the contract, required by the field editors or administrative board and submit it to the chief editor officially. Otherwise the paper will not be published.

20 Is an author allowed to withdraw his/her paper when desired?

If the evaluation process has started, papers cannot be withdrawn. The paper can only be withdrawn in case of plagiarism and scientific disquality and if the author sends an official letter, explaining the situation to the chief editor. The journal acts unilaterally in this issue.

21 What is the process in papers requiring the approval and report of ETHICS BOARD?

As in "Media Organs" of National and International journals, author(s) has to upload "Date of Report", "Report Information-Report Number" to "Ethics Board Report Information"

part of the publication submission system of the journal in “EXPERIMENTAL, CASE STUDY and INSTITUTIONAL” works requiring ETHICS BOARD approval and report. The chief editor has the right to ask for the original report if deemed necessary with an official approval of the institution. In such cases, if the chief editor doesn’t get the ethics board report despite the request made, the manuscript cannot be included in the system and published even if it has obtained referee approval and completed the publication process. The paper is rejected with the decision of chief editor and other editors. In this case, author(s) cannot make a demand for right. This information isn’t necessary for the papers not requesting ethics board report or being lack of this report. However, this information should be uploaded to the system by author(s) for the papers requesting and having the ethics board report. Author(s) are held responsible for this situation. Our journal doesn’t accept any liability and responsibility regarding this matter. The whole responsibility in legal process belongs to author(s). Otherwise, our journal cannot bear any legal, spiritual and material responsibility. Journal management and referees cannot be imposed any liability in this matter. In case of a possible negative condition, our journal unilaterally reserves its legal rights.

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