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Message from the Editor

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October, 2017
Prof. Dr. Metin YAMAN
Editor in Chief

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AN EVALUATION OF TURKISH POLICE OFFICER'S VIEW ON VIOLENCE IN FOOTBALL AND HOOLIGANISM

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ABSTRACT

The purpose of this study is to reveal the view of Turkish police officer on violence in football and hooliganism with the case of Mugla province. A universe of the study consists of police officers working in the Riot Police Unit who are tasked with providing the security for football events and other sport events. 70 police officers working for Mugla Provincial Riot Police Branch Office constitute of a sample of the study.

In this research, "The Questionnaire of A View on Hooliganism" comprising 35 questions and developed by Celik in 2007 with the purpose of finding out the riot police officers' demographic information, participants' opinion concerning current laws and regulations, a prevention of spectator's aggression, a coordination with other security units and institutions, practices in the stadium, educational subjects and solution recommendations is conducted as a data collection tool. A validity of the questionnaire has been tested and Cronbach's alpha coefficient has been calculated as 0,83.

The collected data has been analyzed using SPSS 14 package program. Frequency, percentage and avarage is used for analyzing socio-demographic profile of subjects.

According to the analysis, the violence in the stadium originating from irresponsible spectators is accounted for 84%, and the role of media has 48%. From the views concerning current law and regulations, 55% of the subjects reply "partially sufficient". 68% of them states that a security of the event should be transferred into private security services. 84% of the subjects indicates that it should be extra payment as long as police officers are tasked.

To conclusion, participants indicate that the current "A Violence in Sports Law" is not literally address the needs, it should be pursued different policies concerning the prevention of spectators' aggressions, a coordination with other institutions and especially with judicial authorities is not ensured, a security in the stadium should be provided by private security services, police officers are indifferent towards improvements and alterations in the safety of sports, and they are not educated enough in this field.

Key Words: Sports, Football, Violence, Hooliganism, Police officer.

INTRODUCTION

Football is the most popular sport and has the greatest amount of fans in the World(Üstünel ve Alkurt, 2015). On the other hand, football, as a sports branch, is regarded as a phenomenon displayed elements of violence. Violence situations are so severe that it has caused nations to fight against each other. Besides, it has led many people into death and serious personal injury.

The word "aggression" is derived from a Latin word meaning "moving to a direction". It also consists of adopting a particular attitude, reacting, and causing destruction (Koknel, 2000; Oda, 2014, p. 28). In addition, aggression can be defined as disturbing attitudes that an individual reveals to himself or to others; it can also be defined as an alternative way of behaving in order to protect oneself from dangers (Nair, 2014, p. 3). Again, aggression can be identified as physical, verbal, and any other kind of behavior caused by hostile attitudes like anger, fear, frustration, and targeting to protect oneself from harm(Koc, 2011).

Football hooliganism, once known as the 'British Disease', has been for many years a major cause for concern throughout Europe – particularly in Germany, Holland, Italy and Belgium, as well as in the UK. Substantial disturbances at football matches have also been witnessed in Greece, the Czech Republic, Denmark and Austria. Recent debates in the European Parliament and at national government level in many EC countries have highlighted a growing sense of frustration about our apparent inability to curb or redirect the anti-social behaviour of a minority of football supporters which constitutes the problem. And the spectre of 38 dead Juventus fans in the Heysel Stadium continues to haunt any debate about the causes and the cure of football violence(Carnibella et. al., 1996).

As a form of behaviour, the disorderliness of football fans that has come to attract the label, "football haliganism", is complex and many-sided. In popular usage, for example, the label embraces swearing and behaviour which, in other contexts, would be excused as simple "high spirits" or "horseplay". In fact, many of the fans who are arrested in a football context have only engaged in such relatively minör misdemeanours. Football holigan confrantations take a number of different forms and they can take place in a variety of contexts besides the football ground itself. They can, for example, take the form of hand-to-hand fighting between just two rival supporters or between two small groups of them. Alternatively, they can involve

up to several hundred fans on either side. In the most serious incidents, weapons-lighweight and easily concealed vorkman's "Stanley knives" are favoured at the moment – are sometimes used. Football holigan confrontations can also take the form of aerial bombardments using as ammunition missiles that range from innocuous items such as peanuts, bits of orange peel, apple cores and paper cups, to more dangerous, even potentially lethal ones, such as darts metal discs, coins, broken seats, bricks, slabs of concrete, ball bearings, fireworks, smoke bombs and, as has happened on one or two occasions, crude petrol bombs(Dunning et. all, 1986).

According to Benyon (1992) there are many problems facing police forces of the European Union in establishing effective procedures for cooperation because of the large numbers of different law enforcement agencies, the rivalries and jealousies between and within agencies and the different approaches and perceptions of what policing is and how a policing agency should function. In addition, the existence of diverse cultures and traditions in each country and incompatible police communications and procedures added to quite different legal systems and organisational structures further complicate cooperation. Benyon et al. (1994: 61) name cooperation in the field of football hooliganism as an example of micro level cooperation. However, this micro level cooperation takes place within procedures, measures and resolutions agreed upon at the macro (European Convention on Spectator Violence and Misbehaviour at Sports Events and in particular at Football Matches, Council of Europe: 1985) and meso levels (EU Handbook for international police co-operation and measures to prevent and control violence and disorder around football matches, first version 1999)(Adang, 2012).

In this context, the issue of violence in sports and hooliganism, as social problems requiring to be studied, has been keeping up to date in Turkey and many countries. While a hooliganism case appears as an alcohol-induced and bullying-related phenomenon in Britain and many of European countries, it shows up in Turkey as an aggression associated with unemployment and lower education level. Many researchs base the cases not only on just a single reason but also on multiple reasons comprising mass media, referees, club managers, cheerleaders, fans' leaders, irresponsible spectators, trainers and football players. Within all of this reasons, lack of education is incontrovertible. Unfortunately, in Turkey, a matter of

violence in sports and hooliganism falls behind matters such as match fixing, illegal betting, football pools.

Police is a public officer who provides services of safety, who protects the lives and properties of citizens as well as their basic rights and freedom and public order and who enforces the law Police has an active duty in the prevention of violence in sport as well as a great number of events. As a matter of fact, it is natural for the police to commune with a sport club, to love that club and therefore to support that club. Within this framework, the attitudes of the police on being supporters of football clubs are very important since they are responsible for maintaining safety and order in the society and for preventing behaviors not suitable for legislation(Taner et al., 2016). The police are primarily responsible for maintaining sport activities in peace and ensuring the safety of spectators. İt is very important not to provoke the citizens or not to be provoked by them while carrying out their duties(Cerrah et. al. 1998).

METHODS

This research was conducted on a screening model. The purpose of this study is to reveal the view of Turkish police officer on violence in football and hooliganism with the case of Mugla province.

A universe of the study consists of police officers working in the Riot Police Unit who are tasked with providing the security for football events and other sport events. 70 police officers working for Mugla Provincial Riot Police Branch Office constitute of a sample of the study.

In this research, "The Questionnaire of A View on Hooliganism" comprising 35 questions and developed by Celik in 2007 with the purpose of finding out the riot police officers' demographic information, participants' opinion concerning current laws and regulations, a prevention of spectator's aggression, a coordination with other security units and institutions, practices in the stadium, educational subjects and solution recommendations is conducted as a data collection tool. A validity of the questionnaire has been tested and Cronbach's alpha coefficient has been calculated as 0,83.

The collected data has been analyzed using SPSS 22 package program. Frequency, percentage and avarage is used for analyzing socio-demographic profile of subjects.

FINDINGS

1. Socio-Economic Data

It has been determined that the police officers participating in the research are in the age range between 20 and 30 years old, they are all male and graduate from Police Academy, and their vocational experiences are less than two years.

2. Participants' Views Concerning Violence Committed In Football Stadiums

The Responsible For The Violence In Football Stadiums	f	%
1. Irresponsible Spectators	59	84,3
2. Mass Media	34	48,6
3. Club Managers	15	21,4
4. Fan Associations	15	21,4
5. Politicians	2	2,9

The participants marked more than one option for the question: "Who is the responsible for the violence in football stadiums?" According to this, participants think that irresponsible spectators are in the first place (59) (%84,3), mass media is in the second place (34) (48,6), club managers are in the third place (15) (21,4), fan associations are in the fourth place (15) (21,4) and politicians are in the fifth place (2) (2,9) .

3. The Views On Current Law and Regulations

The following questions, according to the respondents' opinions relevant to " The Current Law and Regulations", "The Prevention of Spectators' Agressions", " The Coordination with Other Security Units and Institutions", "Practices In The Stadium" and "Education" has been assessed under the five titles.

The Views On Current Law and Regulations

Question	Agree		Rather Agree		Disagree	
	f	%	f	%	f	%
Current "violence in sports law" is capable of meeting needs.	19	27,1	37	52,9	14	20,0
The new regulation, settlements such as setting up an office on the security of sports made police officers' works towards the aggressions of spectators and hooliganism more sufficient and effective.	27	38,6	39	55,7	4	5,7
Police practices related to current regulation are parallel to each other.	28	40,0	38	54,3	4	5,7

According to the data, 52,9% of the participants has "rather agreed" with the statement: "Current 'violence in sports law' is capable of meeting needs.", 55,7% of the participants has "rather agreed" with the statement: "The new regulation, settlements such as setting up an office on the security of sports made police officers' works towards the aggressions of spectators and hooliganism more sufficient and effective.", and 54,3% of them has "rather agreed" with the statement: "Police practices related to current regulation are parallel to each other.".

4. Studies On A Prevention Of Spectator's Aggression And Related Views

Question	Agree		Rather Agree		Disagree	
	f	%	f	%	f	%
Police officers should carry out an intelligence work.	63	%90,0	7	%10,0	0	0
Police officers should be able to decide whether the game is played or not when required and be competent with in this respect.	39	%55,7	22	%31,4	9	%12,9
The more police officers are in police tasking, the less case will happen.	26	%37,1	25	%35,7	19	%27,1
The more women are in stadiums, the less case will hapen.	28	%40,0	28	%40,0	14	%20,0
The spectator provoke police officers to be in harsh intervention.	62	%88,6	8	%11,4	0	0

The findings show that almost all the participants support both of these statements: "Police officers should carry out an intelligence work." and "The spectator provoke police officers to be in harsh intervention."

5.Opinions on Practices in the Stat Mission

There are seven articles related to the applications for which the participatory practice survey task in mandated. Application of the status task of participant in the table.

Question	Agree		Rather Agree		Disagree	
	f	%	f	%	f	%
The safety of sports events should be transferred to private security.	48	68,6	16	22,9	6	8,6
If the police officer are involved in sports events, they should be paid additional fee.	59	84,3	8	11,4	3	4,3

According to the obtained data, approximately 70% of the participants has agreed with the statement: "The safety of sports events should be transferred to private security." and nearly 85% of them has agreed with the statement: "If the police officer are involved in sports events, they should pay additional duty."

6. Spectators' Solution Offers

In your opinion, what should be done to prevent the violence in the stadiums?	f	%
Penalty fine should be applied and those who commit floods should not be taken on the stadium.	19	27,1
Training should be provided for creating conscious supporters.	31	44,3
The media should not interfere with the cases.	20	28,6

According to the spectators' solution offers, "penalty fine should be applied and those who commit floods should not be taken on the stadium" is 27,1%, "training should be provided for creating conscious supporters" is 44,3%, and "the media should not interfere with the cases" is 28,6%.

DISCUSSION

In our study, security forces regard the inresponsible spectators with 84%, mass media with 48,6%, club managers with 21,4%, fans associations with 21,4% and politicians with 2,9% as "the responsible for the violence in football stadiums"(Chart 11). When the literature linked to these results was examined, irresponsible spectators, mass media, club managers, fans associations and politicians were shown as responsible for violence in sports fields. In the study of Gultekin and his colleagues (2000), the security forces said that the causes of cases in and out of the field are the home team and secondly the attitude of the referee. According to the Kaynak's (2002) research, 65,5% of the police officers point to all kinds of factors such as mass media, club managers, referees, opposing team supporters, player mistakes, technical men and fans' leaders as a result of leading spectators to aggresive behaviour.

The contribution of the police officers to reduce the aggressive behaviours in the football stadiums in Turkey is extremely important in many respects such as gaining public confidence and loss the damage they give during the competition. That the police officer should be impartial, should not be caught up in incitement, be respectful and tolerant are their duty and proffession.

In a study conducted with supporters of Gaziantepspor football team, 53,6% of supporters were found police officers not to be trained adequately in terms of security of the stadium. In the research of Kaynak (2002), 65,8% of the security forces participating in the investigation responded that the education they had received at the police academy could not be used effectively in the match duties. As revealed in Sahin and Kaynak's Works the police officers are not adequately trained for security of stadium, hooliganism and violence in sports.

According to the study of Celik (2005; 74), "Audience Aggression and Police Attitude" titled, 83,7% of the security forces think that the audiences' incitements drive the police to act hard, while they don't provoke the audiences. These results suggest that the police anf the spectator think differently.

According to Tunç et. al. (2016) the criteria of fanaticism scale, 1,6% of the male students were found to be "supporter" and 87,4% were found to be "spectator" while 0,4% of the female students wre found to be "fanatic", 7,7% were found to be "supporter" and 91,9% were fount to be "spectator"(Tunç et. al. 2016).

RESULTS AND SUGGESTIONS

As a result; they think that the current "sports violence law" does not exactly respond to the needs. They pointed out that different policies should be followed regarding the prevention of spectator aggression. They stated that there wasn't coordination with other institutions and especially judicial authorities. In the stadiums, they said that your security must be provided by private security organizations. Police see themselves as far away from developments and changes related to Sports safety. In general, they pointed out that is inadequate of education in these subjects.

Sports Security Bureau Offices located within the branches of Agile Force Branch Offices should be made more effective and their functions should be increased.

The General Directorate of Security and the Sports Security Authority operating within the Security Department should be brought to the status of "Branch Directorate".

The Police Department should set new strategies on "media", one of the biggest elements of audience aggression. The criticism made by the police should be examined by following the sports media.

Violence and hooliganism issues should be limited only by the stadium and its surroundings. Attention should be given to intelligence studies related to the subject. The powers and functions of the police officers in charge should be expanded.

Such links must be revealed by the police, considering the events that occurred due to the relations between club administrators and fan clubs, hooligan groups.

In the stadiums, the police need to use the technology more effectively. The number and quality of private security guards serving in the stadiums should be increased.

Private security officers working in the stadium should be trained on the issues of audience aggression and hooliganism as well as on existing private security training programs.

Policemen working in the Agile Force unit must pass the in-service trainings such as, police officers assigned to statues and supporter profiles, hooliganism, spectator aggression.

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COMPARISON OF THE EFFECTS OF HIGH LEVEL TECHNICAL STRIKES OF TAEKWONDO ATHLETES ON THE ELECTRONIC HEAD GEAR BEFORE AND AFTER TRAINING

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ABSTRACT

This study aimed at investigating the change in taekwondo athletes' performance as a result of the training with electronic head gears in order to develop their high level technical skills. The research sample consisted of 30 licensed male taekwondo athletes who were in the age range of 10-13 years and trained in a private gym. Four high-level strike techniques were identified for the development of their technical skills, and they were applied an eight-week taekwondo training program including two hours of practice per day three days a week. IBM SPSS 21.0 software was used to analyze the research data. Descriptive statistics were used to determine the distributions of the data. Pearson's correlation analysis was used to examine inter-variable relations, and ANOVA (post-hoc Tukey) analysis was used to determine the differences between the research groups. The results were presented as means (X) and standard deviations (SS). The p values of less than 0.05 were considered statistically significant. A significant difference between the groups was determined in the final test measurements, but no statistically significant difference was found in the first test. The practice with electronic head gears system was found to have a positive effect on the performance of athletes who performed the technical strikes in the training program.

Key Words: Academician, Mobbing, Organizational Justice, Students

INTRODUCTION

Taekwondo is a Korean, defensive martial art that is performed with bare hands and feet, requiring high-level nerve-muscle coordination to stop the opponent's strong blows or defeat the opponent (Lewis, 1996; Mark, 1984; Kim et all., 2015; Koh and Watkinson, 2002; Akinlar and Topal, 2011). Although taekwondo has a long historical background dating back to before the Common Era (Tel, 2008) it was added to the official competitions as a new Olympic martial arts sport at the 2000 Sydney Olympic Games (Kazemi and Pieter,2004; Gupta, 2011) and this has led to an increased interest in this sport among children and young people. In the following years, developments, including changes in the taekwondo scoring system, reduction in size of the ring and conversion of its shape from a square to an octagon, acceleration of the sport with the ten-second-rule, increasing the score values for head techniques, introduction of coaches' right to object to scores and penalties, and changes in the game rules regarding penalties, have all led this sport, which forces athletes to be active, to be faster and fairer (Moenig,2015). Thus, taekwondo coaches and athletes have sought new ways of training to achieve high performance (Kim et all.,2011; WTF, 2016).

Participation in taekwondo competitions has been increasing because taekwondo is an Olympic branch and has a lot of licensed athletes both in Turkey and the world. This leads to new quests in competition systems. Along with this, it is very important to be able to get an immediate response to the application (Cooper and Storer, 2001), objectively evaluate the athletes' performance and achieve an unbiased, fair result at the end of the evaluation (Sevinç,2016). As in all sports, there are also many analytical methods in taekwondo to determine qualitative and quantitative data for performance follow-up, create a training program according to the athletes' abilities and allow coaches to better supervise athletes (Bayraktar and Kurtoğlu,2004) and detect and improve their deficiencies.

The World Taekwondo Federation has decided to use an electronic system to assess scores and penalties of taekwondo athletes during matches in order to make more objective evaluations and produce fairer results. This was first tried at the European Youth Championship organized in Sweden in 2013 and subsequently, at other tournaments (Chi,2005; Moenig,2015; Tasika,2013; Song et. all.,2010; Song et. all.,2010; Chi, 2008). Body protectors equipped with electronic sensors provide more accurate and reliable scoring and enable coaches and athletes to develop strategies related to attacks and counterattacks

(Leveaux,2010; Tornello et.all.,2014), determine the techniques to be used in competition (İmamoğlu, and bayram,2010) and receive a fair and unbiased results in competition (Del Vecchio et.all.,2011; Tornello et.all.,2014; Schwartz,1994).

The technical combinations applied by the athletes in taekwondo competitions are evaluated by referees. In other words, referees decide whether the applied technique is correct and sufficient for receiving a score. However, the electronic system determines whether the score is given correctly with a performance of the right technique (Sevinç,2016). The electronic system eliminates questionable situations in competition and allows the performance of athletes and coaches to be evaluated objectively (Ko et. all.,2013; Partridge et.all.,2005).

During competition, an electronic head gear and a foot protector with a sensor are used for scoring (Figure 1). The sensors in the electronic head gear and on the upper side of foot protector automatically transmit the score to the scoreboard when they receive sufficiently strong pressure together with correct technique. Otherwise, no score is generated (Del Vecchio et.all.,2011; Partridge et.all.,2005).

Figure 1 Electronic head gear and other electronic equipment

In addition, the pressure (strike intensity) on the head gear varies, allowing the athlete receive a score according to each category and weight. These pressure settings are reported to all countries by the World Taekwondo Federation. Thus, all competition criteria are equal for all taekwondo athletes around the world (Sevinç,2016).

This study investigates the change in the performance of the taekwondo athletes as a result of the training with the electronic head gears in order to ensure adaptation to the new system and the development of high level technical skills, as well as determining differences in athletes' performance before and after the training. By measuring the effect of this new electronic system, this study is expected to contribute to the literature, which contains a limited number of studies of this topic.

MATERIALS AND METHODS

The research sample consisted of 30 licensed male taekwondo athletes who were in the age range of 10-13 years, regularly trained in a private gym and participated voluntarily in the research. They were randomly divided into two groups, including 15 athletes each in the control and experimental groups. Before the training program, the athletes were informed of the relevant technical data and filled out consent forms. Four taekwondo techniques were selected from the high-level techniques in order to develop their technical skills. The scoring of these techniques was based on the score values determined by The World Taekwondo Federation (Table 1).

Table 1. Technicals and Points

	Technicals	Point
Technicals	Front turning kick	3 point
	Axe kick	3 point
	360 turning kick	4 point
	Reverse kick	4 point

Athletes are allowed five strikes with each foot in each technique. Taking into account the participants' weights and categories, the mean pressure was set at 9 bar. If the correct strike was not made, no score was registered by the electronic system. If the athlete was unable to hit towards the opponent's head line, a penalty score was applied. Although the time limit was not taken as a constraint, the participants' scores on each technique and the time to complete the technique were obtained from the electronic system and then evaluated accordingly (Sevinç,2016).

After obtaining measurements from the control and experimental groups, the researcher, a taekwondo trainer, prepared and applied an 8-week training program consisting of daily two-hour exercise three days a week. The mistakes made by the athletes for each technique were determined by keeping observation notes.

As a result of these observations, the trainer provided the athletes with the following feedback: when applying axe kick technique, the fingers should be fully extended forward during full strike and the sensor in the middle of the foot sole should be in contact with the head gear; however, when applying 360 turning kick technique, the athletes should pay attention to the point they at which lost their balance and at which phase they should apply the technique after rotation, and should also hit with the sensor just above the foot. The athletes were also recommended that the sensor in the middle of the foot sole or on the heel should contact with the head gear in the reverse kick technique. They were also told to pay attention to the angle of the ankle during the strike, to extend the fingers forward and to adjust the angle of the hips properly. Regarding front turning kick technique, it was shown which points of the upper part of the foot should correspond to the head gear, and it was suggested that the hips should be turned completely in the direction of the strike. In addition, the athletes were trained about all the technical arrangements particular to taekwondo, and shown practically how their body angles and feet angle should be adjusted when applying techniques. The feedback process was continued throughout the program to ensure that the athletes broke the habits they had acquired before using the electronic system. After eight weeks, an additional measurement was obtained from the athletes performing technical training with the electronic head gears system. Then the development of the athletes was evaluated by comparing the first and final measurements.

The data were collected using a performance chart generated by the researcher. The scores by the athletes from the right and left strikes applied for each technique and the completion time for each technique were obtained from the electronic system and recorded on the performance charts designed for each of the 15 athletes. In addition, the strikes that the athletes did not score when applying a technique and the situations that required the athletes to be penalized in accordance with the taekwondo rules were recorded as penalty scores (half penalty scores) on the same performance charts.

IBM SPSS 21.0 software was used to analyze the data. Descriptive statistics were used to determine distributions of the data. Pearson's correlation analysis was used to examine inter-variable relations, and ANOVA (post-hoc Tukey) analysis was used to determine the differences between groups. The results were presented as means (X) and standard deviations (SS). The p values of less than 0.05 were considered statistically significant.

RESULTS

A table of the reasons for not receiving scores in the electronic head gear system after the practice of four high level technical strikes by the participants is shown below.

Table 2. Reasons why participants did not score in technical strikes

Failure to find adequate pressure during the practice of strikes
Failure to hit with the upper side of foot in the practice of Front turning kick- techniques
Failure to extend fingertips completely during strikes in the practice of Axe kick- techniques
Failure to strike properly and effectively in the practice of twist Front turning kick- techniques because of not achieving strike balance

The athletes got low scores for: failure to find adequate pressure during the practice of strikes, inappropriate hit of the upper side of the foot to the head gear, failure to extend fingertips completely during strikes in the practice Axe kick techniques, failure to set the sensor in the middle of the foot as the hit point, failure to ensure body balance and proper footwork in twisting techniques and failure to hit right on the target with the upper side of the foot (Table 2).

Table 3. Comparison of Intergroup Variables

Variables	First Measurement		Last Measurement		Control Group		F	P
	X	**SS**	**X**	**SS**	**X**	**SS**		
Front turning kick	17,7000[a]	3,11563	18,2333[a]	3,25613	23,8333[b]	5,67786	9,886	0
Penalty	,9667[a]	1,10948	1,0333[a]	1,20218	,3000[a]	0,49281	2,535	0,091
Time	15,6667[a]	2,87021	15,9333[a]	3,34806	15,3333[a]	3,57904	0,126	0,882
Total Points	18,6667[a]	3,37357	19,2667[a]	3,41147	24,1333[b]	5,60442	7,431	0,002
Axe kick	15,7000[a]	3,49387	16,3667[a]	3,87974	21,0000[b]	3,92792	8,785	0,001
Penalty	1,3000[b]	1,03164	,8333[ab]	0,67259	,4000[a]	0,68661	4,586	0,016
Time	21,2667[a]	5,81623	20,5333[a]	5,1251	18,0667[a]	4,44758	1,576	0,219
Total Points	17,0000[a]	3,87298	17,2000[a]	3,83964	21,4000[b]	4,06729	6,002	0,005
360 Tuning kick	20,5667[a]	4,10951	20,9333[a]	4,14844	26,6667[b]	5,12928	8,718	0,001
Penalty	1,8333[b]	1,27709	1,1333[ab]	0,83381	,5333[a]	0,69351	6,786	0,003
Time	27,4000[a]	5,81623	26,8667[a]	6,44611	23,8667[a]	5,65517	1,521	0,23
Total Points	22,4000[a]	3,64104	22,0667[a]	3,9364	27,2000[b]	5,49285	6,301	0,004
Reverse kick	12,8667[a]	8,76573	13,8000[a]	9,5259	22,1000[b]	8,06492	4,998	0,011
Penalty	1,8000[b]	1,26491	1,4000[ab]	0,82808	,8333[a]	0,67259	3,877	0,028
Time	29,0667[a]	8,09291	28,8000[a]	8,09291	24,6667[a]	7,9072	1,357	0,268
Total Points	14,6667[a]	8,64099	15,2000[a]	9,22109	22,9333[b]	8,20685	4,242	0,021

[a,b,] The difference between the groups with different letters on the same line is significant

Table 3 shows that no significant difference was found between the groups according to the variables of penalty, front turning kick time, axe kick time, twist front turning kick time and front turning kick time. No significant difference was found between groups 1 and 2, while a statistically significant difference was found in group 3, according to the values of the variables, Score, T, Score2, T2, Score3, T3, Score4 and T4. No significant differences were found between groups 1 and 2 or between groups 2 and 3, while a statistically significant difference was found between groups 1 and 3, according to the values of the variables, Penalty2, Penalty3 and Penalty4 ($p < 0.05$)

		Grup	Point	Penalty	T	Time	Point2	Penalty2	T2	Time2	Point3	Penalty3	Time3	Point4	Penalty4	T4	Time4
Group	PC	1	.466**	-0,27	.511**	-0,043	.417**	-.423**	.499**	-0,252	.401**	-.494**	-0,241	.366*	-.393**	.398**	-0,22
	S		0,001	0,073	0	0,78	0,004	0,004	0	0,095	0,006	0,001	0,111	0,013	0,008	0,007	0,147
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Point	PC	.466**	1	-0,01	.979**	-.445**	.442**	-0,177	.473**	-.510**	.374*	-0,234	-.587**	.565**	-.373*	.590**	-.518**
	S	0,001		0,946	0	0,002	0,002	0,244	0,001	0	0,011	0,122	0	0	0,012	0	0
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Penalty	PC	-0,27	-0,01	1	-0,216	-0,272	0,006	0,193	-0,033	0,051	-0,258	0,236	0,048	0,169	0,068	0,158	-0,087
	S	0,073	0,946		0,154	0,071	0,971	0,203	0,829	0,739	0,087	0,119	0,756	0,266	0,656	0,301	0,572
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Front kick	PC	.511**	.979**	-0,216	1	-.379**	.430**	-0,213	.469**	-.509**	.418**	-0,277	-.583**	.517**	-.378**	.544**	-.488**
	S	0	0	0,154		0,01	0,003	0,16	0,001	0	0,004	0,066	0	0	0,01	0	0,001
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Time	PC	-0,043	-.445**	-0,272	-.379*	1	-.352*	-0,129	-.323*	.480**	-0,057	-0,002	.511**	-0,284	0,115	-0,289	.549**
	S	0,78	0,002	0,071	0,01		0,018	0,399	0,03	0,001	0,71	0,989	0	0,059	0,452	0,054	0
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Point2	PC	.417**	.442**	0,006	.430**	-.352*	1	0,058	.980**	-0,193	.387**	-0,084	-.296*	.691**	-.366*	.712**	-,322
	S	0,004	0,002	0,971	0,003	0,018		0,706	0	0,203	0,009	0,583	0,048	0	0,013	0	0,031
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Penalty 2	PC	-.423**	-0,177	0,193	-0,213	-0,129	0,058	1	-0,143	0,127	-0,272	.492**	0,074	-0,113	0,227	-0,134	0,088
	S	0,004	0,244	0,203	0,16	0,399	0,706		0,35	0,406	0,071	0,001	0,629	0,458	0,134	0,379	0,566
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Axe kick	PC	.499**	.473**	-0,033	.469**	-.323*	.980**	-0,143	1	-0,217	.438**	-0,182	-.308*	.708**	-.409**	.733**	-.337*
	S	0	0,001	0,829	0,001	0,03	0	0,35		0,152	0,003	0,232	0,039	0	0,005	0	0,024
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Time2	PC	-0,252	-.510**	0,051	-.509**	.480**	-0,193	0,127	-0,217	1	-0,202	0,257	.793**	-0,146	0,174	-0,16	.735**
	S	0,095	0	0,739	0	0,001	0,203	0,406	0,152		0,183	0,089	0	0,34	0,254	0,293	0
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Point3	PC	.401**	.374*	-0,258	.418**	-0,057	.387**	-0,272	.438**	-0,202	1	-0,153	-.384**	.247	-0,164	.258	-0,149
	S	0,006	0,011	0,087	0,004	0,71	0,009	0,071	0,003	0,183		0,315	0,009	0,102	0,281	0,087	0,327
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Penalty 3	PC	-.494**	-0,234	0,236	-0,277	-0,002	-0,084	.492**	-0,182	0,257	-0,153	1	0,242	-0,117	0,142	-0,129	0,055
	S	0,001	0,122	0,119	0,066	0,989	0,583	0,001	0,232	0,089	0,315		0,109	0,445	0,351	0,4	0,721
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45

		Grup	Point	Penalty	T	Time	Point2	Penalty2	T2	Time2	Point3	Penalty3	T3	Time3	Point4	Penalty4	T4	Time4
360 t. kick	PC	.483**	.403**	-0,293	.454**	-0,053	.384*	-.360*	.452**	-0,245	.979**	-.353*	1	-.414**	0,258	-0,185	0,271	-0,153
	S	0,001	0,006	0,051	0,002	0,727	0,009	0,015	0,002	0,105	0	0,017		0,005	0,087	0,223	0,072	0,316
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Time3	PC	-0,241	-.587**	0,048	-.583**	.511**	-.296*	0,074	-.308*	.793**	-.384**	0,242	-.414**	1	-0,285	0,11	-0,289	.783**
	S	0,111	0	0,756	0	0	0,048	0,629	0,039	0	0,009	0,109	0,005		0,058	0,471	0,054	0
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Point4	PC	.366*	.565**	0,169	.517**	-0,284	.691**	-0,113	.708**	-0,146	0,247	-0,117	0,258	-0,285	1	-0,199	.995**	-.365*
	S	0,013	0	0,266	0	0,059	0	0,458	0	0,34	0,102	0,445	0,087	0,058		0,191	0	0,014
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Penalty 4	PC	-.393**	-.373*	0,068	-.378*	0,115	-.366*	0,227	-.409**	0,174	-0,164	0,142	-0,185	0,11	-0,199	1	-.300*	0,213
	S	0,008	0,012	0,656	0,01	0,452	0,013	0,134	0,005	0,254	0,281	0,351	0,223	0,471	0,191		0,046	0,161
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Reverse kick	PC	.398**	.590**	0,158	.544**	-0,289	.712**	-0,134	.733**	-0,16	0,258	-0,129	0,271	-0,289	.995**	-.300*	1	-.378*
	S	0,007	0	0,301	0	0,054	0	0,379	0	0,293	0,087	0,4	0,072	0,054	0	0,046		0,011
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Time4	PC	-0,22	-.518**	-0,087	-.488**	.549**	-.322*	0,088	-.337*	.735**	-0,149	0,055	-0,153	.783**	-.365*	0,213	-.378*	1
	S	0,147	0	0,572	0,001	0	0,031	0,566	0,024	0	0,327	0,721	0,316	0	0,014	0,161	0,011	
	N	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 shows that the relationship between the group variable and the variables, Score, T, Score2, Penalty2, T2, Score3, Penalty3, T3, Penalty4 and T4, was significant at the 0.01 level, while the relationship between the group variable and the Score4 variable was significant at the 0.05 level. The relationship between the score variable and the variables, Group, T, Time, Score2, T2, Time2, T3, Time3, Score4, T4 and Time4, was found to be significant at the 0.01 level, while the relationship between the score variable and the variables, Score3 and Penalty4, was found to be significant at the 0.05 level. The relationship between the T variable and the variables, Group, Score, Score2, T2, Time2, Score3, T3, Time3, Score4, T4 and Time4, was found to be significant at the 0.01 level, while the relationship between the T variable and the Penalty4 variable was found to be significant at the 0.05 level. The relationship between the Time variable and the variables, Time2, Time3 and Time4, was found to be significant at the 0.01 level, while the relationship between the Time variable and the variables, T, Score2 and T2, was found to be significant at the 0.05 level. The relationship between the Score2 variable and the variables, Group, Score, T, T2, Score3, T3, Score4 and T4, was found to be significant at the 0.01 level, while the relationship between the Score2 variable and the variables, Time, Time3, Penalty4 and Time4, was found to be significant at the 0.05 level. The relationship between the Penalty2 variable and the variables, Group and Penalty2, was found to be significant at the 0.01 level, while the relationship between the Penalty2 variable and the T3 variable was found to be significant at the 0.05 level. The relationship between the T2 variable and the variables, Group, Score, T, Score2, Score3, T3, Score4 and T4, was found to be significant at the 0.01 level, while the relationship between the T2 variable and the variables, Time, Time3 and Time4, was found to be significant at 0.05 level. The relationship between the Time variable and the variables, Score, T, Time, Time3 and Time4, was found to be significant at the 0.01 level. The relationship between the Score3 variable and the variables, Group, T, Score2, T2, T3 and Time3, was found to be significant at the 0.01 level, while the relationship between the Score3 variable and the Score variable was found to be significant at the 0.05 level. The relationship between the Penalty3 variable and the variables, Group and Group2, was found to be significant at the 0.01 level, while the relationship between the Penalty3 variable and the T3 variable was found to be significant at the 0.05 level. The relationship between the T3 variable and the variables, Group, Score, T, Score2, T2 and Score3, was found to be significant at the 0.01 level, while the relationship between the T3 variable and the variables,

Penalty2 and Penalty3, was found to be significant at the 0.05 level. The relationship between the Time3 variable and the variables, Score, T, Time, Time2, Score3, T3 and Time4, was found to be significant at the 0.01 level, while the relationship between the Time3 variable and the variables, Score2 and T2, was found to be significant at the 0.05 level. The relationship between the Score4 variable and the variables, Score, T, Score2, T2 and T4, was found to be significant at the 0.01 level, while the relationship between the Score4 variable and the variables, Group and Time4, was found to be significant at the 0.05 level. The relationship between the Penalty4 variable and the variables, Group and T2, was found to be significant at the 0.01 level, while the relationship between the Penalty4 variable and the variables, Score, T, Score2 and T4, was found to be significant at the 0.05 level. The relationship between the T4 variable and the variables, Group, Score, T, Score2, T2 and Score4, was found to be significant at the 0.01 level, while the relationship between the T4 variable and the variables, Penalty4 and Time4, was found to be significant at the 0.05 level. The relationship between the Time4 variable and the variables, Score, T, Time, Time2 and Time3, was found to be significant at the 0.01 level, while the relationship between the Time4 variable and the variables, Score2, T2, Score4 and T4, was found to be significant at the 0.05 level.

DISCUSSION AND CONCLUSION

This study investigated the changes in athletes' performance as a result of the training with an electronic head gear, the development of their technical skills and the functionality of the electronic system. A total of 30 licensed athletes in the age range of 10-13 years participated in the study and were divided into control and experimental groups each with 15 athletes. The data were collected using a performance chart created by the researcher.

The literature review determined that, although there are many studies on the use of electronic systems, but no previous studies of the effect of use of the electronic head gears on athletes' performance.

Partridge et al. (2005) conducted a study of wireless sensor scoring and training system for martial sports and emphasized that this system developed training techniques. In this way, coaches and sports scientists can acquire objective information about athletes' physical performance abilities and have the opportunity to reshape their workouts, motivate

the athletes during training and provide them with objective feedback (Ball et.all.,2011; Kim et.all.,2011). In another study, Song et al. (2010) reported that the electronic system used by taekwondo coaches improved athletes' training techniques and affected their performance. Working with the electronic system improves athletes' technical skills, enables them to learn the correct use of techniques and improves foot control. Song et al. (2010) evaluated the effects of the electronic system and user satisfaction and emphasized that, according to feedback from ten people, the users were generally satisfied with it. Since the electronic head gear is an objective system scoring is equally and fair (Tasika,2013; Song et. all.,2010; Song et.all.,2010; Chi, 2008).

As a result of the examination of the measurements taken during this present study, it was found that there were significant relationships between the research variables. Moreover, considering first-test and final-test measurements in the control group, a significant increase of the final-test scores was observed in the total score variables. A significant difference was found between the groups. A significant difference between the first-test and the final test scores was determined in the penalty variables, and the penalty rate was higher in the first measurements. In conclusion, some technical strikes that were applied with electronic head gears had higher failure rates than the pre-application failure rate, and this may be related to the athletes' warm-up and adaptation process. The significant increase in the scores of the post-application technical strikes disprove the effects of the predicted level of fatigue. Therefore, technical strike applications after training mean additional strength in power training, such that the training flow and concentration can continue for a longer period of time. The applications performed with the electronic head gears can increase the athletes' scores in competition, and training with electronic head gears will create a positive infrastructure for athletes to achieve technical and tactical superiority.

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ANALYSING WOMAN FOOTBALLERS' SOME PHYSICAL RATES ACCORDING TO THEIR PLAYING POSITIONS AND AGES

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ABSTRACT

Master Thesis, Physical Educatıon and Sports Department In this working, it is examined that woman footballers' some physical appropriateness rate according to their playing position and age. A hundred football volunteer -aged between 14-30 from Gazikentsport and Fıstıksports' both A team and infrastructure team,in Turkey Football Woman First League, joined in this working. Footballers were grouped according to playing positions as a goalkeeper,defence,halfback and forward. Body composition,flexibility, 10 and 20 metres speed,20 metres shuttle run ($_{VO2max}$),sargent jump and reach,agility tests were applied. In investigating footballers' sport age and positions, analysis of variance techniques in factorial arrangement was used.Also,in determining different groups,Tukey quantified predicate test was used. Footballers', over 18 years,sport age, body weight,body fat (VY%), sargent jump and reach,height are more meaningful than 17 aged footballers (p<0,05). Statistically footballers' playing positions cause important changes only on body weight, height and sargent jump and reach Goalkeepers' sargent jump averages are higher than halfback players. 17 and less aged groups' VO2max average is significantly higher than over 18 years sportswoman group.It is important to know the features of football's physic and performance according to playing positions and age groups. Because trainers and players can evaluate themselves thanks to this results.

Key Words: Footballers, Woman, Age, Physical Features

INTRODUCTION

By the participation of women in football increased, in addition to being psychologically strong women must be physically strong, too (Konter, 1998). The players need the physical and physiological power necessary for the football game they play. Having a good body composition due to the fact that it is a game that requires long-lasting durability can increase the success of the athlete by ensuring that the performance of the athlete reaches the highest level during the match (Sezgin et al., 2011). There are differences in the physical, physiological and motoric performances of football players playing in different positions in the football. For this reason, although the football is a team game, the training programs applied to the football players should be arranged according to the game position of each football player (Toluay, 2014). It is contemplated that in a soccer game there will be differences between the positions of the goalkeeper, defense, midfield and offensive players due to the positions and duties they play, the distance they are running, the severity of the run, the frequency and the duration. In this respect, it is important for the players to show their physical and physiological characteristics in different positions, and to change over the years according to age groups.

METHOD

This work, representing the province of Gaziantep Turkey Women's Football League, from Gazikent Sports, Fıstık Spor and it's the infrastructure team 100 footballers between the ages of 14 and 30 participated in research. Football players were analyzed according to place they play such as keeper, defender, midfielder and striker, and according to age groups, they were analyzed in two groups as 17 and under, 18 and over. All the necessary informants about the work were done and a certificate of affirmation indicating that the participation was based on voluntary principle was taken. Both study groups located for making a time measurement of the players, age, height, weight, body fat percentage, flexibility, vertical jump, agility measurement, 20 meters shuttle run 10 meters and 20 meters speed measurements (VO 2 max) tests were applied.

Collection of Data

Age, Height and Body Weight Measurement

According to the age of the footballers and the identity information, the length was made with a stadiometer (SECA, Germany) with a sensitivity level of 0.01 m and an electronic scale (SECA, Germany) with a sensitivity level of 0.1 kg.(Ekizler et al., 2006).

Body fat percentage (%)

Skin fold thickness measurements sample were taken from triceps, subscapular, suprailiac, and abdominal locations and skinfold caliper (Holtain, UK) was used for measurements. The caliper was placed approximately 1 cm away from the fingers and the thickness of the subcutaneous fat layer was recorded in millimeters by reading within 2-3 seconds of the markers on the caliper (Harrison et al., 1998; Zorba et al., 1995). In determining the percentage of fat in subjects, the Yuhasz body fat formula was used (Gribble, 2004).

Flexibility Measurement

Elasticity measurements were made with the sit-and-reach test. The soccer player's bare soles are based on the test stand, sitting at the base, stretching forward without bending their knees, extending forwardly pushes the ruler on the table and from 2 seconds to stop yawning provided to extend the maximum distance was recorded (Özer, 2001; Tamer, 2000).

Agility Measurement

Agility was tested using a zig-zag test with four 5-meter sections starting at a 100-degree angle. All tests were conducted on a synthetic enclosure, electronic time instruments have been used to record completion times. Two attempts were made for each zig-zag test with a rest of at least 2 minutes between soccer test and rest. Best performance recorded. Each straight sprint has been determined at 5 meters and each turn in the flags at 100 degrees (Lıttle, 2005).

Vertical Splash

Footballers are hoping to jump as high as possible with double legs in front of the wall hanging platform. Before the test, the normal arm length was determined in front of the platform to be tested. As a result of the test, the difference between the jump distance and the

arm length was determined and the vertical jump distance was recorded in cm. The test was repeated twice and the best results were recorded (Günay et al., 2006; Tamer, 1995).

10 Meters Speed Measurement

Soccer players are required to run 10 m at high speed with the sign of exit being held in the ready position one meter behind the starting photocell. Measurements were made with the photocells placed at the start and end of the 10 meters running distance. The test was performed two times and the best rating was recorded (Mendes et al., 2015).

20 Meters Speed Measurement

The footballers were kept in the ready position one meter behind the starting photocell and were allowed to run 20 m at maximum speed together with the sign of exit. The measurements were made with photocells placed at the beginning and end of the 20 meters running distance. The test was performed two times and the best rating recorded (Hindistan et al., 1999).

Indirect Measurement of Maximal Oxygen Consumption Capacity (VO₂Max ml/kg/dk / min)

A 20 meters shuttle running test was used for football's $_{VO2Max}$ prediction. The test is a test that starts at a running speed of 8,5 km / h and runs at a speed of 0.5 km. sup. -1 for every 1 minute running and 20 meters distance round trip. according to the protocol of 20 m shuttle run test cassette is used to determine the running speed. The test was terminated when the player was unable to catch up with the two signals or left the test. According to the result obtained, the soccer players' VO₂Max values were recorded in ml / kg / min.(Tamer, 2000).

Statistical analysis

In the classification of the data obtained at the end of the research and the calculation of the percentage differences, the factorial level Variance Analysis Technique was used. The Tukey Multiple Comparison Test was used to identify the different groups. The statistical analyzes were performed using Minitabfor Windows v.17.0 and SPSS for Windows ver.20.0 packet programs. Statistical results were evaluated at 95% confidence interval and $p < 0.05$ significance level.

RESULTS

Table 1. General descriptive statistics and multiple comparison results according to age groups

Features	Age Groups	N	$\overline{X} \pm S_x$	Min.	Max.
SPORT AGE(year)	17 YEARS AND UNDER	41	2,537 ± 0,153 b	1.000	4.000
	18 YEARS AND OLDER	48	3,896 ± 0,288 a	1.000	9.000
WEIGHT(kg)	17 YEARS AND UNDER	41	46,927 ± 0,754 b	38.000	57.000
	18 YEARS AND OLDER	48	53,292 ± 0,841 a	43.000	70.000
HEIGHT(cm)	17 YEARS AND UNDER	41	1,574 ± 0,012 b	1,4	1,72
	18 YEARS AND OLDER	48	1,642 ± 0,008 a	1,5	1,73
BMI(kg/m²)	17 YEARS AND UNDER	41	18,973 ± 0,296	15,625	23,139
	18 YEARS AND OLDER	48	19,752 ± 0,299	16,4	27,1
RESTING PULSE	17 YEARS AND UNDER	41	92,200 ± 1,680 a	72.000	124.000
	18 YEARS AND OLDER	48	87,080 ± 1,110 b	68.000	104.000
BODY FAT %(mm)	17 YEARS AND UNDER	41	5,788 ± 0.000 b	5,788	5,788
	18 YEARS AND OLDER	48	12,806 ± 0,292 a	10,516	20,904
FLEXIBILTY(cm)	17 YEARS AND UNDER	41	7,061 ± 0,908	-7,3	21,9
	18 YEARS AND OLDER	48	10,692 ± 0,688	-1,3	18,2
VERTICAL SPLASH(cm)	17 YEARS AND UNDER	41	27,049 ± 0,876 b	16.000	41.000
	18 YEARS AND OLDER	48	31,438 ± 0,856 a	20.000	43.000
AGILITY(sec)	17 YEARS AND UNDER	41	6,711 ± 0,075	5,83	7,5
	18 YEARS AND OLDER	48	6,664 ± 0,076	5,05	7,8
10 M SPEED(sec)	17 YEARS AND UNDER	41	1,891 ± 0,028	1,56	2,25
	18 YEARS AND OLDER	48	5,900 ± 4,040	1,24	196.000
20 M SPEED(sec)	17 YEARS AND UNDER	41	3,362 ± 0,030	2,91	3,69
	18 YEARS AND OLDER	48	3,408 ± 0,038	2,86	3,95

($p < 0.05$)

When the table is examined there were statistically significant differences between the age groups in terms of age, sport age, weight, height, BMI, body fat percentage and vertical

jump characteristics in the table. Age, sport age, weight, height, BMI, body Fat percentage and vertical jump values were found to be more significant than football players 17 years and younger. On the other hand, the resting pulses of 17 years old and younger footballers were significantly higher than football players 18 years and older.

Table 2. General introductory statistics and Tukey's multiple comparison results according to the positions

Features	Positions	N	$\bar{X} \pm S_{\bar{X}}$	Min.	Max.
SPORT AGE (Year)	DEFENCE	33	3,212 ± 0,285	1.000	8.000
	FORVET	21	3,286 ± 0,391	1.000	8.000
	GOALKEEPER	11	3.000 ± 0,572	1.000	8.000
	MIDFIELDER	24	3,458 ± 0,376	1.000	9.000
WEIGHT(kg)	DEFENCE	33	50.000 ± 0,968 ab	40.000	65.000
	FORVET	21	49,330 ± 1,240 b	38.000	62.000
	GOALKEEPER	11	54,730 ± 1,940 a	46.000	70.000
	MIDFIELDER	24	49,750 ± 1,430 ab	38.000	66.000
HEIGHT(cm)	DEFENCE	33	1,622 ± 0,012 a	1,5	1,71
	FORVET	21	1,598 ± 0,016 ab	1,45	1,69
	GOALKEEPER	11	1,647 ± 0,023 a	1,47	1,73
	MIDFIELDER	24	1,590 ± 0,017 b	1,4	1,7
BMI (kg/m²)	DEFENCE	33	18,98 ± 0,318	15,625	23,6
	FORVET	21	19,324 ± 0,389	16,529	23,1
	GOALKEEPER	11	20,227 ± 0,762	16,494	25,1
	MIDFIELDER	24	19,645 ± 0,446	16,4	27,1
RESTING PULSE	DEFENCE	33	88,300 ± 1,570	76.000	120.000
	FORVET	21	90,100 ± 1,900	72.000	108.000
	GOALKEEPER	11	93,640 ± 2,240	76.000	100.000
	MIDFIELDER	24	88,500 ± 2,340	68.000	124.000
BODY FAT%(mm)	DEFENCE	33	9,221 ± 0,616	5,788	16,972
	FORVET	21	8,950 ± 0,777	5,788	16,07
	GOALKEEPER	11	10,300 ± 1,400	5,79	17,08
	MIDFIELDER	24	10,268 ± 0,833	5,788	20,904
FLEXIBILTY(cm)	DEFENCE	33	7,909 ± 0,963	-1,3	20,6
	FORVET	21	8,882 ± 0,918	1,8	15,3
	GOALKEEPER	11	7,890 ± 2,120	-7,3	18,2
	MIDFIELDER	24	11,180 ± 1,140	0,7	21,9
VERTICAL SPLASH(cm)	DEFENCE	33	28,970 ± 1,100 ab	16.000	43.000
	FORVET	21	29,380 ± 1,410 ab	20.000	43.000

	GOALKEEPER	11	$33,910 \pm 1,790$ a	22.000	41.000
	MIDFIELDER	24	$28.000 \pm 1,040$ b	20.000	39.000
AGILITY(sec)	DEFENCE	33	$6,586 \pm 0,092$	5,05	7,5
	FORVET	21	$6,679 \pm 0,103$	5,89	7,4
	GOALKEEPER	11	$6,764 \pm 0,185$	5,75	7,8
	MIDFIELDER	24	$6,791 \pm 0,091$	5,83	7,5
10 M SPEED(sec)	DEFENCE	33	$1,902 \pm 0,035$	1,24	2,25
	FORVET	21	$1,120 \pm 9,240$	1,59	196.000
	GOALKEEPER	11	$1,917 \pm 0,043$	1,66	2,07
	MIDFIELDER	24	$1,819 \pm 0,035$	1,56	2,15
20 M SPEED(sec)	DEFENCE	33	$3,367 \pm 0,036$	2,98	3,72
	FORVET	21	$3,405 \pm 0,051$	2,91	3,9
	GOALKEEPER	11	$3,436 \pm 0,072$	2,86	3,69
	MIDFIELDER	24	$3,377 \pm 0,054$	2,99	3,95
VO$_2$Max ml/kg/dk	DEFENCE	33	35.650 ± 1.110	26.000	51.600
	FORVET	21	40.870 ± 1.700	24.600	52.800
	GOALKEEPER	11	37.780 ± 2.370	27.900	49.900
	MIDFIELDER	24	38.770 ± 1.430	27.400	51.100

The differences between the mean of the positions indicated by different letters are significant ($p < 0.05$).

When Table 2 is examined, the weights of the goalkeepers were significant compared to the striker players ($p < 0.05$). Goalkeeper and defender players' height lengths are higher than midfield players, the vertical jump average was found to be more significant in favor of the goalkeepers than the other position players ($p < 0.05$). In terms of weight, height, elasticity and vertical jump values, it was found statistically more significant in favor of football players aged 18 and over ($p < 0.05$).

Table 3. In terms of VO$_2$Max feature, introductory statistics according to age group and place, and Tukey Multiple Comparison Test results

17 YEARS AND UNDER	DEFENCE	16	35.550 ± 2.030 Ba	26.000	51.600
	FORVET	11	46.410 ± 1.520 Aa	34.000	52.800
	GOALKEEPER	5	40.480 ± 3.910 Aba	28.900	49.900
	MIDFIELDER	9	43.140 ± 1.850 Aba	35.000	51.100
18 YEARS AND OLDER	DEFENCE	17	35.750 ± 1.060 Aa	28.600	45.800
	FORVET	10	34.780 ± 1.700 Ab	24.600	41.600
	GOALKEEPER	6	35.530 ± 2.860 Aa	27.900	47.700
	MIDFIELDER	15	36.150 ± 1.690 Aa	27.400	45.800

The differences between the mean of the positions shown in different capital letters in the same age group are significant (P <0.05).
The differences between the mean age groups indicated in different small letters in the same place are significant (P <0.05).

When Table 3 is examined, it is seen that VO2max averages were found to be higher for 17 years old and younger soccer players compared to 18 years old and over footballers (p <0.05). VO2max values were found to be 46.410 ± 1.520 for striker players in the age group of 17 and under, and in favor of midfield players in the group of 18 and over (p <0.05).

DISCUSSION AND CONCLUSION

In this study, after the demographic information of footballers (age, sports, height, body weight, body mass index) body fat percentages, agility, flexibility, vertical jump, 10 meters and 20 meters speed measurements and 20 meters shuttle run (VO$_2$Max) measurements and tests were applied.

When the Body Mass Index (BMI) values were taken into consideration, it was determined that goalkeepers' the body mass indexes were 20,227 ± 0,762 kg / m2 and the average body mass indexes were higher than the other athletes. The results obtained according to age and place were statistically significant (p <0.05).

According to Ingebrigtsen et al., the body mass index of upper elite female football players was 21.80 ± 1.63 kg / m2 (Ingebrigtsen et al., 2011), according to Dillern et al. 24.2 ± 0.5 kg / m 2, (Dillern et al., 2012), and the other results are as follows; Vaıdova et al. 24,2 ± 0,5 kg / m2, (Vaıdova et al., 2013), Mılenovıc et al. 21.5 ± 1.3 kg / m 2, (Mılenovıc et al., 2012), Taş et al. 21.43 ± 1.81 kg / m2 (Taş et al., 2011). On the other hand, Rodrigo et al. they found body mass index averages respectively as 23.3 ± 2.2 kg / m2 and 21.2 ± 1.4 kg / m2 in their study which they did with the control and experimental groups (Rodrigo et al., 2015).

It is possible to say that the BMI mean values of the groups in our study are similar to the other results in the literature and they are between 18.5 kg / m² and 24.99 kg / m², which are accepted by the World Health Organization (WHO) as normal.

According to the positions body fat percentage % values were found that the goalkeepers have the highest value with 10,300 ± 1,400 % (Table 2) in the other players. In studies conducted on female football players, the percentage of body fat was between 13% and 29% (Martınez et al., 2014) is similar to our findings. Arı found that the body fat percentage of female football players between the ages of 14-16 years was 17.47±3.13 % - 16.47±2.59 % and on the other hand the control and experimental groups' percentage was 15.66±4.18 % - 15.67±4.04 % (Arı, 2012), Krustrup et al. found that the body fat percentage of upper elite female football players was 18.5% (Krustrup et al., 2010), according to Silva et al. it is 17.4 ± 2.3% (Silva et al., 1999), Keane et al. female players of experimental and control groups, respectively, 23.3 ± 2.3% 27.2 ± 3.02% were identified as (Keane et al., 2010). It is possible to explain the difference of our findings with the literature, with the level of trainee, physical characteristics and the difference of living conditions in our subject group.

The elasticity values between the ages were statistically significant in favor of football players aged 18 years and over (p <0.05). It was found that the middle players (11,180 ± 1,140 cm) had the highest values. There was no significant difference in the elasticity values (p> 0.05). According to Mendes et al. the elasticity values of the adolescents were found to be 4,8 ± 0,4 cm (Mendes et al., 2015). Rye recorded the elasticity values of girls aged 12-14 years as 19.66 ± 4.35 cm, 22.38 ± 5.29 cm (Çavdar, 2006). In the study of Keane et al. the flexibility values of the experimental and control groups were found to be 24.9 ± 6.04 cm and 20.1 ± 8.6 cm respectively in female football players (Keane et al., 2010). Imamoglu showed that the flexibility averages of female soccer players were 14,77 ± 0,63 cm , 21,97 ± 0,54 cm, respectively (İmamoglu, 2014). Factors such as applied training programs, physical characteristics and measurement methods can be shown as the cause of incompatibility with the literature.

While the goalkeepers had the highest vertical jump (33,910 ± 1,790 cm), the lowest value (28,000 ± 1,040 cm) was found in the midfield players (Table 2). In the literature, the vertical jump values of female football players are as follows; according to Thomas et al. 30.7 ± 4.1 cm, (Thomas et al., 2012), according to Arı, 25.93 ± 4.30 cm, 29.93 ± 4.11 cm in female football players, (Arı, 2012), according to Castagna et al. 29.1 ± 3.3 cm (Castagna et al., 2012), according to Aughey Wyckels et al. 45.5 ± 0.13 cm, (Aughey Wyckels et al., 2010), no the other hand Krustrup et al. before and after the competition, identified respectively as, 36 ±

1 cm. and 31 ± 4.3 cm. (Krustrup et al., 2010). It can be said that the vertical jump values are in general compatible with the literature.

When age groups and positions were evaluated, the obtained agility values were not statistically significant ($p > 0.05$). (Table 2). Vescovi et al. reported the illions and pro agility averages of senior female football players as 10.80 ± 0.6s, 45.17 ± 0.33s, respectively (Vescovi et al., 2011). According to the study of Keane et al. the agility averages of the experimental and control group of female football players were 17.0 ± 1.4 sec, 18.0 ± 2.4 sec, respectively (Keane et al., 2010).

This data supports our findings about agility. The fact that agility has not produced a difference between the positions suggests that agility is a special ability and that the agility in the exercises applied is not improved enough.

In our study, 10 m and 20 m sprint averages found as follows respectively; $1,891 \pm 0,028$ sec and $3,362 \pm 0,030$ sec for 17 years old and under, $1,900 \pm 4,040$ sec and $3,408 \pm 0,038$ sec for 18 years and older female football players (Table 1).

According to the results, when the average speeds of 10 m and 20 m were evaluated, it was determined that the averages were very close to each female football player (Table 2).

During the competition, female soccer players sprinted a mean of 4.8 seconds during the match and the sprint average was 2.9 s. In the same study, the results of sprinting in different play areas are the same (Gabbett et al., 2008). Thomas and his colleagues found that the footballers average speed of 10 m and 20 m were 1.69 ± 00.1 s and 3.10 ± 00.1 s, respectively (Thomas et al., 2012). Mendes and al. found that the sprint grades of 10 m and 20 m were 2.02 ± 0.01 s and 3.82 ± 0.03 s, respectively, in adolescent soccer players (Mendes et al., 2015). AugheyWyckels et al found that 20 m sprint averages were 3.47 ± 0.13 sec. (AugheyWyckels et al., 2010).

In our research, it is possible to say that the goalkeepers are the slowest group among the positions' players. It has been found that the players in the middle are faster than the players in the other positions. It is considered that increasing the running distances in the applied tests when the speed measurement is made will bring out the differences between the positions more clearly.

In our study, the maxVO2 capacities of the athletes aged 17 years and over were 40.730 ± 1.270 ml / kg / min and the maxVO2 averages of the athletes aged 18 years and over were 35.644 ± 0.793 ml / kg / min (Table 1).

Silva et al. Evaluated the maxVO2 averages of the experimental group as 47.3 ± 4.5 ml / kg / min (Silva et al., 1999). Ingebrigtsen et al., MaxVO2 averages, 52.94 ± 3.17 ml / kg / min (Ingebrigtsen et al.,2011). Keane and colleagues found that the VO2max averages of the experimental and control groups were 49.9 ± 0.1 kg / ml / min and 42.0 ± 6.8 kg / ml / min, respectively (Keane et al., 2010). Dillern et al. 48.7 ± 4.6 ml / kg / min (Dillern et al., 2012). Castagna et al. MaxVO2 averages of 52.8 ± 7.4 ml / kg / min. (Castagna et al., 2006). The Red Cross found that the average maxVO2 of female football players was 37.41 ± 3.45 mL / kg / min (Kızılet, 2006). Aughey Wyckels et al. MaxVO2 averages of 50.4 ± 6.9 ml / kg / min (Aughey Wyckels et al., 2010). In their intuition, they found that female football players' maxVO2 averages were $42,08 \pm 1,55$ ml / kg / min (Sezgin et al., 2011). Krustrup et al. Elite female football players investigated the physiological demands in the competition and found that the average maxVO2 of the players was 49.4 ml / kg / min (Krustrup et al., 2005). Dillern et al found 48.7 ± 4.6 ml / kg / min (Dillern et al., 2012). Castagna et al found maxVO2 averages as 52.8 ± 7.4 ml / kg / min (Castagna et al., 2006). Kızılet, found the average maxVO2 of female football players as 37.41 ± 3.45 ml / kg / min (Kızılet, 2006). Aughey Wickels et al reported maxVO2 as 50.4 ± 6.9 ml / kg / min (Aughey Wickels et al., 2010). Sezgin, in her thesis, found the average maxVO2 of female football players as $42,08 \pm 1,55$ ml / kg / min (Sezgin et al., 2011). Krustrup et al. Investigated the physiological demands of the elite female football players in the competition and found that the maxVO2 averages of the players were 49.4 ml / kg / min (Krustrup et al., 2005).

Consequently, in this study we examine some of the values of physical fitness according to their played position and age of the female players, and as a result it is possible to sat that weight, height, BFP%, BMI, vertical jump and resting pulse values of goalkeepers are higher than those in other positions and also it is possible to say that the values of 10 m and 20 m speed, agility and flexibility do not make a difference between the positions, but the reason of this is can be because there is no special training programs for each positions' players. When we evaluated ages, it was seen that the athletes aged 18 years and over were higher than the athletes aged 17 years and under in all values of sport age, weight, height,

BFP%, BMI, vertical jump, flexibility, agility. However, when looking at the maxVO2 capacities, it was seen that the athletes under 17 years old were better than those 18 years and older ones. It is possible to say that athletes under 17 years old run in a disciplined by considering the applied shuttle run more than the other group. In general, there are not very large differences among the positions except the goalkeepers. As it can be seen, when all the data are discussed in general, there are no significant performance differences between players. It can be thought that it is useful to make the evaluations of the goalkeepers separately from the players playing in the other positions, because the resulting differences are usually caused by the goalkeepers.

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DETERMINATION OF THE PEOPLE'S SATISFACTION WHO GO TO THE ZOO FOR RECREATİONAL ACTİVİTY

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ABSTRACT

This study done for the determination of the people's satisfaction who go to the Gaziantep Zoo in their leisure time for recreational activity.The population consists of 1316 people who came to the Gaziantep Zoo in 2014 for recreational activity. The survey done by Uysal (2005) used for data collection. The datas obtained in this study statistically analysed by using SPSS 16.0 packaged software. In data analysing; frequency, percentage, average, standard deviation used as statistical method, student t-test used forcomparing two independent groups having variables with normal distribution, ANOVA and Tukey multiple comparison tests used for comparing more than two independent groups having variables with normal distribution.As a result of the study, people who come to zoo in their lesiure time mostly inhabit in Gaziantep province, high school graduates and students prefer more to visit zoo, mostof the participants come with the advice of acquaintances, most of them spend more than an hour and a great mojority of them are pleased with the quality of services.

Key Words: Recreation, Leisure, Zoo, Satisfaction

INTRODUCTION

The zoos undoubtedly bring together people with wild and domestic animals all over the world. The zoos are designed for the exhibition of animals who are living creatures (Mason, 2000). Many zoos with various features founded in our country and world throughout the history. In ancient times animals are exhibited for fun and identified as creatures used in fairs, arenas and circuses for amuse and satisfy the curiosity of emperors and royals (Gunergun, 2006).

These areas where the animals taken from the nature and raised, provide information to people about animals and their natural life. The zoos are the best source of information about animals that people can reach. Designing the zoos properly are very important for informing the visitors truthfully (Yilmaz et al.,2010). The zoos are the places where people and animals meeting and interacting , there are many curriculum and informing tours in it and also it can changes existing knowledge and behaviours of the visitors (Falk et al.,2007).

The visitors can reach many information about animals and nature consciously or unconsciously while they having a good time in zoos, which are designed properly to their natural habitat(Yılmaz, 2007).One of the important aim of the zoos is education and recreation (Ulgen and Tekin, 2000). Zoos mean cultural and educational areas and another important formation intent of the zoos is scientific researchesb (Akbaba, 2001).

Exhibition methods in zoos which had the aims such as; education, recreation and protection, varied along the history. A lot of design studies done for make visitors feel them in natural habitat of the animals and keep their interaction with animals at high levels. Certain zoo typologies came up as a result (Yilmaz and Ozbilen, 2011).

Modern zoos serve four puposes in brief. These are recreation, education, protection and research. Our research topic is recreation activity and forming one of the four main purposes of the zoos (Jones, 1989; Ozgucan and Bekdemir, 2008; Yilmaz and Ozbilen, 2011). Being one of the section of natural life and wild animals that reach to people, recreational and educational use of the zoos are at the forefront (Morgan and Hodgkinson, 1999).According to educaters, while animal spectacles and special case of the animals ensure the amusement of the visitors, it also ensure the continuity of their learning interest (Wylson, 1994).

The zoos which are one-day reacreation acitivities, have a important effect on decreasing backbreaking effects of working tempo and crowded habitations and psychological pressure on people (Berkyez, 1992).A natural and complete environment has been created in zoos with trees, ponds and animals exhibited properly to their natural habitats and this environment resembles a green island within the city, which is full of cold buildings. (Fradich, 1998). Considering these features it attracts visitors of all ages and create both relaxing and entertaining impression on people which are main themes of the recreation (Acıkkol, 1984).

The zoos have an importany effect on visitors, which are the places uniting education and recreation. These environments must exist especially while edutaining the children (Kenneth, 1987). A certain part of the visitors prefer zoos to relieve entire week of tiredness. Because zoos have a impressive environment uniting natural beauties and animals and composing the most strange manner of performing recreation in open fields.

If we shortly examine the preference reasons of Gaziantep Zoo for this study; recreation area works started in 1998. It put into service on 1000 decare land within the Burç Forest by Gaziantep Metropolitan Municipality in 2001. It is the biggest zoo in Turkey and middle east, third in the world and second in Europe (http://zoo.gaziantep.bel.tr/, 2014). Millions of people visiting zoos for make use of their spare time and as a recreation activity is an affecting factor for this study so this is a scientific study done for searching the reasons why people come to Gaziantep Zoo for make use of their spare time, how long time they are spending there and if they are pleased with this recreation activity.

Research objectıves: This study aims to determine if people are pleased who come to zoos in their leisure time as a recreation activity. Within the scope of this reason we aim to determine the visitors preference of coming zoo in their spare time, how often they visit zoos, how long time it takes, if they have come any zoo before, with whom they come, how they heard about the zoo, their purpose of visit and if they are pleased with the services in zoo.

Importance of research: When considered as a recreation activity, it is seen that there is scarcely any working for zoo visitors. The aim of this study is determining the visitors way of visit, reason of the visit and if they are pleased with the services in the zoo and informed the visitors who will visit the zoo as a recreation activity. This study will be supportive to zoo administration for giving better services and contribute to develop a strategy

for make more people come to the zoo. In the light of these results, we aim to help next other scientific studies which will be done.

MATERIAL AND METHOD

When examined the result of satisfaction scale factor analysis, Kaiser-Meyer-Olkin measure of sample adequacy found as 0.868.Considering this value, sample extensity is sufficient and above average for factor analysis. In addition to this, it was seen that value of Bartlet sphericity test found statistically significant (p=0.001). It is a indicator of availability of the scale.

Population and Sample: The population consists of the visitors of Gaziantep Zoo in 2014. The sample group consists of 1316 people (536 women, 780 men). Personal informations about research group are given in Table 1.

Table 1: Personal Informations about the Research Group

		N	%
Gender	Women	536	40.7
	Men	780	59.3
Age	10-14 aged	136	10.3
	15-19 aged	228	17.3
	20-24 aged	384	29.2
	25-29 aged	188	14.3
	30-34 aged	92	7.0
	35-39 aged	132	10.0
	40 aged and over	156	11.9
Habitation	In Gaziantep	612	46.6
	In Southeastern Anatolia Region	288	22.0
	Other regions	412	31.4
Educational Status	Primary and Secondary	460	35.1
	High School	512	39.1
	University and over	336	25.7
Occupation	Housewife	208	15.9
	Civil Servant	180	13.8
	Private Sector Employee	208	15.9
	Owner of the Business	40	3.1
	Student	576	44.0
	Retired	72	5.5
	Unemployed	24	1.8

n=1316

The distribution of the answers given in Table 1, which are about personal informations of research group. According to table; population of the research who visit zoo, consists of 536 (40.7%) women and 780 (59.3%) men, most of them aged between 20-24 (29.2%), 384 (29.2%) of them live in Gaziantep and 512 (39.1%) of them graduated from high school, 576 (44%) of them are students and 24 (1.8%) of them are unemployed.

Data Collection Tool: The survey developped by Uysal (2005) used in research to reveal the thoughts and satisfaction of the visitors who come to Gaziantep Zoo in their lesiure time. Required changes, based on literature, made on the survey by the researcher. On the first day of the research, pretesting made on 70 people and passed to main survey after seeing the survey's working. The survey form consists of 15 question, used in data collection.

Analysis of Data: The datas obtained in this survey statistically analysed in electronic environment by using SPSS 16.0 packaged software. Reliability co-efficient gets value between 0-1 and reliability increase when these values approach to 1 (Ural and Kiliç, 2005:258). According to this, satisfaction scale measured as 0,872 Cronbach's Alpha value. Thus reliability of the scale was determined. In data analysing; frequency, percentage, average, standard deviation used as complementary statistic, student t-test used in satisfaction scale for comparing two independent groups having variables with normal distribution, ANOVA and Tukey multiple comparison tests used for comparing more than two independent groups having variables with normal distribution.

FINDINGS

Table 2: Recreational Activities of the research group which were done in last 12 months

	Frequency	Percentage (%)
Cinema	400	34.5
Museum	164	14.1
Theatre	108	9.3
Art gallery	68	5.9
Sport Activities	256	22.1
Zoo	144	12.4
Modern dance/ festival, carnival	20	1.7

When examined the recreational activities done in last 12 months in Table 2, it is seen that 400 (34.5%) of the participants mostly prefer to go to the cinema, 144 (12.4%) of them go to the zoos and 20 (1.7%) of them prefer to go to modern dance, festival or carnival.

Table 3: How the participants heard about Gaziantep Zoo

	Frequency	Percentage (%)
Brochure, Guidebook, Book, Tourist Office	132	10.1
Newspaper, Radio, TV, Magazine	144	11.0
İnternet	116	8.9
With the adviceof acquaintances	688	52.8
Accidentally	96	7.4
From the road signs belong to zoo	16	1.2
From school	92	7.1
Other	20	1.5

When examined the Table 3 and considering how the participants heard about Gaziantep Zoo, it is seen that most of them, 688(52.8%) people, heard it with the advice of acquaintances, while 16 (1.2%) people heard it from the road signs belong to zoo.

Table 4: The time spend in the zoo on research day

	Frequency	Percentage (%)
Less than half an hour	84	6.4
Between half an hour and an hour	160	12.3
More than an hour	1060	81.3

When examined Table 4 and considered the time spend in the zoo on research day, 1060(81.3%) people mostly spend more than an hour and 84 (6.4%) people at minumum rate spend lesst han half an hour in the zoo.

Table 5: Descrpitive Statistics for Satisfaction Evaluation of Zoo Services According to Participants

	N	Average	Std. Deviation
Transportation	1308	4.4251	1.5705
Parking area	1300	4.5969	1.4062
Working hours	1288	4.3261	1.3365
Directional Signs	1304	4.1963	1.5107
Illumination	1296	4.0247	1.5971
Cleaningand Maintenance	1292	3.8142	1.8401
Interest of the employees	1292	3.8452	1.8107
Recreation Facilities	1284	4.1121	1.6972

Participants gave 5 points for "very good", 4 points for "good", 3 points for "normal", 2 points for "bad", 1 point for "very bad" and 0 point for " I have no idea". Considering the average of the points, "very good" and "good" preferred mostly but only the questions for "cleaning, maintenance" and "interest of the employees" got 4 or 3 points from the participants.

Table 6: Satisfaction Evaluation according to gender

	Women	Men	P
Transportation	4.46±1.43	4.39±1.65	0.434
Parking area	4.65±1.24	4,55±1.50	0.188
Working hours	4.22±1.32	4.39±1.33	**0.031***
Directional Signs	4.25±1.44	4.15±1.55	0.239
Illumination	4.04±1.45	4.01±1.69	0.698
Cleaning and Maintenance	3.77±1.82	3.84±1.85	0.516
Interest of the employees	3.86±1.83	3.83±1.79	0.776
Recreation Facilities	4.23±1.62	4.02±1.73	**0.028***

$p<0.05$

When examined Table 6, there is a significant differencebetween working hours and recreation facilites of women and men according to gender (Respectively p=0.031, p=0.028). Considering the answers, saticfaction level of the women is higher than men's ($p<0.05$).

There is not a significant difference between age and satisfaction ($p<0.05$).

Table 7: Evaluation of Educational Status and Satisfaction

	Gruplar	N	Ort.	S.s.	f	p	Tukey
Transportation	Primary and Secondary School (A)	452	4.20	1.54			A-B,B-C
	High School (B)	512	4.56	1.47			
	University and over (C)	336	4.48	1.71	6.75	**0.001***	
Parking area	Primary and Secondary School (A)	456	4.47	1.40			
	High School (B)	500	4.68	1.33	2.90	0.550	
	University and over (C)	336	4.60	1.51			
Working hours	Primary and Secondary School (A)	452	4.15	1.38			A-B, B-C
	High School (B)	492	4.43	1.33	5.87	**0.003***	
	University and over (C)	336	4.33	1.25			
Directional Signs	Primary and Secondary School (A)	452	4.17	1.49	0.26	0.769	
	High School (B)	508	4.24	1.49			
	University and over (C)	336	4.19	1.54			
Illumination	Primary and Secondary School (A)	452	4.15	1.59	7.10	**0.001***	A-B, A-C
	High School (B)	500	4.09	1.50			
	University and over (C)	336	3.75	1.71			
Cleaning and Maintenance	Primary and Secondary School (A)	456	3.38	1.78			
	High School (B)	496	3.79	1.87			
	University and over (C)	332	3.85	1.85	0.13	0.872	
Interest of the employees	Primary and Secondary School (A)	448	3.92	1.72			A-B, B-C
	High School (B)	504	3.97	1.83			
	University and over (C)	332	4.12	1.84	5.77	**0.003***	
Recreation Facilities	Primary and Secondary School (A)	448	4.38	1.57			A-B, B-C
	High School (B)	500	4.28	1.63			
	University and over (C)	332	3.70	1.85	16.2	**0.000***	

Considering the evaluation of educational status and satisfaction of the participants, significant difference observed according to working hours, illumination, interest of the employees and recreation facilities in Table 7 (Respectively p=0.001, p=0.003, P=0.001, p=0.003, p=0.000). Tukey test done for determining source of the distinction.

According to these results, it is seen that high school graduates are satisfied with transportation, working hours and service of the recreation facilities more than primary / secondary school graduates and university and over graduates; primary / secondary school graduates are satisfied with illumination services more than high school and university and over graduates; high school graduates are satisfied with interest of the employees more than primary / secondary school and university and over graduates.

RESULTS AND DISCUSSION

Population of the research who visit zoo, consists of 536 (40.7%) women and 780 (59.3%) men, most of them aged between 20-24 (29.2%), 384 (29.2%) of them live in Gaziantep and 512 (39.1%) of them graduated from high school, 576 (44%) of them are students and 24 (1.8%) of them are unemployed.These results are similar with some other studies, while they are different from the others, 63.3% of the visitors who participated in the study done by Ozgoren (2007) are aged between 19-30. When considered their occupations, it is seen that 33.5% of the participants are sivil cervant, 38.8% of them are students, 43.6% of them are university student and 22.9% of them are high school students.Thus, it is seen that university and high school students geta more share (66.5%) than other group of visitors (Ozgoren, 2007). As a result of the study done by Uysal, most of the visitors aged between 25-34, 56.5% of them mostly live in Ankara where the study conducted, 48.0% of the participants are university gradaute and students are the visitors who visit the zoos more than others at the rate of 28.8% (Uysal, 2005).

As a results of the study done by Ozturk, it is seen that %26 of the participants are civil servant and they live in Ankara where the study conducted at the rate of 74.7% (Ozturk, 2012). Considering the educational status of the participants in the study done by Yavuz, it is seen that most of them are university graduates at the rate of 35,7% and most of the visitors consist of students (25.3%) and retirees (15.3%) (Yavuz, 2012).Gumus et al. (2017) reported that recreational areas are used by individuals in the most intensive 25-30 years of age in the study they conducted.As a result of the study done by Kurt and related to natural life and zoos, it is observed that 64.6% of the participants are under the age of 35 (Kurt, 2011). The study done by Couch for the satisfaction of Detroit and Potter Park Zoo, the average age of the visitor found between 20-39 (Couch, 2013). As a result of the study done by Kutsa, Saaymanand Slabbert, it is seen that women participated more than men (Kutska,2009; SaaymanandSlabbert, 2004).As a result of the study done by AndereckandCaldwell, the visitors who visit the zoos have higher educational level (AndereckandCaldwell, 1994).

Gaziantep province has a young population and most of the participants are students so it can be thought that their curiosity and eagerness to learn are much more than the others. So we can saythat visiting zoos in their spare time will contribute to their academic success.

Some other studies done about this topic are supportive to these results (Kenny, 2009; Randler, Baumgärtner, Eisele and Kienzle, 2007; Randler, Kummer and Wilhelm, 2012; Falk and Adelman, 2003; Lukas and Ross, 2005). Another study in the literature indicated that using zoos as a out-of-school education environment has positive effects on remembering level and points of persistecny test (Pace and Tesi, 2004). When examined the recreational activities done by participants in last 12 months, it is seen that 400 (34.5%) of the participants mostly prefer to go to the cinema. These results are similar with some other studies, while they are different from the others. Considering the distribution of thevisited places and recreational activities done by participants in last 12 months, who participated in the study done by Uysal, it is seen that most of the visitors prefer to go to the cinema at the rate of 69.4% (Uysal, 2005).

According to results of study done by Özgören59.6% of the participants spend their spare time by reading, while 59% of them listening to music and 51.1% of them watching tv (Ozgoren, 2007). Gumus (2016) indicate that most of the individuals who went to the recreation area preferred these areas in order to have any physical activity. Spare time activities improving fastly nowadays and there is a huge competition, however visiting zoos is one of the most favorite recreational activity as to results. 3 million people visit the zoos all the year round and it supports our thoughts **(**zoo Gaziantep.bel.tr, 2014).

It is seen that 688 (52.8%) participants heard about Gaziantep Zoo with the advice of acquaintances. These results are similar with some other scientific studies, while they are different from the others.In the study done by Uysal 27.5% of the participants indicated that they come to the museum with the advice of someone (Uysal, 2005). As a result of the Özgören's study, 75.5% of the participants are informed about Museum of the Topkapı Palace by favour of newspapers and magazines (Ozgoren, 2007). According to the study done by Öztürk, 43.3% of the participants indicated that the most effective factor in Beypazarı visits is the advice of the friends. People talk with the other people around them about their zoo visits and experiences. If they are pleased with their visit, they will give positive advices to their acquaintances. Visiting zoos in their spare time is placed on the top of the participants' recreational activity list and it isindicated the reason of their satisfaction (According to datas of Gaziantep Zoo, 3 million people visit the zoo every year).

Considering the time spend in the zoo on research day, it is seen that 1060 (81.3%) people mostly spend more than an hour. These results are similar with some other scientific studies, while they are different from the others. As a result of the study done by Uysal, it is reported that 89.3% of the participants spend more than an hour at the museum (Uysal, 2005). Spending more than an hour at the zoo visit indicated that the zoo found significant by the participants.

Considering the average of the points, "very good" and "good" preferred mostly about satisfaction but only the questions for "cleaning, maintenance" and "interest of the employees" got "normal" or "good" answers from the participants. These results are similar with some other scientific studies, while they are different from the others. In the study done by Uysal, the participants answer "very good" and "good" to the questions about services of the museum. Park service and interest of the employees got "very bad" and "bad" answers to the questions(Uysal, 2005). As a result of the study done by Karanikola et al. about partcipants of Selanik Zoo, it it seen that visitors are leaving contently (Karanikola et al., 2014). According to results of the Turley's study on wishes and experiences of the children about zoos, children are happy with their zoo visits (Turley, 2001).As a result of the study done by Oduro et al. about evelution of the zoo visitors, it is seen that they all satisfied about the zoo(Oduro et al., 1987). The study done by Rajack et al.and Andereck et al., about zoo visiting of the children as a recreational activity indicated that children are pleased with their visit (Rajack et al., 1996, Andereck et al., 1994). According to the results of the study done by Robinson indicated that visitors leaving satisfied from the zoo, as well (Robinson, 1982).

CONCLUSION

Spare time activities improving fastly nowadays and there is a huge competition, however visiting zoos is one of the most preferred recreational acitvity between other options, this is because 3 million people visit the Gaziantep Zoo all the year round and it is increasing every single day (when considered the previous years) and this increase the preferation of zoo visits as a recreation activity.

As a result of the study, it is seen that students are visiting zoos at the high rate. Considering this result, zoos are the places where children spend their spare time efficiently

and important for the education. So we can say that encouraging and supporting the students more for visiting zoos in their spare time will contribute to their academic and social improvement. Some other studies done about this topic are supportive to these, using zoos as a out-of-school education environment and associated zoos with science and technology programs while teaching science to students will help them to understand their lessons better, materialise the terms and learn permanently (Randler, Kummer and Wilhelm, (2012); Braund and Reiss, 2006). There are studies indicated that using zoos as a out-of-school education environment provide success, motivation and problem solving ability and effect their attitude positively (Bozdogan and Yalcin, 2006; Ramey and Gassert, 1997; Braund and Reiss, 2006;Gumus et al., 2017; Paris, Yambor and Packard, 1998; Falk and Adelman, 2003).

Consequently, zoos are important factors in providing academic success to children. For instance the study done by Tofield and et al. supports this result (Tofield, Coll, Vyle and Bolstad, 2003). So as to provide positive change in cognitive and affective features of the students, the tours done in the zoos must be done with purpose, planned and repeated at regular intervals. There are a lot of supportive scientific studies (Bozdogan, 2007; DeWitt and Osborne, 2007; Jarvis and Pell, 2005; Rix and McSorley, 1999).

When examined the purpose of the zoo visits, people want to amuse themselves and have a great time and in addition to these they are comingfor educational activities as well. When considered these pluses, zoos are important places for education and recreation.3 million people visit the Gaziantep Zoo all the year round and it is increasing every single day. To increase this potential, managers must do studies about increasing satisfaction of the visitors, thus zoos will continue to exist, expand and improve.

SUGGESTIONS

In addition to being huge recreation places where people spend their spare time efficiently, zoos are also give us the opportunity to recognizing the nature. It helps children to be succesfull in their education and social life. Leaving satisfied from the zoos, coming again and suggest to others will increase the visitors of the zoo. Administration of the zoos must care these topics more and do studies about them, it will make more people come to the zoos.

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AN ANALYSIS OF PHYSICAL EDUCATION AND SPORTS TEACHERS' USE OF TECHNOLOGY STATES TO REACH INFORMATION

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ABSTRACT

This study aims to determine of physical education and sports teachers' use state of tools. The research population consists of physical education and sports teachers working at middle schools in Mugla province in 2010-2011 school year. 30 physical education and sports teachers in 17 schools located in Mugla province constitute of a sample of the research. At the beginning of the study, "Technology Attitude Scale" developed by Yavuz (2005) was applied to the teachers. Later, working groups were created, and teachers were asked to carry out technology-assisted project studies. Cronbach's alpha coefficient was calculated as 0,88. The collected data was analyzed using SPSS 14 package program. Frequency and percentage analysis were applied to determine the results. According to the analysis made, 53% stated: "Education can be given via the internet.", 63% stated: "computers and projection devices should be used.", 62% stated: "Technological tools have an impact on student motivation.", 77% stated: "When certain sections of the course are recorded with a camera, it is possible to see the deficiencies and mistakes of the students.", 87% stated: "The use of existing technology allows the development of new technologies.", 60% stated: "

It will be easier with technology to comprehend lessons that are difficult to understand.", 94% stated: "Students need to be given preliminary information about the use of new technologies.", and 67% stated: "Technological tools can be successful when appealing all sensory organs." At the end of the research, A Technology Attitude Scale was found to be significantly higher. It is thought that teachers' use the technological materials in teaching affects the attitude scores positively.

Key Words: Technology, Physical Education, Teacher, Information

INTRODUCTION

In today's world, where technology becomes a necessity rather than a privilege, people need to acquire knowledge, skills, attitudes, and habits to adapt to ever-changing and developing technology, understand the technology and take advantage of its opportunities. Through education, it is aimed to equip individuals with information access, information editing, information evaluation, information presentation and communication skills. For these fundamental goals to be fulfilled, learning-teaching processes must be efficient and lasting as to learner(Pala, 2006).

For this, that learning activities appeal to many sensory organs, and the necessity of using visual and audio means in education are indisputable facts. In the study of learners' learning styles, the learning environment in which the students with audiovisual and kinesthetic learning styles were found to be an important factor in learning their preferences. Considering the learning styles of learners, contrary to traditional teaching methods, developing and implementing student-centered instructional activities and designing learning environments in which the students will be capable is one of the primary goals of modern education understanding. In this sense, nowadays the concept of educational technology has an essential role in the education systems of the countries(Yılmaz, 2008).

Educational technology is defined as the application of scientific knowledge about how people learn to teach and to solve learning problems; a system consisting of personnel, tools, materials processes and methods in order to transform teaching theories into the most productive and active applications; systematic strategy applications and techniques derived from behavioral or physical science concepts and other information for solving instructional problems (Usun, 2000). As it is understood from the definitions, education technology means a systematic and holistic approach to teaching and learning processes, and equipment becomes one of the essential items involved in this process(Boydak, 2006). Especially in the modern education concept, the teacher is the person who plans the teaching and training processes considering the individual differences and knows how to reach the aim by choosing the suitable tools to be used in this process. Because science and technology are rapidly developing today, it is not the case that transferring and teaching the information through traditional teaching methods.

METHODS

This study aims to determine of physical education and sports teachers' use state of tools. The research population consists of physical education and sports teachers working at middle schools in Mugla province in 2010-2011 school year. 30 physical education and sports teachers in 17 schools located in Mugla province constitute of a sample of the research.

At the beginning of the study, " A Technology Attitude Scale" developed by Yavuz (2005) was applied to the teachers. Later, working groups were created, and teachers were asked to carry out technology-assisted project studies. Cronbach's alpha coefficient was calculated as 0,88.

The collected data was analyzed using SPSS 14 package program. Frequency and percentage analysis were applied to determine the results.

RESULTS

Table 1: The frequency and percentage table of the proposition: "The use of the Internet in the teaching process is nothing more than a waste of time."

Proposition	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	f	%	F	%	f	%	f	%	f	%
The use of the Internet in the teaching process is nothing more than a waste of time.	11	36,7	12	40,0	3	10,0	1	3,3	3	10,0

Of the physical education teachers who participated in the survey, eleven people who constituted 36.7% stated: "strongly disagree," twelve people who constituted 40% stated: "disagree," three people who constituted 10% stated: "neutral," one person who constituted 3,3% stated: "agree," and three people who constituted 10% stated: "strongly agree."

Table 2: The frequency and percentage of the proposition: "The use of technological tools does not affect student motivation."

Proposition	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	f	%	F	%	f	%	f	%	f	%
The use of technological tools does not affect student motivation.	8	26,7	11	36,7	8	26,7	1	3,3	2	6,7

Of the physical education teachers who participated in the survey, eight people who constituted 26,7% stated: "strongly disagree," eleven people who constituted 36,7% stated: "disagree," eight people who constituted 26,7% stated: "neutral," one person who constituted 3,3% stated: "agree," and two people who constituted 6,7% stated: "strongly agree."

Table 3: The frequency and percentage of the proposition: "Video recording of certain parts of the lesson with the camera allows students to see their deficiencies and mistakes."

Proposition	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	f	%	F	%	f	%	f	%	f	%
Video recording of certain parts of the lesson with the camera allows students to see their deficiencies and mistakes.	1	3,3	3	10,0	3	10,0	19	63,3	4	13,3

Of the physical education teachers who participated in the survey, one person who constituted 3,3% stated: "strongly disagree," three people who constituted 10% stated: "disagree," three people who constituted 10% stated: "neutral," nineteen people who constituted 63,3% stated: "agree," and four people who constituted 13,3% stated: "strongly disagree."

Table 4: The frequency and percentage of the proposition: "
Students should be given basic lessons on computer literacy."

Proposition	Strongly Disagree		Neutral		Agree		Strongly Agree	
	f	%	f	%	f	%	f	%
Students should be given basic lessons on computer literacy	1	3,3	7	23,3	18	60,0	4	13,3

Of the physical education teachers who participated in the survey, one person who constituted 3,3% stated: "strongly disagree," seven people who constituted 23,3% stated: "neutral," eighteen people who constituted 60% stated: "agree," and four people who constituted 13,3% stated: "strongly agree."

Table 5: The frequency and percentage of the proposition: "With the use   of technology will make it easier to comprehend lessons that are difficult to understand."

Proposition	Disagree		Neutral		Agree		Strongly Agree	
	f	%	F	%	f	%	f	%
With the use of technology will make it easier to comprehend lessons that are difficult to understand.	2	6,7	10	33,3	16	53,3	2	6,7

Of the physical education teachers who participated in the survey, two people who constituted 6,7% stated: "strongly disagree," ten people who constituted 33,3% stated: "neutral," sixteen people who constituted 53,3% stated: "agree," two people who constituted 6,7% stated: "strongly agree."

Table6: The frequency and percentage of the proposition: "Computer-assisted instruction should frequently be given during the course."

Proposition	Disagree		Neutral		Agree		Strongly Agree	
	f	%	F	%	f	%	f	%
Computer-assisted instruction should frequently be given during the course.	4	13,3	17	56,7	8	26,7	1	3,3

Of the physical education teachers who participated in the survey, four people who constituted 13,3% stated: "disagree," seventeen people who constituted 56,7% stated: "neutral," eight people who constituted 26,7% stated: "agree," one person who constituted 3,3% stated: "strongly agree."

Table7: The frequency and percentage of the proposition: "Students should be informed about the use of new technologies."

Proposition	Neutral		Agree		Strongly Agree	
	f	%	f	%	f	%
Students should be informed about the use of new technologies.	2	6,7	23	76,7	5	16,7

Of the physical education teachers who participated in the survey, two people who constituted 6,7% stated: "neutral," twenty-three people who constituted 76,7 stated: "agree," and five people who constituted 16,7% stated: "strongly agree."

Table 8: The frequency and percentage of the proposition: "The use of new technologies should be increased with teacher education."

Proposition	Neutral		Agree		Strongly Agree	
	f	%	F	%	f	%
The use of new technologies should be increased with teacher education.	4	13,3	6	20,0	20	66,7

Of the physical education teachers who participated in the survey, four people who constituted 13,3% stated: "neutral," six people who constituted 20% stated: "agree," and twenty people who constituted 66,7% stated: "strongly agree."

Table9: The frequency and percentage of the proposition: "Technological tools only succeed when appealing to all sensory organs."

Proposition	Disagree		Neutral		Agree		Strongly Agree	
	f	%	f	%	f	%	f	%
Technological tools only succeed when appealing to all sensory organs.	3	10,0	7	23,3	18	60,0	2	6,7

Of the physical education teachers who participated in the survey, three people who constituted 10% stated: "disagree," seven people who constituted 23,3% stated: "neutral," eighteen people who constituted 60% stated: "agree," and two people who constituted 6,7% stated: "strongly agree."

DISCUSSION AND CONCLUSION

With this research, the attitudes and thoughts of physical education teachers towards the use of technological equipment in education have been determined. As a result of the research, it was determined that the use of technological tools in education, the effects of technology on education life, and the teaching of the use of technological tools have positive attitudes. As a result of the technology-supported project studies, it was determined that the teachers had positive attitudes towards the use of technological tools in educational activities. In other words, it is understood that technology-supported project studies have improved the attitudes of the physical education teachers towards technology, positively(Akkoyunlu, 1995).

As a concordant result, it has been determined that teachers have a positive opinion on the use of technology as a result of interviews with teachers. It has been determined that the technology perception that teachers have is in the form of inventions that facilitate the life of many people such as communication, transportation, and education. It has also been determined that technological tools such as a computer, overhead projector, a projection device, television, DVD, slide machine, tape recorder should be used in the teaching process. With these tools used, the lessons have become more enjoyable, the visual materials have made it easier to understand, saving time and their positive ideas have been determined. Teachers, however, they have emphasized that technology should play an auxiliary role in teaching and should not be turned into an aim of teaching. When we look at literature, there are studies that similar results are obtained(Yalın, 2007).

Yilmaz (2005) determined in his study which evaluating the effect of the use of technology on students' success and attitude that technological tools have a positive effect on students' achievement and attitude. Sevindik (2006) found that the use of smart classes in higher education has a positive effect on the academic achievement and attitudes of students. Gunter, Gunter, and Wiens (1998) found that teachers' attitudes towards computer work and learning, as well as attitudes toward technology, were non-worrying and more positive after the in-service course. They found in their studies about the effects of computer-assisted instruction, and interactive video applications on learning performance and attitude that only computer-assisted education was the most effective method, and it significantly affected the attitude of teachers who had a low ability. Yilmaz (2007) determined that the students in the physical education teacher program have positive attitudes towards using computers, and those with more computer experience have more positive attitudes. Yavuz ve Coşkun (2008), determined in the study which evaluating the attitude and thought of physical education teachers in respect of using technology in education that teachers' use technological tools in teaching affects students'attitude positively. They also determined in their interviews that the teachers have a positive opinion about using technology. Yilmaz (2008) found that physical education sports instructors have positive attitudes towards technology and that a large part of them do not participate in a technology related course and that they think that the technological equipment they are studying is inadequate.

RECOMMENDATIONS

Based on the results of the study and other relevant research results, some suggestions were developed:

Increasing technological equipment in all schools encourages teachers to use technological materials in their theoretical and practical courses.

In-service training programs can be organized for teachers on technological developments and effective use of technological tools and equipment.

Teaching technology and material development course taught in the physical education teacher education program should be given with theoretical and practical activities at the level to increase the technology and information literacy of the teacher candidates appropriate to the nature of physical education and sports.

Attention should be given to researches aimed at determining the effectiveness levels of technology tools and equipment used in educational activities.

Since the study group is limited, the work to be done with the physical education teachers working in different provinces may bring different dimensions to the subject.

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THE RELATIONSHIP BETWEEN UNIVERSITY STUDENTS' FREE TIME MANAGEMENT AND ACADEMIC SUCCESS

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ABSTRACT

The aim of this study is to highlight the relationship between free time management and the academic success of university students and to examine their free time management levels in terms of different variables. With this aim, a total of 267 university students (106 females, 39.7%; 161 males, 60.3%) were selected through random sampling. The study was designed as a relation scanning model. The study sample consisted of the students attending at İstanbul University, Faculty of Sports Sciences. The average age of the participant students was 22.27 ± 1.34. As data collection instruments of the study, *"The Free Time Management Scale"* which aimed to determine free time management levels of responders and was developed by Wang et al. (2011) and adapted into Turkish by Akgül and Karaküçük (2015) was used as well as a personal information form which was prepared by the researcher. Frequency (f) and percentage (%) were applied to determine the distribution of the participants' personal information, the Shapiro Wilks normality test was used to see if the data possessed a normal distribution, and that the data was appropriate for the parametric test conditions was revealed, independent t test and ANOVA tests were applied to describe the meaningful differences.

Lastly, the Pearson correlation analysis was conducted to measure the relationship between the sub dimensions of the scale and academic success levels of the participant students. Regarding gender, male students scored more in "Goal Determination and Method" sub dimension than female students (t=-1.759; p<0.05). Regarding age variable, the 21-25 aged students scored more in "Assessment," "Free Time Attitude" and "Programming" sub dimensions than the students in other age groups in (f= 3.657; 5.085; 4.237; p<0.05). In terms of departments of the students, statistically meaningful no difference was found while there were significant differences in "Free Time Attitude" and "Programming" sub dimensions in terms of class variable. Lastly, a positively medium relationship was found between the free time managements and academic success of the participants. Consequently, it was determined that male participants were more successful in goal and method determination in free time management than females, that the 21-25 year-old students were better at assessment, attitudes and programming regarding free time management than other age group students and that the participants who could spend and manage their free time more effectively also had higher academic success, which indicates that it had a positive effect on their academic success.

Key Words: Free time management, university student, academic success

INTRODUCTION

Time, an indelible aspect of our lives, is often categorized into free time and work time. Effective time management depends on an agent's balancing among the periods he spares considering many various factors. Recreation can simply be defined as the activities done during "free time" in off-hours (Sevil et al.,2012).

Free time is the period which can be spent by an agent freely (Broadhurst, 2001). This period is to be the time which is completely separated for recreational activities and different from the time left for working and vital needs of an agent, and it can change from agent to agent and possess a subjective meaning (Karaküçük, 2005, Gürbüz & Handerson, 2013). In other words, it is the time in which an agent is free from all the dependencies or compulsory tasks for both himself and others, which he spends time doing an activity he desires (Ekinci et al., 2014). Today free time is needed at schools "…to realize educational goals, for students' social development and gaining social status and for integration of different cultures through cultural exchanges," (Karataş, 2006). Time is life and wasting it means wasting life. It gains importance when it is spent productively, which is matter of an education and civilization. Education is integrated with the responsibility of both school and environment. An individual should first know himself in order to spend time effectively. That is, he should know what he will do, what his goals or targets are. He should be able to specify the limits of what he can or cannot do. Completing many things in a short time without wasting time in thinking and details refers to using time effectively. In contrast, a well description of goals and priorities and doing the only desired ones mean spending time effectively as well (Baltaş and Baltaş, 1987).

In short, an individual should be aware of the fact that time gains importance when it is spent productively, and he should make use of the time well (Akyüz, 2015). The fast changes we encounter during daily our lives, force individuals to run against time. This change again reminds the significance of spending time effectively regarding both maintaining our social roles and responsibilities and leading a quality life. For university students, maintaining their academic studies at an optimal level is among the expected duties and responsibilities from them. Aiming to provide a country with qualified labor, the universities are directly related to university students' functioning well during this education and fulfilling their academic tasks and responsibilities (Aydın & Koçak, 2016). Although

there have been studies regarding time management definitions and concepts, the number of the studies on free time managements is quite few.

However, since the importance of the free time assessments has increased recently, and the characteristics of working/studying time assessment and free time assessments are different, these assessments processed are to be dealt separately. Additionally, today the studies about free time management focus on increasing life quality (Akgül & Karaküçük, 2015). In this sense, the aim of the current study is to examine the relationship between free time managements and academic success of university students in terms of different variables.

METHODS

Research Model: The study was designed as a relational scanning model in which participants' opinions or characteristics such as interests, abilities and attitudes are described (Fraenkel & Wallen, 2006). In this method, a past or present situation is described as the way it is and it enables to observe a case, agent or an object within its own conditions and without changing anything (Karasar, 2012).

Study Sample: The study sample consisted of 267 university students studying at İstanbul University, 161 of whom were males while 106 of them were females. The age average of the participants was 22,27 ± 1,34.

Data Collection Instruments: The form which was one of the data collection instruments of the study consisted of three parts. The first part was "Personal Information Form". It was used to describe the participants' gender, age, department, class, income level and weekly free time.

In the second part, "The Free Time Management Scale" which aimed to measure free time management levels of responders and was developed by Wang et al. (2011) and adapted into Turkish by Akgül and Karaküçük (2015) was used. It was 5-point Likert scale (1=Definitely Agree, 5=Definitely Disagree) consisting of 15 items and four sub dimensions: Goal Determination and Method, Free Time Attitude, Programming and Assessment. And in the third part, an Assessment Form of Academic Success Level was applied to measure the students' academic success levels.

Data Analysis: Frequency and percentage methods which are among the descriptive statistical methods, were used for analyzing the personal information. Frequency (f) and percentage (%) were applied to determine the distribution of the participants' personal information, the Shapiro Wilks normality test was used to see if the data possessed a normal distribution, and that the data was appropriate for the parametric test conditions was revealed, independent t test and ANOVA tests were applied to describe the meaningful differences. Lastly, the Pearson correlation analysis was conducted to measure the relationship between the sub dimensions of the scale and academic success levels of the participant students.

FINDINGS

Table 1: The Distribution of the Participants Based on Their Personal Information

Variables		F	%
Gender	Male	161	60,3
	Female	106	39,7
	Total	**267**	**100**
Age	17-20	99	37,1
	21-25	148	55,4
	26 and older	20	7,5
	Total	**267**	**100**
Department	F.E. and Sport Edu.	78	29,2
	Coaching Edu.	109	40,8
	Sport Management	80	30,0
	Total	**267**	**100**
Class	1.Class	71	26,6
	2.Class	70	26,2
	3.Class	93	34,8
	4.Class	33	12,4
	Total	**267**	**100**
Economic Status	Very Low	14	5,2
	Low	30	11,2
	Normal	140	52,4
	Good	71	26,6
	Very Good	12	4,5
	Total	**267**	**100**
Weekly Free Time Period	1-5 Hours	80	30,0
	6-10 Hours	56	21,0
	11-15 Hours	68	25,5
	16 Hours and more	63	23,6
	Total	**267**	**100**

Table 1 shows the statistical findings related to the participants' gender, age, department, class, income level and weekly free time, in this sense it was revealed that 69.1% of them

were male while 30.9% were female, 55.4% were in between 21-25, 40.8% were studying at the Coaching Education Department, 34.8% were in their 3rd year, 52.4% had a normal income level and 30% had about 1-5 hours of free time a week.

Table 2: The Distribution of Scale Scores

	Number of Items	n	Avg.	Sd	Skewness	Kurtosis
Free Time Management	15	267	2.48	0.32	0.326	2.470
Goal Determination and Method	6	267	2.40	0.48	0.304	0.070
Free Time Attitude	3	267	1.93	0.49	0.919	0.986
Programming	3	267	3.47	0.59	-0.580	0.330
Assessment	3	267	2,20	0.47	0.807	1.210

The distribution of the scale scores was presented in Table 2. Considering the results, the lowest score was in "Free Time Attitude" sub dimension (1.93), while the highest one was in "Programming" sub dimension (3.47).

Table 3: Participants' Free Time Management Levels Based on Their Gender

Sub Dimension	Gender	N	Avg. ± Sd	t	p
Goal Determination and Method	Male	161	2.47 ± .80	-1.759	**,046***
	Female	106	2.30 ± .75		
Free Time Attitude	Male	161	1.98 ± .86	-1.348	,164
	Female	106	1.85 ± .73		
Programming	Male	161	3.44 ± 1.08	-594	,547
	Female	106	3,52 ± .93		
Assessment	Male	161	2.26 ± .83	-1,652	,088
	Female	106	2,10 ± .69		

Conducted to determine the free time management levels of the participants in terms of gender variable, the independent t test results are shown in Table 3. To the test results, statistically meaningful difference was found between participants' genders and "Goal Determination and Method" sub dimension ($p<0.05$) while no similar differences were found between gender variable and other sub dimensions ($p>0.05$).

Table 4: Participants' Free Time Management Levels Based on Their Ages

Sub Dimension	Age	N	Avg. ± Sd	F	p
Goal Determination and Method	17-20	99	2.37 ± .73	.404	,668
	21-25	148	2.41 ± .79		
	26 and older	20	2.54 ± .74		
Free Time Attitude	17-20	99	1.73 ± .65	5.085	**,007***
	21-25	148	2.08 ± .90		
	26 and older	20	2.05 ± .87		
Programming	17-20	99	3.30 ± .74	4.237	**,015***
	21-25	148	3.95 ± .78		
	26 and older	20	3.53 ± .92		
Assessment	17-20	99	2.03 ± .69	3.657	**,027***
	21-25	148	2.38 ± .99		
	26 and older	20	2.28 ± .79		

Table 4 demonstrates the one-way variance analysis results which indicated that there were meaningful differences between the participants' ages and "Free Time Attitude," "Programming" and "Assessment" sub dimensions ($p<0.05$) while statistically meaningful, no difference was found in the "Goal Determination and Method" sub dimension ($p>0.05$).

Table 5: Participants' Free Time Management Levels Based on Their Departments

Sub Dimension	Age	N	Avg. ± Sd	F	p
Goal Determination and Method	F.E. and Sport Edu.	78	2.37 ± .80	.137	,872
	Coaching Edu.	109	2.40 ± .79		
	Sport Management	80	2.44 ± .76		
Free Time Attitude	F.E. and Sport Edu.	78	1.92 ± .76	.713	,491
	Coaching Edu.	109	1.87 ± .88		
	Sport Management	80	2.02 ± .79		
Programming	F.E. and Sport Edu.	78	3.41 ± 1.03	.280	,756
	Coaching Edu.	109	3.49 ± .95		
	Sport Management	80	3.52 ± .96		
Assessment	F.E. and Sport Edu.	78	2.14 ± .81	1.536	,217
	Coaching Edu.	109	2.36 ± .76		
	Sport Management	80	2.32 ± .77		

Table 5 shows the results of one-way variable analysis which was conducted to see the participants' free time management levels in terms of their departments. The test results refer that statistically meaningful no difference was found between the participants' departments and free time management levels ($p>0.05$).

Table 6: Participants' Free Time Management Levels Based on Their Classes

Sub Dimension	Age	N	Avg. ± Sd	F	p
Goal Determination and Method	1.Class	71	2.39 ± .74	.537	,658
	2.Class	70	2.31± .86		
	3.Class	93	2.44 ± .80		
	4.Class	33	2.50 ± .67		
Free Time Attitude	1.Class	71	1.66 ± .65	4.713	**,003***
	2.Class	70	1.95 ± .82		
	3.Class	93	2.01 ± .89		
	4.Class	33	2.25 ± .71		
Programming	1.Class	71	3.38 ± 1.03	5.093	**,002***
	2.Class	70	3.16 ± 1.13		
	3.Class	93	3.70 ± .80		
	4.Class	33	3.76 ± .74		
Assessment	1.Class	71	2.06 ± .69	2.366	,071
	2.Class	70	2.10 ± .79		
	3.Class	93	2.32 ± .82		
	4.Class	33	2.36 ± .73		

In Table 6, the results of the one way variable analysis which was conducted to reveal the participants' free time management in terms of class levels, are shown. To the test results, statistically meaningful differences were found between the participants' class levels and "Free Time Attitude" and "Programming" sub dimensions ($p<0.05$). However, similar no meaningful differences were found in "Goal Determination and Method" and "Assessment" sub dimensions ($p>0.05$).

Table 7: Participants' Free Time Management Levels Based on Their Weekly Free Time Periods

Sub Dimension	Age	N	Avg. ± Sd	F	p
Goal Determination and Method	1-5 Hours	80	2.27 ± .72	1.348	,259
	6-10 Hours	56	2.53 ± .84		
	11-15 Hours	68	2.39 ± .70		
	16 Hours and more	63	2.46 ± .89		
Free Time Attitude	1-5 Hours	80	1.83 ± .82	1.030	,380
	6-10 Hours	56	2.08 ± .91		
	11-15 Hours	68	1.93 ± .72		
	16 Hours and more	63	1.93 ±.80		
Programming	1-5 Hours	80	3.31 ±1.03	1.208	,346
	6-10 Hours	56	3.55 ±.94		
	11-15 Hours	68	3.56 ±.86		
	16 Hours and more	63	3.52 ±1.04		
Assessment	1-5 Hours	80	2.12 ±.75	1.431	**,005***
	6-10 Hours	56	2.15 ±.73		
	11-15 Hours	68	2.19 ±.75		
	16 Hours and more	63	2.38 ±.88		

According to the results of the test which was applied to see the participants' free time management levels in terms of their weekly free time, there was statistically meaningful difference between the participants' weekly free time and "Assessment" sub dimension (p<0.05) while no significant difference was found), "Goal Determination and Method" "Free Time Attitude" and "Programming" sub dimensions (p>0.05).

Table 8: The Correlations Between Free Time Management and Academic Success Scores

Sub dimensions		1	2	3	4	5	6	7	8
Poor	R	1							
	P								
Moderate	R	,645	1						
	P	**0,04****							
Good	R	,326	,264	1					
	P	**0,04****	**0,04****						
Excellent	R	,287	,367	,697	1				
	P	**0,04****	**0,04****	**0,04****					
Goal Determination and Method	R	,476	,457	,435	,345	1			
	P	**0,04****	**0,04****	**0,03****	**0,03****				
Free Time Attitude	R	,426	,426	,568	,673	,236	1		
	P	**0,03****	**0,03****	**0,03****	**0,03****	**0,03****			
Programming	R	,564	,653	,345	,325	,436	,539	1	
	P	**0,01****	**0,01****	**0,01****	**0,01****	**0,01****	**0,01****		
Assessment	R	,346	,678	,235	,435	,434	,585	,553	1
	P	**0,00****	**0,00****	**0,00****	**0,01****	**0,03****	**0,01****	**0,01****	

Table 8 displays the results of the Spearman correlation test that was applied to highlight whether there was a correlation between free time management and academic success levels of the participants. The test results indicated that there was a medium level positive significance between the given variables (p<0.05).

CONCLUSION

This study was conducted to examine the relationships between university students' free time managements and academic success, and it was tried to be predicted in terms of different variables. Upon the analysis, it was found that there was a meaningful difference between the participants' gender and "Goal Determination and Method" sub dimension, in favor of female participants (p<0.05). In a similar study by Alay and Koçak (2003), the relationships between genders and free time management and academic success of university students were examined, and the results indicated a meaningful correlation among them. The reason for this meaningful difference might stem from that female participants take more responsibilities in than male ones in social life, so they are assumed to develop better time

management skills. Again in a study by Akgül et al. (2016) about university students' free times, meaningful differences were found in Programming sub dimension. There were statistically significant differences between the participants' ages and "Free Time Attitude", "Programming" and "Assessment" sub dimensions (p<0.05), while no such a difference was seen in "Goal Determination and Method" sub dimension (p>0.05). Of the participants, this difference was in favor of the ones in 21-25 age group, which is thought to stem from the fact that these students were either third or last classes and they had to plan their time effectively so as to prepare for the placement examinations about their professions in Turkey. Statistically meaningful no difference found between the participants' departments and all sub dimensions (p>0.05). However, in a study by Sugötüren et al. (2011) on free time behaviors of the students at the Academy of Sports Sciences and Technologies, it was pointed out that the students' scores differed and the highest score average was belong to the students at Physical Education and Sports Teaching Department. This finding is parallel with our findings related to department. Meaningful differences were found between the participants' class levels and "Free Time Attitude" and "Programming" sub dimensions (p<0.05), while there was no similar difference in "Goal Determination and Method" and "Assessment" sub dimensions (p>0.05). Regarding free time of the participants, the meaningful differences were seen in "Assessment" sub dimension (p<0.05) and no difference was found in "Goal Determination and Method" "Free Time Attitude" and "Programming" sub dimensions (p>0.05). The reason for differences in class variable that 4th class students' average scores were higher in the given sub dimensions. Also, it thought that it might stem from that 1st class students just started their educational lives and did not know or have social settings and opportunities to spend free time. A positively medium level relationship was found between free time and academic success levels (p<0.05). In this sense, it can be inferred that the agents are able to manage their free time effectively, influence their academic success positively. Participation in recreational activities help agents rest both psychologically and physically, and it ensures the necessity for recreation. Also, the precondition to participate in recreational activities is to manage free time well and effectively. In turn, it transfers to individuals' academic success and other domains of life. In this sense, university students should be informed about how to manage free time and recreational activities. The study can be conducted with larger samples and at different regions, and qualitative research methods can be used in the following studies, which is thought to provide more efficient outcomes.

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ANALYZING OF THE EXCERCISE ADDICTION IN INDIVUALS ENGAGED WITH INDIDIVDUAL AND TEAM SPORTS

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ABSTRACT

Objective of this study is to analyze the exercise addiction in individuals in chosen provinces of Turkey engaged with individual and team sports, definition of the addiction levels of athletes engaged with individual and team sports. 904 students engaged with individual and team sports participated voluntarily the research. The questionnaire form, in which the demographic characteristics of the participants were questioned, and an Exercise Addiction Scale (EAS-21) and Personal Data Form have been applied. For the statistical analysis of the date IBM SPSS (Statistical Package for Social Sciences) 22.0 package has been used. For the data distribution and definition of the rates of anwers given to the questions the Frequency analysis, and for the definition of the differences between the varialbles the Anova (Schefee) and Independent T-test has been applied. Results are presented as *(X)* for average and *(SS)* for standard deviation and $P<0,05$ value has been considered as significant. Consequently, has been decided that 26 individuals among the participants are addicted, according to the rates of performing weekly exercises no difference has been found between the Exercise Addicts and the Symptomatic groups, while the difference in the asymptomatic groups has been considered as significant.

Key Words: Free time management, university student, academic success

INTRODUCTION

Exercise is definable as physical activities, which involve repeated, regular, planned body movements, which are performed on regular basis (Baltacı and Düzgün, 2008). While the performance of regular exercises ensures that the individual feels him-/herself physically and psychologically good (Bouchard et.al. 2009; Hagan, 2001), it is in a position of being a factor which also assists in reducing many health problems (Adams et.al., 2003, Uzun, 2007). Nevertheless some researches are emphasizing that exercises performed in excessive and uncontrollable extent may harmful and may create addiction (Yates, 1991; Szabo, 1995; Szabo, 1998). Continuously increasing the duration, frequency, strength of the exercise, the fact that the exercise routine gets out of control and representing negative characteristics like maintaining distance to social activities, lack of time spent with family and friends due to exercise performance, giving priority to exercise behavior over the life order, sleeping disorders, anxiety and depression in case of nonperformance of exercise are definable as exercise addiction (Adams and Kirkby, 2002; Zmijewski and Howard 2000; Hausenblas and Downs, 2002; American Psychiatric Association, 1994).

In foreign literatures studies are available which indicate the existence of symptoms for exercise addiction (Berczik et al., 2012; Hamer and Karageorghis, 2007; Vardar, 2012). However studies are required, where this situation is analyzed in respect of the individual and team sports in Turkey. Therefore, this study has been performed with the objective to define the level of detecting exercise addiction in athletes performing individual and team sports.

MATERIAL AND METHOD

Totally 904 students consisting from 296 female and 608 male students educating in the physical education and sports departments of universities in Turkey's provinces (Erzincan, Kahramanmaras, Kayseri, Kütahya, Erzurum, Kastamonu) chosen randomly participated to the study voluntarily. Objective was to analyze exercise addiction symptoms of athletes, who are students engaged with individual and team sports, and to define the addiction levels of athletes performing individual and team sports. A questionnaire form, in which demographic characteristics were questioned, and the Exercise Addiction Scale-2, developed by Hausenblas HA. and Downs DS. (2002) and adapted by Yeltepe H and Ikizler H.C. (2008) into Turkish were applied to the participants.

Exercise Addiction Sclae-21: The EAS-21 was developed by the Exercise and Sports Science Department of the Florida University, Heather A. Hausenblas from the Exercise Laboratory and the KEBÖ-21, Kinesiology Department of the Pennsylvania State University, Daniel Symons Downs from the Exercise Psychology Department in five stages deploying a sample group of totally 2420 individuals. During the analysis performed in result of the retesting studies of the performed test a significance has been found in the $P<0,001$ level, and the alpha level calculated as (Cronbach) a=0,95 has been evaluated as perfect. The scale is applicable individually or as a group on the ones over the age 18. Answers were arranged in accordance with the 6's Likert Scale as (1) for never and (6) for always. The total duration for response to the Exercise Addiction Scale-21 has been foreseen as approx. 5 minutes. The EAS-21, which is prepared based on the drug addiction criteria of SDM-IV (Diagnostic and Statistical Manual for Mental Disorders – IV) and consisting from 21 questions) provides following information:

1- Score average of exercise addiction symptoms.

2- Distinguishes following:

a) Exercise addicts

b) Symptomatic of non-addicts

c) Asymptomatic of non-addicts

3- Determination of following situations regarding the individuals:

a) Existence of physiological addiction (tolerance/symptoms of ceasing the exercise)

b) Lack of physiological addiction (tolerance or syndrome of ceasing the exercise)

7 addiction criteria were taken as basis in the Exercise Addiction Scale-21, and individuals representing three or more of these criteria were classified as exercise addicts. Addiction range is defined based on the fact that the articles constituting the criteria received 5 or 6 points. Individuals answering these articles with a score ranging between 3-4 points are classified symptomatically and these individuals may be considered as representing theoretically exercise addiction risk. Finally, the individuals having scored the expressions in the scale with a point range of 1-2 are asymptomatically classified as non-addicted (Yeltepe and İkizler, 2007).

And for the statistical analysis of the data the IBM SPSS (Statistical Package for Social Sciences) 22.9 package has been used. For the determination of the data distribution and rate of anwers given to the questions frequency analysis was applied and for the determination of the differences between the variables the Anova (Schefee) and Independet T-test has was applied. Results are provided as *(X)* for average and *(SS)* for standard deviation, and the value $P < 0,05$ is considered as being significant.

FINDINGS

Table 1: Defining Statistics in Analyzing of the Distribution Among Data

Variables	Frequency	%
Exercise Addict	26	2,9
Symptomatic (Risk Bearer)	478	52,9
Asymptomatic (Non-Addict)	400	44,2
Female	296	32,7
Male	608	67,3
Individual Sports	383	42,4
Team Sports	521	57,6
One performing sports 1 day weekly	84	9,3
One performing sports 2 days weekly	163	18,0
One performing sports 3 days weekly	227	25,1
One performing sports 4 days weekly	177	19,6
One performing sports 5 days weekly	137	15,2
One performing sports 6 days weekly	62	6,9
One performing sports 7 days weekly	54	6,0

Inspection of the table shows following: study participants are distributed as follows: 2,9% are exercise addicts, 52,9 % are symptomatic, 44,2% are asymptomatic, 32,7% are female and 67,3 % are male students, and 42,4% of these are engaged with individual sports and 57,6% are engaged with team sports. In respect of the rate of performing sports on weekly basis, it is seen that the rate for at least 7 days weekly is 6,0, while the rate for maximum 3 days weekly is 25,1%.

Table 2: Distribution of rate of answers given to the questions

Questions	Never (1)	Rare (2)	Occasionally (3)	Generally (4)	Frequently (5)	Permanent (6)
1 Frequency	60	143	266	192	128	114
%	6,6	15,8	29,4	21,2	14,2	12,6
2 Frequency	112	161	234	206	115	76
%	12,4	17,8	25,9	22,8	12,7	8,4
3 Frequency	50	122	208	219	178	127
%	5,5	13,5	23,0	24,2	19,7	14
4 Frequency	134	196	217	190	103	64
%	14,8	21,7	24	21,0	11,4	7,1
5 Frequency	172	255	250	123	71	33
%	19,0	28,2	27,7	13,6	7,9	3,7
6 Frequency	85	190	287	198	105	39
%	9,4	21,0	31,7	21,9	11,6	4,3
7 Frequency	84	193	300	186	81,0	60
%	9,3	21,3	33,2	20,6	9,0	6,6
8 Frequency	126	171	254	185	103	64
%	13,9	18,9	28,1	20,5	11,4	7,1
9 Frequency	267	217	156	118	91	53
%	29,5	24,0	17,3	13,1	10,1	5,9
10 Frequency	70	155	228	220	135	96
%	7,7	17,1	25,2	24,3	14,9	10,6
11 Frequency	133	205	237	166	103	60
%	14,7	22,7	26,2	18,4	11,4	6,6
12 Frequency	154	231	220	162	94	43
%	17,0	25,6	24,3	17,9	10,4	4,8
13 Frequency	82	172	260	205	118	67
%	9,1	19,0	28,8	22,7	13,1	7,4
14 Frequency	84	195	245	214	116	50
%	9,3	21,6	27,1	23,7	12,8	5,5
15 Frequency	88	173	249	202	119	73
%	9,7	19,1	27,5	22,3	13,2	8,1
16 Frequency	181	189	204	170	101	59
%	20,0	20,9	22,6	18,8	11,2	6,5
17 Frequency	94	180	230	192	131	77
%	10,4	19,9	25,4	21,2	14,5	8,5
18 Frequency	146	239	235	152	86	46
%	16,2	26,4	26,0	16,8	9,5	5,1
19 Frequency	332	187	183	103	73	26
%	36,7	20,7	20,2	11,4	8,1	2,9
20 Frequency	138	231	239	159	93	44
%	15,3	25,6	26,4	17,6	10,3	4,9
21 Frequency	98	193	240	180	130	63
%	10,8	21,3	26,5	19,9	14,4	7,0

Table 3: Comparison of Intergroup Variables

a,b, difference between groups bearing different letters in the same line are significant (p<0.05)

Variables	Exercise Addict		Symptomatic		Asymptomatic		F	P
	X	SS	X	SS	X	SS		
Weekly Exercise Number	4,54[b]	,312	3,93[b]	,312	3,09[a]	,314	37,350	,000
Individual and Team Sports	1,42[a]	,100	1,45[a]	,100	1,40[a]	,100	1,238	,291

The table inspection in respect of rates of performing weekly exercises; there was no difference between the exercise addicts and symptomatic groups, while the difference in the asymptomatic group has been determined as being significant. When inspecting in accordance with persons performing individual and team sports, it was determined that there is no difference among the groups (p<0.05).

Table 4: Comparison of the ones performing individual and team sports and the subdivisions of Exercise Addiction

Sub Divisions	P	F	SS
1	,841	,040	,07476
2	**,001**	11,386	,07510
3	**,018**	5,590	,07795
4	,821	,051	,07424
5	,471	,520	,07505
6	,614	,255	,07623
7	,547	,364	,07790

1. I'm doing exercise in order to escape from stress
2. I'm doing exercise even if I get hurt or injured
3. I'm increasing continuously the strength of my exercise in order to get the desired effect and increase the benefit
4. I'm lacking of reducing my exercise frequency
5. I'm thinking of exercise even if I have to focus myself on business, lessons

6. I spending too much time for exercise

7. I'm doing exercise longer than I planned

In result of the table inspection it was determined, significant differences were determined between the situations mentioned in the 2nd sub division of the group of the ones performing individual and team sports (I'm doing exercise even if I get hurt or injured) and the ones mentioned in the 3rd group (I'm continuously increasing the strength of my exercise in order to get the desired effect and increase the benefit).

DISCUSSION AND RESULT

Many studies are available in literature researches, which constitute content from different respects regarding and correlated with exercise addiction and performed based thereon. In result of the literature inspection it is mentioned that the frequency of observing exercise addiction symptom within the community is 10%-35% along the diversity of exercise addiction diagnosis criteria (Costa et.al. 2012, Lejoyeux et.al. 2008, Vardar et.alç 2012, Viella et.al. 2011), while this rate is mentioned as 3%-5% in the results of researches performed with exercise addiction scales (Berczik et.al. 2012, Monoc et.al. 2012). In studies performed in restricted numbers performed in the Turkish population regarding this area, Bavlı et.al. (2011) determined that 7,1% of the group representing exercise addiction in individuals performing regularly sports, and this rate has been determined by Vardar et.al. (2012) as being 12%. In the results of our study it was determined that from the participants 2,9% are exercise addicts, 52,9% are symptomatic, 44,2% are asymptomatic, that 42,2% thereof are engaged with individual sports and 57,6% are engaged with team sports; and that the rate of performing sports weekly as at least 7 days weekly is 6,0%, while the maximum rate as 3 days weekly is 25.1%. And in the comparison of the ones performing individual and team sports and the exercise addiction's sub-division it was determined that significant differences exist between the situations mentioned under the 2nd subdivision of the ones performing individual and teams sports (I'm doing exercise even if I get hurt or injured) and the ones mentioned in the 3rd subdivision (I'm continuously increasing the strength of my exercise in order to get the desired effect and increase the benefit). In respect of rates of performing weekly exercise;

there was no difference between the group of Exercise Addicts and Symptomatic, it was determined that the difference in the group of asymptomatic is significant. When inspecting in respect of the ones engaged with individual and team sports, no significant difference has been determined between the groups (p<0.05).

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THE COMPARISON OF PHYSIOLOGICAL AND MOTORIC CHARACTERISTICS OF U16-U18 BASKETBALL PLAYERS ACCORDING TO THEIR PLAYING POSITIONS

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ABSTRACT

The purpose of this study was to compare of physiological and motoric characteristics of U16-U18 basketball players according to their playing positions. 48 healthy male basketball players who participated in basketball competitions some sports clubs in Denizli participated in this study. Players divided into 3 groups according to the playing positions. Vertical jump, 10-20m speed, agility, flexibility, standing long jump, Yo-Yo intermittent recovery test level-1 (Yo-YoIR1) and pulmonary function test were applied. The difference between the physiological and motoric characteristics of the basketball players according to their position was tested by one-way ANOVA and the difference between the groups was tested by Bonferroni post-hoc analysis.

Statistically significant difference was found between Yo-YoIR1 and force vital capacity (FVC) according to playing positions ($p < 0.05$). According to the Bonferroni Post-Hoc analysis to understand what the difference is between the groups; there was a significant difference in the Yo-YoIR1 values between the center players and both guard players and forward ($p < 0.05$). Statistically significant difference was found between center players and guard players in FVC values ($p < 0.05$). The results of this study produce useful information about physical characteristics of young basketball players according to their playing position and help to diagnose and improve their performance.

Key Words: Basketball, Motoric characteristics, Playing position, Physical characteristics

Introduction

Basketball is an aerobic-based anaerobic sport which requires high intensity activities such as jumping, turns, dribbles, sprints, screens and low intensity activities such as walking, stopping and jogging (Delextrat and Cohen, 2009; Meckell et al., 2009; Metaxas et al., 2009). During a basketball game, professional players cover about 3500-5000m. Each player performs about 1000, mainly short, activities lasting around 2 seconds; time motion analysis has shown that these short activities are performed with a different frequency according to the player's position (Abdelkrim et al., 2007). Motor abilities play an important role in the selection of young basketball players and the progress in their playing performance (Erčulj et al. 2010). The physical characteristics of an athlete are important predictive factors of whether the athlete will reach the top level of their chosen sports discipline (Sallet et al. 2005). Studies have shown significant differences among playing position for body size, speed, agility, vertical jump, maximum oxygen consumption (Sallet 2005; Mačura et al. 2013). A number of studies confirm that better physical abilities has profitable effect on better basketball skills. Each of the playing positions has its own characteristics and team role. The aim of this study was to compare of physiological and motoric characteristics of U16-U18 basketball players according to their playing positions.

Material and Method

A total of 48 healthy male basketball players between the ages of 15-17 who participated in basketball competitions in some sports clubs in Denizli participated in this study. Players divided into 3 groups [guard (1-2),forward (3-4), center (5)] according to the playing positions. The body height of the basketball players was measured using a stadiometer accurate to within 1 cm (SECA,Germany), while electronic scales (Tanita BC 418,Japan) accurate to within 0.1 kg were used to measure body mass. Vertical jump performance was measured using IPhone My Jump application. Players performed countermovement (CMJ) and squat jumps (SJ). Players were asked to jump as high as possible; the best score was recorded in centimeters. The subjects performed 2 maximal 20 m sprints on the basketball court. There was a recovery period of 3 minutes between the 20 m sprints. Times were measured using an electronic timing system (Prosport TMR ESC 2100). Flexibility measurements of the subjects were performed by sit-and-reach test on the flexibility stand. When the subjects rested their naked soles of feet on the test stand while sitting on the ground, they pushed forward ruler on the table extending forward without

bending the knees and the stretching distance was recorded by standing 2 sec at the farthest point to extend. A line was drawn on the field where the standing long jump test was done and from standing position, the players were placed in a way that their toe ends touch the line and were asked to jump forward. The players stopped at the place where their feet first touched the ground and the distance between the line and the players' heels was measured and recorded in centimeters. The measurement was done twice and the best score was recorded. Agility measurements of the subjects were performed by T-test. At the tester's signal, subjects sprinted forward 9.14 m and touched the tip of the cone with their right hand. Then they performed a lateral shuffle to the left 4.57 m and touched the tip of the cone with the left hand. Subjects then changed direction and shuffled 9.14 m to the right to touch the tip of the cone with their right hand. They then shuffled 4.57 m to the left to touch point with their left hand. Finally, the subjects back-peddled 9.14 m, passing through the finish point. The Yo-Yo intermittent recovery test consists of repeated 2x20m runs back and forth between the starting, turning, and finishing line at a progressively increased speed controlled by audio beeps from a tape recorder. Between each running bout, the subjects had a 10 s active rest period, consisting of 2x5m of jogging. When the subjects twice had failed to reach the finishing line in time, the distance covered was recorded as the test result. Pulmonary function tests were carried by Cosmed BTL-08 spirometry. Forced vital capacity (FVC), maximal voluntary ventilation (MVV), forced expiratory volume in 1st second (FEV1), FEV1/FVC ratio were measured. At least three acceptable maneuvers were required for each subject, and the best of the three values was recorded. The data are reported as means and standard deviations. The difference between the physiological and motoric characteristics of the basketball players according to their position was tested by one-way ANOVA and the difference between the groups was tested by Bonferroni post-hoc analysis. The statistical significance was set at $p < 0.05$.

Findings

Table 1. Physical characteristics according the their playing position of Basketball players'

Position	Age (year)	Height (cm)	Body Weight (kg)
Guard	15.81±0.75	175.63±7.60	64.34±11.94
Forward	16.25±0.68	180.38±7.32	74.79±13.41
Center	15.88±0.88	187.31±5.41	82.59±11.41

Table 2. Differences between performance tests (ANOVA) results by playing positions

	Position	x̄±SD	F	p	Difference
Yo-YoIR1	Guard	1155.00±382.24	5.30	0.01*	Center-Guard
	Forward	1200.00±445.42			Center-Forward
	Center	797.50±309.31			
Standing Long Jump	Guard	173.31±24.86	0.41	0.67	
	Forward	176.63±49.84			
	Center	162.94±54.09			
CMJ	Guard	40.56±6.34	2.46	0.10	
	Forward	45.54±8.57			
	Center	40.53±6.97			
SJ	Guard	41.02±8.17	0.20	0.82	
	Forward	41.50±5.90			
	Center	39.84±8.31			
Flexibility	Guard	23.84±6.92	0.75	0.48	
	Forward	24.31±4.76			
	Center	21.81±6.52			
10m	Guard	1.90±0.14	0.39	0.68	
	Forward	1.94±0.13			
	Center	1.90±0.10			
20m	Guard	3.36±0.26	0.91	0.41	
	Forward	3.43±0.30			
	Center	3.32±0.14			
Agility	Guard	10.96±0.84	0.10	0.91	
	Forward	11.04±0.65			
	Center	11.06±0.60			
FVC	Guard	4.43±1.26	3.67	0.03*	Center-Guard
	Forward	5.23±1.22			
	Center	5.58±1.21			
FEV1	Guard	3.96±1.01	3.13	0.05	
	Forward	4.31±1.24			
	Center	4.97±1.23			
FEV/FVC	Guard	90.17±13.53	1.53	0.23	
	Forward	82.77±15.05			
	Center	88.43±7.75			
MVV	Guard	126.14±31.01	0.02	0.98	
	Forward	128.31±44.46			
	Center	126.60±28.69			

*p<0,05

According to the result of Anova analysis, only statistically significant difference was found between Yo-YoIR1 and force vital capacity (FVC) according to playing positions

(p<0.05). According to the Bonferroni Post-Hoc analysis to understand what the difference is between the groups; there was a significant difference in the Yo-YoIR1 values between the center players and both guard players and forward (p<0.05). Statistically significant difference was found between center players and guard players in FVC values (p<0.05).

Discussion and Result

Players physiological characteristics differ according to their position on court, and need specific training to developed the skill needed by each playing position. Specifically in basketball, results showed that center were taller, heavier and presented a higher percentage of body fat than forwards and point guard (Abdelkrim et al., 2007). In our study, the tallest (187.31±5.41 cm) and the heaviest (82.59±11.41kg) players on average, as expected, were the center. Forward and guard body weights are less than centers, which initiates and sustains fast attack. It can be said that they will give them the advantage of balanced and quick movement in different parts of the game. In their study of Sallet et al. (2005), according to the positions played by professional basketball players, centers are longer than other players and body weights are higher, and forwards are longer than guards. This study supports our work.

Forward players are statistically more flexible when compared to guard and center players. Bavlı (2008) in his study, according to the results of the counter movement jump test of the guard 33.4 ± 5.1, forward 31.8 ± 5.2 and center 31.3 ± 5.4 were reported, respectively. Greene et al. (1998) found that the average vertical jump of female basketball players with age mean 16.02 year, was 46.36 cm. In our study, forwards counter movement jump values (45.54 ± 8.57) were found to be higher than other positions. In a study conducted by Kızılet et al. (2010), in squat jump performance were reported as 22.83 ± 3.56. In our study, the values of the forwards (41.50 ± 5.90) were higher than the others. Studies in the literature on whether basketball players playing in different positions have different biomotor features focus on elite basketball players. These studies indicate that forward and guard players have better vertical jump performance than center players. According to the basketball players, there was no difference between 10 m speed performance and 20 m speed performance. This may be due to the fact that the players are in the age of development; they have different motoric characteristics, and the training contents they have done.

The guards showed the greatest results in pulmonary function tests. In modern basketball, they apply more running and aerobic activities that need to be on high aerobic levels. Players in guard positions must have high aerobic characteristics due to their higher and constant mobility, agility and speed both in the defense and in attack phase (McKeag, 2003). Atan et al. (2013), it is stated that swimmers have the best FVC values (4.11 ± 0.53) compared to other branches in their studies comparing respiratory functions of athletes dealing with different branches in the category of youth. Erdil et al. (1984) reported that FVC (forced vital capacity) respiratory parameters of elite table tennis players (4,17±1,42) were different in sedentary individuals. In our study, forced vital capacity values were found in guards (4.43 ± 1.26), forward players (5.23 ± 1.22) and center players (5.58 ± 1.21). A statistically significant difference was found between Yo-YoIR1 and force vital capacity (FVC) according to playing positions. The difference between the Yo-Yo intermittent recovery test (Yo-YoIR1) and the force vital capacity parameter in our study of basketball players is due to the anthropometric characteristics of the center players, such as oversized and the the body weight is too high. The reason for having similar values may be due to the fact that the age values of the subject group are younger for comparing positions.

Performance testing provides feedback about players actual shape, feedback for evaluating a training program and information for recovery assessment. Small differences in physical characteristics between players gives more options using players in several playing positions. The results of this study; basketball players will be directed to the positions according to their motoric performances and coaches will be able to use the training to complete the missing aspects of the players playing in these positions.

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ANALAZING THE EFFECTS OF PLATELET ON THE DURABILITY TRAINING

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ABSTRACT

This study has been done to examine that; Are there any effects of the morning and evening durability training on the platelet or not. 38 students volunteered to participate in the study. Subjects were divided into morning, evening and control groups and Blood samples were taken at 07.00 in the morning and at 16.00 in the evening. In the evaluation of durability, "Conconi test" was applied as exercise protocol. After 6 weeks of exercise protocol, the blood samples were taken and the "conconi test" protocol was reapplied and the difference and the relation was examined. SPSS 21.0 package program was used to analyze the data.

Pearson Correlation analysis was used to examine inter-variable relationships, and Anova was used to determine differences between groups. The results are presented as mean and standard deviation, with a P <0.05 significance. It was seen that there was no significant difference between the comparison groups between morning, evening and control group as a result of our study. In the analysis of the relationship between the variables, the relationship between PLT and MPV, PLT 2, MPV 2 and PDW 2, PDW; Anaerobik Heart Rate b, Anaerobik Heart Rate a and Runing Speed b..

Key Words: Cell fragment, Thrombocyte, Endurance

INTRODUCTION

Platelet is the cell fragments that provide blood clotting and it is also known that Thrombocyte. There are many studies examining the effects of exercise on hematological parameters. In fact, blood parameters affect the type and intensity of exercise, the exercise affects blood parameters as well, and it is important for various blood pathologies (Çavuşoğlu, 1991) .

Depending on the type, severity and duration of the exercise, there may be changes in hematological and biochemical parameters. Hematologic and biochemical values during and after intense exercise can vary due to differences in the person's training status, gender, age, environmental conditions and nutrition. Hematological changes are observed in the athletes due to long-term exercises (Beydağı ve ark., 1992; Beydağı ve ark., 1993).

The mechanism of function changes that exercise generates is not clear.   Different mechanisms as "Increases in catecholamines, D adrenergic receptor activation, on the amount of platelet, on the PGI2 / TxA2 balance, the NO and PGI2platelet sensitization" have been suggested as mechanisms underlying the response of thrombocytes to exercise (Brass, 2000; Meirelles, 2009; Siess, 1989).

Adaptation to training is the sum of the changes that result from a systematic recurrence of exercises.

These structural and physiological changes on the body are a consequence of the burdens required by a special activity carried out in accordance with the scope, intensity and frequency of the training.
Physical training is only useful as long as it forces the body to adapt to high-level loads.
If the overload is not enough to make a change in the body, there will not be any adaptation (Bompa, 2003). This study has been conducted to examine whether the morning and evening durability training have an effect on Platelet or not.

MATERIAL AND METHOD

38 students who studied at Denizli Pamukkale University Sports Science and Technology High School have voluntarily participated in the research. The subjects were divided into morning, evening and control groups and their blood tests were checked before the exercise started in the morning (07.00) and evening (16.00) and immediately after the end of the exercise. Bloodletting and blood tests were carried out at the central laboratory of Pamukkale University Medical Faculty Hospital. To determine the body fat percentages of subjects; The skinfold thickness from the biceps, triceps, supsapapula and suprailiak parts was measured with the Skinfold caliper (Holtain Ltd. UK) and the lengths were measured with the Holtain anthropometry set (Holtain Ltd. UK). Body fat measurements were calculated using the formula of Durnin and Womersley (Durnin 1974). The ConConi test was carried out to determine the durability performance. 15-20 minutes warming and stretching activities were carried out during the application of the test and during the exercise period (Renstrom, 2000). In this process, it is aimed to increase body heat, accelerate metabolic processes and optimize muscle-cardiovascular metabolism (Bishop, 2003). During the applicationof the test, this test, which was carried out circularly with the help of 5 signs located 20 m between each other, was started at a speed of 8.5 km / h. and an increase of 0,5 km/h was made every 200 m, in a one running speed . The test was continued until the athletes voluntarily terminated the test or until they missed two more signals at two successive 20 m. The signal sound was set using a laptop and a CD (Conconi, 1982, Conconi, 1996). During the Conconi test, watches that record the heart rate RS 800 (Polar Vantage NV, Polar Electro Oy, Finland)were given to sportsmen and the HR values of the athletes were recorded during the test. After the test, the results were transferred to a computer and the average CAD corresponding to each speed was determined. By going out of these speeds; They did extensive endurance training to improve the endurance performances of the athletes by 3x10 min 2 min rest and pulse 150, Intensive durability as 1x20 min pulse 165, 3x6-8 min. 3-5 min. Pulse with rest: 178 Widespread intervertebral extreme durability for 3 days a week for 6 weeks, and 1 day is intense endurance and extensive interval endurance training.The blood samples of the subjects taken before the study were analyzed and after 6 weeks the same tests were repeated at the end of the study. IBM SPSS (Statistical Package for the Social Sciences) 21.0 package program was used to analyze the data. Descriptive Statistics were used to determine the distributions of the

data. Pearson Correlation analysis was used to examine relationships between variables, and Anova (post-hoc / Tukey) was used to determine differences between groups. The results have been presented as mean (X) and standard deviation (SS), with a $P < 0.05$ significance.

FINDINGS

Table: 1 The Comparison of Intergroup Variables

Variables	1st group (morning)		2nd Group (evening)		3rd Group (Control)		F	P
	X	**SS**	**X**	**SS**	**X**	**SS**		
Sex	1,3571[a]	,13289	1,3333[a]	,14213	1,1667[a]	,11237	,622	,543
Age	22,3571[a]	,40065	23,3333[a]	,85576	22,3333[a]	,75210	,699	,504
Height	168,4286[a]	2,27194	169,0000[a]	1,88696	169,5000[a]	2,26468	,063	,939
Weight	63,5429[a]	3,42906	58,3333[a]	2,60839	59,0167[a]	2,57452	,950	,397
Bme	22,1714[a]	,84395	20,3417[a]	,57964	20,4417[a]	,45418	2,441	,102
fat a	15,0500[a]	1,61350	15,4500[a]	1,76363	15,6833[a]	1,47617	,040	,961
Fat b	14,6571[a]	1,44772	13,8667[a]	1,28260	15,9333[a]	1,42432	,528	,594
Running speed a	11,6424[a]	,41413	11,0833[a]	,41210	11,5417[a]	,33404	,570	,571
AnaKah a	183,2857[a]	1,69495	186,9167[a]	1,64436	184,2500[a]	,76994	1,632	,210
Running speed b	11,8000[a]	,41178	11,2000[a]	,36845	11,0917[a]	,32133	1,081	,350
AnaKah b	181,5714[a]	1,70878	186,8333[a]	1,71373	184,5833[a]	,98825	3,034	,061
Topmes a	1807,1429[a]	236,84378	1666,6667[a]	211,53599	1850,0000[a]	151,50758	,204	,817
Topmes b	2098,5714[a]	242,61818	1805,8333[a]	202,61345	1791,6667[a]	128,78119	,760	,475
PLT	233,5714[a]	17,71779	261,7500[a]	12,22896	247,1667[a]	11,44607	,954	,395
PLT 2	268,4286[a]	14,08675	289,7500[a]	16,78840	271,0833[a]	9,69337	,686	,510
MPV	8,5479[a]	,33097	8,0308[a]	,20290	8,5500[a]	,34047	,948	,397
MPV 2	7,9200[a]	,20597	8,1208[a]	,23470	8,3792[a]	,25382	1,015	,373
PDW	12,9500[a]	,47483	11,8000[a]	,21497	12,9417[a]	,53788	2,212	,125
PDW 2	12,1179a	,25304	11,6417a	,16153	12,2500a	,25226	1,849	,173

[a,b] The difference between groups with different letters in the same line is significant ($p<0.05$)

When the table was examined, It was found that the difference between the groups was not significant in all of the variables of Gender, Age, Height, Weight, Bme (Body Mass Index), Fat a, Fat b, Running Speed, AnaHR (Anaobicobic Heart Rate), Running Speed b, AnaKah b, Topmes a (Total Distance), Topmes b, PLT, PLT 2 , MPV, MPV 2, PDW, PDW 2. (P <0.05)

Table: 2 Examining the relationship between variables.

		PLT	PLT 2	MPV	MPV 2	PDW	PDW 2	Group	gender	Age	Height	Bme	Fat a	Fat b	Running speed a	Topmes a	Ana Kah a	Koşu Hızı b	Topmes b	Ana Kah b
PLT	C	1	,222	-,522**	-,032	-,290	-,216	,118	,045	-,064	-,168	-,100	-,021	-,089	-,109	-,252	,183	-,153	-,183	,316
	Sig.		,180	,001	,851	,077	,193	,480	,789	,701	,314	,549	,901	,595	,516	,126	,270	,360	,271	,054
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
PLT 2	C	,222	1	-,209	-,626**	,129	-,507**	,031	-,230	,126	-,047	-,121	,111	,248	,167	-,112	,146	-,002	-,113	,098
	Sig.	,180		,209	,000	,440	,001	,854	,165	,449	,780	,469	,508	,133	,317	,503	,381	,989	,501	,559
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
MPV	C	-,522**	-,209	1	,268	,253	,256	-,009	-,215	,090	-,110	-,090	,034	,184	,242	,016	-,179	-,142	-,035	-,300
	Sig.	,001	,209		,104	,125	,120	,957	,195	,590	,510	,590	,839	,268	,144	,926	,283	,395	,833	,067
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
MPV 2	C	-,032	-,626**	,268	1	-,220	,591**	,234	,026	,386*	-,030	-,063	,075	,120	,068	,058	-,063	,059	,104	-,034

	Sig.	,851	,000	,104		,185	,000	,158	,875	,017	,856	,708	,652	,472	,685	,730	,708	,725	,535	,841
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
PDW	C	-,290	,129	,253	-,220	1	-,008	-,017	-,027	-,214	-,029	-,005	,037	,022	,043	,342*	-,207	,243	,364*	-,357*
	Sig.	,077	,440	,125	,185		,964	,921	,875	,197	,862	,978	,828	,898	,799	,036	,212	,142	,025	,028
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
PDW 2	C	-,216	-,507**	,256	,591**	-,008	1	,053	-,007	,512**	-,126	-,068	-,016	,160	,104	,038	,004	,041	-,027	-,023
	Sig.	,193	,001	,120	,000	,964		,753	,966	,001	,453	,683	,924	,336	,536	,819	,981	,806	,873	,892
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Group	C	,118	,031	-,009	,234	-,017	,053	1	-,170	-,004	,060	-,185	-,299	,047	,103	-,038	,088	,020	-,225	,232
	Sig.	,480	,854	,957	,158	,921	,753		,307	,980	,722	,266	,069	,778	,539	,820	,600	,904	,174	,161
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
gender	C	,045	-,230	-,215	,026	-,027	-,007	-,170	1	,044	,552**	,689**	,566**	-,495**	-,527**	,691**	,198	,631**	,727**	,194
	Sig.	,789	,165	,195	,875	,875	,966	,307		,795	,000	,000	,000	,002	,001	,000	,234	,000	,000	,244
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Age	C	-,064	-,126	,090	,386*	-,214	,512**	,004	,044	1	-,140	-,031	,053	-,030	-,061	-,209	,023	-,172	-,203	,129
	Sig.	,701	,449	,590	,017	,197	,001	,980	,795		,401	,852	,751	,859	,716	,208	,893	,303	,221	,440
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Height	C	-,168	-,047	-,110	-,030	-,029	-,126	,060	,552**	-,140	1	,777**	,362*	-,208	-,240	,470**	-,005	,383*	,402*	-,063
	Sig.	,314	,780	,510	,856	,862	,453	,722	,000	,401		,000	,026	,211	,146	,003	,976	,018	,012	,706
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38

Wei ght	C	-,100	-,121	-,090	-,063	,005	-,068	-,185	,689**	-,031	,777**	1	,864**	,015	,004	,445**	,004	,292	,422**	-,107
	Sig.	,549	,469	,590	,708	,978	,683	,266	,000	,852	,000		,000	,930	,981	,005	,981	,075	,008	,522
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Bme	C	-,021	-,111	-,034	-,075	,037	-,016	-,299	,566**	,053	,362*	,864**	1	,216	,224	,274	,013	,116	,289	-,112
	Sig.	,901	,508	,839	,652	,828	,924	,069	,000	,751	,026	,000		,193	,177	,096	,940	,487	,079	,505
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Fat a	C	-,089	,248	,184	-,120	,022	-,160	,047	-,495**	-,030	-,208	,015	,216	1	,974**	-,519**	-,148	-,585**	-,549**	-,292
	Sig.	,595	,133	,268	,472	,898	,336	,778	,002	,859	,211	,930	,193		,000	,001	,376	,000	,000	,076
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Fat b	C	-,109	,167	,242	-,068	,043	-,104	,103	-,527**	,061	-,240	-,004	,224	,974**	1	-,495**	-,183	-,582**	-,554**	-,322*
	Sig.	,516	,317	,144	,685	,799	,536	,539	,001	,716	,146	,981	,177	,000		,002	,270	,000	,000	,049
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Run ning spee d a	C	-,252	-,112	,016	-,058	,342*	,038	-,038	,691**	-,209	,470**	,445**	,274	-,519**	-,495**	1	,069	,904**	,946**	,022
	Sig.	,126	,503	,926	,730	,036	,819	,820	,000	,208	,003	,005	,096	,001	,002		,679	,000	,000	,896
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Ana Kah a	C	,183	,146	-,179	-,063	-,207	,004	,088	,198	,023	-,005	-,004	,013	-,148	-,183	,069	1	,179	,047	,881**
	Sig.	,270	,381	,283	,708	,212	,981	,600	,234	,893	,976	,981	,940	,376	,270	,679		,281	,781	,000
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Top mes a	C	-,153	-,002	-,142	-,059	,243	,041	,020	,631**	-,172	,383*	,292	,116	-,585**	-,582**	,904**	,179	1	,878**	,181

	Sig.	,360	,989	,395	,725	,142	,806	,904	,000	,303	,018	,075	,487	,000	,000	,000	,281		,000	,276
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Running speed b	C	-,183	,113	,035	,104	,364*	,027	,225	,727**	,203	,402*	,422**	,289	,549**	,554**	,946**	,047	,878**	1	,024
	Sig.	,271	,501	,833	,535	,025	,873	,174	,000	,221	,012	,008	,079	,000	,000	,000	,781	,000		,884
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Ana Kah b	C	,316	,098	-,300	-,034	,357*	,023	,232	,194	,129	,063	,107	,112	,292	,322*	,022	,881**	,181	,024	1
	Sig.	,054	,559	,067	,841	,028	,892	,161	,244	,440	,706	,522	,505	,076	,049	,896	,000	,276	,884	
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Top mes b	C	-,184	,011	,127	,100	,242	,003	,183	,646**	,175	,356*	,305	,154	,589**	,603**	,881**	,155	,970**	,904**	,146
	Sig.	,269	,946	,449	,552	,144	,986	,273	,000	,294	,028	,062	,356	,000	,000	,000	,354	,000	,000	,383
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

When the table is examined, The relationship of Gender variable is significant at 0.01 level with Height, Weight, Bme, Fat a, Fat b, Running Speed a, Running Speed b, Topmes a, Topmes b. The relationship between age variable and MPV 2 is significant at 0.05 level and between PDW2 there is significant relationship at 0,01 level. The height variables has significant relationship at 0,01 level with Gender, Wight, Running Speed a; and at 0,05 with Bme, Tompes a, Tompes b, Running Speed b. The relationship of Bme variables with Gender, Wieght, is significant at 0,01 level; with Height at 0,05 level. The relationship of Fat a variables with Gender, Fat b, Running speed a, Running Speed b, Topmes a, and Tompes b is significant at 0.01 level. The relationship of Fat b variables with Gender, Fat a, Running Speed a, Running Speed b, Topmes a, Topmes p is significant at 0.01 level; with AnaHr is significant at 0.05 level. The relationship of Running Speed a with Gender, Height, Weight, Fat a, Fat b, Topmes a, Topmes b is significant at 0.01 level; with PDW there is a significant

relationship at 0.05 level. The relationship of Running Speed b variables is significant at 0.01 level with Gender, Weight, Fat a, Fat b, running speed a, topmes a and Topmes b; at 0.05 with PDW and Height. The relationship of AnaKah a variables is significant at 0.01 level with AnaKah b. The relationship of AnaKah b variables is significant at 0.01 level with AnaKah a; at 0.05 level with PDW, Fat b. The relationship of Topmes a variables is significant at 0.01 level with Gender, Fat a, Fat b, Running Speed a, Running Speed b, Topmes b; at 0.05 level with Height. The relationship of Topmes b variables is significant at 0.01 level with Gender, Fat a, Fatb, Running Speed a, Running Speed b, Topmes a; at 0.05 with Height. The relationship of PLT variables is significant at 0.01 level with MPV. The

relationship between PLT 2 variable and MPV 2, PDW 2 is significant at 0.01 level. The relationship between MPV and PLT is significant at 0.01 level. The relationship of MPV 2 variables is significant at 0.01 level with PLT 2 and PDW 2; at 0.05 level with Age. The relationship of PDW variables ia significant at 0.05 level with Anekah b, Running Speed a, Running Speed b. The relationship between PDW 2 variables and PLT 2, MPV 2, Age is significant at 0.01 level.

DISCUSSION AND CONCLUSION

Unal (1998) could not find any significant difference (P> 0.05) in PLT levels after 8 weeks of chronic aerobic exercise. Similarly, there was no significant (P> 0.05) difference in PLT levels after chronic exercise applied to sedanter subjects in the study of Büyük yazı and friends(2002).

Drygas was determined in his study(1988) that moderate exercise did not change the platelet count and functions, the amont of platelet were increased by long-term exercise, and increased PF4 by consumer exercise.

Fıçıcılar (2004) emphasized after the research he done that it is important to show that the suppressive effects of platelet function may be emerged partially in the early stages by short-term training and exercises but the exercise protocol applied is not sufficient to reduce reported platelet aggregation in long-term training.

Wang et al. (1994) have shown that platelet adhesion and aggregation are increased in

healthy individuals and angina pectoris patients with severe exercise (up to a 20-40 W load increase by 3 min).

Ersöz et al. (1997) found that parameters related to platelet function approximated the resting values after 1 hour of exercise for 30 minutes at 75% max. VO2 intensity applied to 12 healthy male volunteers.

As a result of our study, It was seen that there was no significant difference between the comparison groups between morning, evening and control group. In the analysis of the relationship between the variables, it was considered that the meaningful relationship between PLT and MPV, low MPV showed the newly produced thrombocyte deficiency and the relationship was directly proportional. The significant association between PLT 2, MPV 2 and PDW 2 was considered to be inversely proportional, as PDW had a high bone marrow gain in the case of low PLT. The PDW is; The significant relationship between AnaKah b, Running Speed a and Running Speed b increases as the running speed increases, an increased rate of heart rate is consequently considered as an increased bone marrow function.

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