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Message from the Editors

The Online Journal of Recreation and Sport (TOJRAS) reflects rapid development on diffusing valuable researches from interdisciplinary fields through academic papers. The journal aims to underline the significance of merging academic disciplines and different practices in the field of recreation and sport. In this respect, selected papers from the field of recreation and sport need to be original, different practice on the base of qualitative and quantitative researches, especially mix approach.

As this issue promotes how the journal is developing as regards its vision and mission, there are valuable researches and their studies that contributed to the journal. Therefore, I would like to thank to editorial board, reviewers and the researchers for their valuable contributions to the journal and this issue.

Prof. Dr. Erdal ZORBA
Editor in Chief

As being editor of The Online Journal of Recreation and Sport (TOJRAS), I am happy to publish current issue of 2012. It is a great pleasure to announce the success of the journal developments and contributions of valuable researches. I would like to thank to all authors and associate editors for their contributions to the current issue of TOJRAS.

On behalf of the editorial team of The Online Journal of Recreation and Sport (TOJRAS), we will welcome to see original and qualified studies of valuable researchers in order to share with academic agenda. All authors can submit their manuscripts to tojras.editor@gmail.com for the following issues.

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Table Of Contents

NALYSIS OF LEADERHIP BEHAVIORS OF CANDIDATES FOR STEP-AEROBIC COACHING WITHIN THE SCOPE OF SPORTS FOR EVERYBODY	1
<i>Burhanettin Hacicaferođlu and Sümmani Ekici</i>	
COMPARISON OF THE NEW ECOLOGICAL PARADIGM (NEP) SCALE'S LEVEL OF PARTICIPANTS AND NON PARTICIPANT OF OUTDOOR SPORTS WITH RESPECT TO SOME DEMOGRAPHIC VARIABLES: TURKEY CASE	8
<i>Faik Ardahan</i>	
CURIOSITY LEVELS OF UNIVERCITY STUDENT STUDYING IN THE VARIOUS DEPARTMENTS	19
<i>Mehmet Behzat Turan, Zafer Kömür, Mehmet Aydođan and Mehmet Demirel</i>	
PHYSICAL ACTIVITY AND REDUCTION OF SOME HEALTH RISK FACTORS	27
<i>Penka Peeva and Galina Dyakova</i>	
REACTION TIME COMPARISON OF YOUNG VOLLEYBALL PLAYERS IN SMASHER AND SETTER POSITIONS	33
<i>Meltem Binbođa and Salih Suveren</i>	
REFLECTION AND EFFECTIVENESS IN PHYSICAL EDUCATION	38
<i>Veselina Ivanova</i>	

Analysis of Leadership Behaviors of Candidates For Step-Aerobic Coaching Within The Scope of Sports For Everybody

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ABSTRACT

The aim of this study is to define the views about leadership behaviors of candidates for step-aerobic coaching within the scope of sports for everybody and to make suggestions related to the results of the study. The target population of the study includes candidates taking coaching course; and the sample of the study includes the candidates attending the course of assistant coaching in Muğla province. Totally 166 candidates, of which 35 are males and 131 are females, participate in the research. Halpin and Winer's study (1957) entitled "Leader Behavior Description Questionnaire" (LBDQ), which is translated in Turkish by Önal (1979), is adaptively used as the basis in the research and as data collection tool by authors of the study. Thus, data acquisition is performed by a survey composed of 30 questions take place in "Structure Establishment and Empathizing" dimension. According to the reliability analysis, reliability coefficient (cronbach alpha) of the questionnaire is determined as 0,73. Data analysis is performed in SPSS 14.0 package program. T-test, one-way analysis of variance (ANOVA) and Tukey HSD test are performed for analyzing socio-demographic data regarding test subjects, for percentage and frequency analysis, for determination of independent values in terms of residence place, and arithmetic mean and standard deviation values in terms of gender, and for determination of differences between the dimensions of structure establishment and empathizing.

Keywords: *Leadership, Coaching, Skill*

INTRODUCTION AND PURPOSE

As leaders affect the life of societies and change the course of history, they have always attracted attention and have been the subject of many researches. The facts of managing and being managed have been constantly on the agenda of societies. The concept of leadership has gained importance along with the concepts of manager and organization. Every manager may not have leadership skills but in order to be a good manager, it is required to have leadership talent (Sabuncuoğlu 2001). Leadership allows effective functioning of organization by influencing people so as to achieve the objectives of the organization (Aydın 1994, Celep 2004).

Numerous definitions have been made regarding leadership. Some of these definitions are as follows: "Leader is the employee who has more positive influence on his/her subordinates on average than subordinates have on him/her" (Başaran 2000). "Leadership is providing employees taking action voluntarily by influencing them on an issue concerning the organization" (Katz 1991). Leadership is the process in which a person influences and guides others' activities in order to achieve personal or group objectives under certain circumstances, (Sabuncuoğlu, 2001). "Leadership is the process of influencing the group so as to establish objectives and achieving them" (Stodgill 1991).

Halpin summarized the studies performed by leader behavior description questionnaire in five essential points.

1. Leader behavior has two dimensions as empathizing and structure establishment in leader behavior description questionnaire,
2. Effective leader behavior depends on demonstrating high performance in both dimensions,
3. There is a contradiction between superiors and subordinates in evaluating effectiveness of leader behavior with respect to the dimensions,
4. Alterations in behaviors of group members and features such as harmony, intimate relation and clarity in rules are significantly related to leadership pattern of leaders,
5. There is rather a poor relation between defining behaviors of leaders and group members (ATAR 2009).

Differences are also observed in developments intended for coaches' leadership perception. Coaches should act as being conscious of leadership role that can fulfill the expectations of sportsmen and supporters.

Coach has a substantially important role in development of sports and sportsmen. Most of the qualifications that sportsmen acquire are determined by important role of the coach. Interaction between the coach and sportsmen is always considered as a performance determinant factor (Serpa, 1999).

"Effective coach", as a general result of studies on the field of leadership and coaching, has revealed the leadership achieving successful performance.

Anshel points out three different approaches in studies on coaching and leadership theory in sports as follows. First approach is the studies based on leadership measurement in sports and multi-dimensional model of leadership; and the second approach is studies based on coach behavior evaluation system. Third one is the approaches that introduce a normative model of decision-making style in coaching (Anshel, 2003).

Bolt (2000) emphasizes the matters of profession, leadership and personal skills development by considering the leadership in a three dimensional framework. It involves the dimension of structure establishment, specifying the relations between leader and group members, setting the channels and procedures of the organization, defining authority, task and responsibilities and behaviors intended for performance.

The dimension of empathizing involves trust, mutual respect, sincerity, friendship, relationship between group members and leader staff which is based on respect (Ercetin, 1998; Scott 2005).

The aim of this study is to investigate leadership behaviors of individuals nominated for the coaching profession.

METHOD

Candidates who take coaching course have constituted the population of this study while candidates that enroll on a step-aerobic assistant coaching course opened in Muğla province have constituted the sample of the study. Totally 166 candidate, comprised of 35 males and 131 females, have participated the study.

Halphin and Winer's study (1957) entitled as "Leader Behavior Description Questionnaire" (LBDQ), which is translated in Turkish by Önal (1979), is adaptively used as a basis in the research and as data collection tool by authors of the study. Scale has also been used by different authors like Erkuş (1997), Can (2002), Atar and Özbek (2009). Thus data acquisition is performed by a survey composed of 30 questions taking place in "Structure Establishment and Empathizing" dimension.

Table 1. Reliability Study in Leadership Scale

Alpha	Number of Questions
0,73	30

According to the reliability analysis, reliability coefficient (cronbach alpha) of the questionnaire is determined as 0,73.

Data analysis is evaluated in SPSS 14.0 package program. Percentage and frequency analysis is used for determining socio-demographic features of test subjects; independent t-test is used for evaluating differences between genders and residence places of test subjects; one-way analysis of variance (ANOVA) is used for evaluating differences in terms of age; and Tukey HSD test is used for determining the differences resulted from ANOVA analysis

caused by which group.

FINDINGS

Table 2. Demographic Features of Test Subjects

	F	%
Age	18-20	15,7
	21-23	41,0
	24-25	18,7
	26 and over	24,7
	Total	100,0
Gender	Male	21,1
	Female	78,9
	Total	100,0
Marital Status	Married	15,7
	Single	84,3
	Total	100,0
Residence Place	Rural	16,3
	Urban	16,3
	Total	100,0
Year of doing sports	1-below	33,7
	2-4	36,7
	5-7	9,6
	8 and over	19,9
	Total	100,0
Professional Status	Student	62,7
	Civil Servant	4,8
	Academician	3,0
	Other	29,5
	Total	100,0

When socio-demographic data of test subjects is analyzed, it is determined that there are 68 persons between the ages of 21 and 23 (41,3%); 131 persons of the test subjects are female (78,9%); 140 persons of the test subjects are single (84,3%); 139 persons of the test subjects are living in urban areas (83,7%); 61 persons of the test subjects have done sports for 2-4 years (36,7%); and 104 persons of the test subjects are students (62,7%).

Table 3. Arithmetic Mean, Standard Deviation and t-test values of participants in terms of Gender

		Gender	N	Arithmetic Mean	Standard Deviation	t	p
Structure Establishment Dimension		Male	35	2,07	,45	1,25	>0,05
		Female	131	1,98	,36		
Empathizing Dimension		Male	35	2,19	,38	-0,22	>0,05
		Female	131	2,20	,34		
Leadership Behaviors		Male	35	2,13	,35	0,65	>0,05
		Female	131	2,09	,29		

According to Table 3, it is found that when arithmetic mean and standard deviation values of variables are $2,07 \pm 0,45$ for males, it is $1,98 \pm 0,36$ for females in the dimension of structure establishment; when these values are $2,19 \pm 0,38$ for males, it is $2,20 \pm 0,34$ for females in the dimension of empathizing; and when these values are $2,13 \pm 0,35$ for males, it is $2,09 \pm 0,29$ for females in the dimension of leadership behaviors. As the result of the t-test, it is determined no significant difference between genders.

Table 4. Arithmetic Mean, Standard Deviation and t-test values of participants in terms of residence place

		Residence Place	N	Arithmetic Mean	Standard Deviation	t	p
Structure Establishment Dimension		Rural	27	2,01	,35	0,21	>0,05
		Urban	139	1,99	,39		
Empathizing Dimension		Rural	27	2,23	,37	0,52	>0,05
		Urban	139	2,19	,34		
Leadership Behaviors		Rural	27	2,12	,31	0,43	>0,05
		Urban	139	2,09	,30		

According to Table 4, it is found that when arithmetic mean and standard deviation values of variables are $2,01 \pm 0,35$ for persons living in rural areas, it is $1,99 \pm 0,39$ for persons living in urban areas in the dimension of structure establishment; when these values are $2,23 \pm 0,37$ for persons living in rural areas, it is $2,19 \pm 0,34$ for persons living in urban areas in the dimension of empathizing; and when these values are $2,12 \pm 0,31$ for persons living in urban areas, it is $2,09 \pm 0,30$ for persons living in rural areas in the dimension of leadership behaviors. As the result of the t-test, it is determined no significant difference between genders.

Table 5. Results of Descriptive and One-way Analysis of Variance (ANOVA) regarding Participants in terms of age

	Arithmetic Mean	Standard Deviation	F	p
Structure Establishment Dimension	2,00	,38	1,65	>0,05
Empathizing Dimension	2,20	,35	0,35	>0,05
Leadership Behaviors	2,10	,30	0,44	>0,05

According to Table 5, no significant difference has been determined between the variables in terms of age.

DISCUSSION AND CONCLUSION

It was determined that the students of physical education could usually perform the leadership behavior in the dimensions of the structure establishment and emphasizing. It wasn't found a significant difference between the views of students related to the leadership behaviors according to their gender, residence place and age.

Atar determined that the students of physical education and sports academy could mostly fulfill the leadership behavior in the dimensions of the structure establishment and emphasizing in his study carried out in 2009. It wasn't found a significant difference between the views of students related to the behaviors in the dimensions of the structure establishment and emphasizing according to their gender, department and classes.

According to Tuğsavul (2006), the class teachers think that they "mostly" practice the ideal leadership behaviors in their relations with students. With reference to this finding, it can be said that the teachers see themselves as not flawless but approximately ideal leaders. Managers also think that they "mostly" display the ideal leadership behaviors like class teachers (Tuğsavul, 2006). With reference to this finding, it can be said that the managers see themselves as approximately ideal leaders. Class teachers suppose that they show the related ideal leadership behaviors in the dimensions of the structure establishment and empathizing as well as in the dimension of general leadership.

Ekici et al. analyzed the dimensions of structure establishment and empathizing of the recreation department students' leadership behaviors in their study carried out in 2006; and they determined that they had a sense of leadership along with understanding that there was not a significant difference in respect to showing the leadership behavior. This study is consistent with their. (Ekici 2006).

According to Tuğsavul (2006), it is determined that there isn't a significant difference between leadership behaviors of male and female managers that they think display in the dimensions of structure establishment and empathizing (Tuğsavul, 2006). According to this finding, it is found out that leadership behaviors of managers that they think display in the dimensions of structure establishment and empathizing are irrelevant to gender. Çemberci (2003) also couldn't determine a significant difference between male and female managers regarding the dimensions of structure establishment and empathizing in his research.

According to Tuğsavul (2006), it is determined that there isn't a significant difference between leadership behaviors of male and female managers at different ages that they think display in the dimensions of structure establishment and empathizing (Tuğsavul, 2006). According to this finding, it is found out that leadership behaviors of managers that they think display in the dimensions of structure establishment and empathizing are irrelevant to age.

According to the research of Tabancalı (1995), it is determined that school managers mainly exhibit the behavior of structure establishment. The views of students are included in the research of Üşenmez (2004) named "Assessment of in-class Leadership Behaviors of Physical Education Teachers educating in Air Force Academy from the viewpoint of students." The students participated in the research have indicated that physical education teachers display democratic leader features. (Üşenmez, 2004)

In his research analyzing the leadership behaviors of primary school managers, Erkuş (1995) found that more than the half of the school teachers, who have participated in the research, perceived themselves in the group of empathizing. In the research analyzing the leadership behaviors of school managers and physical education teachers, it was determined that school managers and physical education teachers place importance on the dimension of empathizing. The findings support the results of both researches.

According to Tuğsavul (2006), when leadership behaviors of managers, who take a leadership course and those who don't take, they think display in the dimensions of structure establishment and empathizing are compared, it is determined that there isn't a significant difference between the two groups (Tuğsavul 2006). Considering this finding, it is found out that leadership course has no impact on manager's leadership behaviors in the dimensions of structure establishment and empathizing.

Aliç (1985), considered the relation between the leadership behaviors of elementary school managers and the morale of the teachers. In this study, it is found that school managers' perceptions regarding the dimension of empathizing of leadership behaviors are more negative and there is a difference between the perceptions of female and male teachers (Aliç 1985).

Ergene (1990) analyzed the relations between leadership styles of school managers and deputy managers in

state and private high schools and A-B type behaviors on 312 teachers and school managers; and found that there is not a significant difference between private and state high schools regarding the dimensions of structure establishment and empathizing (Ergene 1990).

As a result, they stated that they usually display the leadership behaviors formed in the dimensions of structure establishment and empathizing. They have to be gained the attitudes and habits with which they will always be able to exhibit aforesaid behaviors. For students to be successful in conditions they display leadership behaviors in their career, there should be more applications which will improve their leadership features throughout their education.

REFERENCES

- Alıç, M. (1985). Okul müdürlerinin liderlik davranışları ile öğretmen morali arasındaki ilişkiler (The relations between the leadership behaviors of the school directors and teachers' morale), Unpublished doctoral thesis, Hacettepe University, Ankara.
- Anshel, M. H. (2003). Sport Psychology: From Theory to Practice (4th edition). San Francisco, CA: Benjamin Cummings.
- Atar E., Özbek O.(2009) Beden Eğitimi ve Spor Yüksekokulu Öğrencilerinin Liderlik Davranışları (Leadership Behaviors of the Students of Physical Education and Sports Academy), Spormetre Beden eğitimi ve Spor bilimleri Dergisi (Sportsmeter Physical Education and Sports Sciences Magazine), 7 (2) 51-59,
- Aydın, M.(1994). Eğitim Yönetimi (Educational Administration), Hatipoğlu Press. Ankara.
- Başaran, İ. E. 2000) Yönetim (Administration). Feryal Press, Ankara.
- Bernard M. Bass.(1991) The Free Press, NewYork.
- Bursalıoğlu, Z. (1987). Okul yönetiminde yeni yapı ve davranış (New System and Behavior in School Management). Pegem A Press, p. 37, 306, Ankara,
- Bolt J.F.(2000). Üçboyutlu liderliğin geliştirilmesi geleceğin lideri (Improvement of the three dimensional leadership, future's leader). Drucker Foundation (Translator Hayrettin Tok) Forum Press, 222-223 İstanbul
- Celep, C. (2004). Dönümsel liderlik (Cyclic Leadership), Anı Press, Ankara.
- Çemberci Y. (2003) Eğitim yöneticilerinin liderlik davranışları ve kişilik özellikleri arasındaki ilişkilerin incelenmesi (Analysis of the relations between leadership behaviors and personality characteristics of the training managers), Unpublished Post Graduate Thesis, Marmara University, İstanbul.
- Durukan E., Can S., Göktaş Z., Arkan A. N.(2006) Selçuk üniversitesi beden eğitimi ve spor yüksekokulu öğrencilerinin cinsiyete bağlı olarak liderlik davranışı (Yapıyı Kurma Boyutu) Yönünden Karşılaştırılması, (Comparison of the Selçuk University Physical Education and Sports Academy students in terms of leadership behavior (Structure Establishment Dimension) according to their genders, Gazi Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (Gazi University, Kırşehir Faculty of Education Magazine), Volume 6 (1), 25-32
- Erçetin, Ş. (1998). Lider sarmalığında vizyon (Vision at leadership convolute). Önder Printery co.ltd. Ankara, p. 29, 31,
- Ergene T. (1990) The Leadership styles of the high school administrators and relations with their type A-type B behavior patterns, Unpublished Post Graduate Thesis, Middle East Technical University, Ankara
- Erkuş, R. (1995). İlköğretim okulları müdürlerinin liderlik davranışları (Leadership behaviors of elementary school directors), (Unpublished Post Graduate Thesis), Hacettepe University, Institute of Social Sciences, Ankara,
- Ekici, S. Can, S.;Beyaz, Ö (2006). Muğla üniversitesi ile Adnan Menderes Üniversitesindeki Rekreasyon Bölümü Öğrencilerinin Liderlik Davranışlarının Yapıyı Kurma Boyutu Yönünden Karşılaştırılması (Comparison of the students of Muğla University and Adnan Menderes University Recreational Department in terms of Structure Establishment Dimension). 9.Uluslararası Spor Bilimleri Kongresi (9th International Sports Sciences Congress), 03-05 November 2006 Muğla.

- Katz, D., Kahn, L. R. (1977). Örgütlerin toplumsal psikolojisi (Social psychology of the organizations). Translators: Halil Can, Yavuz Bayar. TODAİE Press, Ankara, p. 371,
- Sabuncuoğlu, Z., Tüz, M. (2001). Örgütsel psikoloji (Organizational Psychology), Ezgi Bookstore, Bursa, p. 217.
- Scot, M., N.(2005) Executive leadership for effective administration, Pearson Education Inc. United states Of America, 31.
- Serpa, S. (1999). Relationship coach-athlete: outstanding trends in European research. Portuguese Journal of Human Performance Studies. 12(1) 7-19.
- Stogdill, R., M.(1991) Stogdill's handbook of leadership, revised and expanded edition by Bernard M. Bass. The Free Press, New York, (6).
- Tabancalı, E. (1995) İlköğretim okulu müdürlerinin 'yapıyı kurma ve anlayış gösterme' boyutlarına ilişkin liderlik davranışları hakkında öğretmen görüşleri" (Teachers' view about leadership behaviors of elementary school directors regarding 'structure establishment and empathizing' dimensions). (Unpublished Post Graduate Thesis), Hacettepe University, Institute of Social Sciences, Ankara.
- Tuğsavul F.T.(2006) İlköğretim okulu yöneticilerinin ve sınıf öğretmenlerinin liderlik davranışlarının karşılaştırılması (Comparison of the behaviors of elementary school directors and class teachers), Istanbul University institute of social sciences, classroom teaching, Istanbul.
- Üşenmez, S. (2004) Hava harp okulunda görev yapan beden eğitimi öğretmenlerinin ders içi liderlik davranışlarının öğrenci gözüyle değerlendirilmesi (The evaluation of leadership behaviors in class of physical education teachers educating in air force academy by students). (Unpublished Post Graduate Thesis), Gazi University, Institute of Educational Sciences, Ankara.

Comparison of the New Ecological Paradigm (NEP) Scale's Level of Participants and Non Participant of Outdoor Sports with Respect to Some Demographic Variables: Turkey Case

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ABSTRACT

The aim of this study is to compare New Ecological Paradigm (NEP) level of participants (OSP) and non participants of outdoor sport (NPOS) with respect to some demographic variable as gender, age and education level in Turkey. The sampling group of this study consists of OSP (n=1181, age=35.85 ± 10.61) and NPOS (n=538, age=31.78 ± 11.47), totally (n=1719, age=34.57 ± 11.04) participants. Sampling has been applied and an electronic questionnaire form sent to all members of mountaineering and cycling clubs bound to Turkish Mountaineering Federation and Turkish Cycling Federation. All the received survey answers (1181) have been assessed and NPOS (538) selected randomly. An electronic questionnaire form used in order to gather data. The survey has been restricted by OSP as mountaineers/rock climbers, cyclists and trekkers and NPOS. The survey included Revised New Ecological Paradigm (RNEP) scales questions and demographic characteristics of participants. RNEP scale which was developed by Dunlap et al. (2000) used in this study. Turkish validity and reliability analysis of original form of NEP was made by Furman (1998) and revised form of NEP's Turkish validity, and reliability analysis was made by Erdogan (2009). As a result of this study, there are statistically meaningful differences between OPS and NPOS with respect to age, gender and education level in favor of OSP.

Keywords: *Outdoor Sports; New Ecological Paradigm; NEP scale*

INTRODUCTION

When environmental problems started in the 1970s, the major problems were about environmental pollution (air, land, visual, light, noise and water pollution), loss of aesthetic values, and resource (especially energy). After these dates, many people and nation focused on the condition for environmental quality or environmental concern. The problem ozone depletion, deforestation, loss of biodiversity, and climate change become wider geographical areas, and the causes of this environmental problem are still complex and synergistic than expected and the solutions were complicated and problematic (Dunlap et al., 2000; Stern et al. 1992).

Values can be conceptualized as important life goals or standards that determine a person's

principles through the life (Rokeach, 1973). Human values have big impact on beliefs and it determines the behavior of a person about good and bad ways, and good or bad goals to follow in his/her life (Rokeach, 1979; Schwartz, 1996). In relation to environment and environmental problems, values sometimes may play an important role on for solving and/or for widening the conflict between individual and collective interests (Axelrod, 1994; Karp, 1996; Keles, 2011).

The relations between values and attitudes which are interested about environmental issues and environmentally related behavior are very complex. The cognitive hierarchy model tries to explain this complexity when values and attitudes are related to actual behavior. According to this model "influence should theoretically flow from abstract values to midrange attitudes to specific behaviors. This sequence can be called environmental value (EV) → environmental attitude (EA) → environmental behavior (EB) hierarchy" (Homer and Kahle, 1988).

EV, EA and EB are the usually learned and/or sometimes analogized results of environmental value system of a person. There are some factors that affect environmental value systems, and make major differences between persons. These are gender, age, ethnicity, income, sensitivity, personality, education systems, education level, school type, personal and/or government political affiliations, neighborhoods, parents' educational backgrounds, family incomes, occupation, leisure time activities, personal and/or regional experiences, development level of country, parents and their life paradigms, relation between nature, living area, friends value systems, religion and piety (Rokeach, 1973; Rokeach, 1979; Dunlap et al. 1983; Mohai and Bryant, 1998; Kim, 1999; Dunlap et al. 2000; Zinn and Graefe, 2007; Taskin, 2009).

Last decades; people want to go to environment for many reasons like hiking, trekking, mountaineering, climbing, fishing, picnicking, camping, motorsport, ATV, orienteering and so on, and the effect of being in environment has permanent and/or temporary affect on wildlife much more then before. On the other hand, the increasing demand of outdoor activities has had a serious permanent and/or temporary negative effect on the environment (Cole, 2004).

Outdoor sports and activities are needed organized or wild areas. Outdoor sports and activities can be grouped in two parts as nature based and nature related sports. While mountaineering is a nature based, hiking is nature related outdoor sports. The participants of outdoor sports see and feel nature directly and understand the meaning and the necessity of protecting and conservation of nature and the environment, even if outdoor sports are nature based or nature related.

It is a big reality that outdoor sports including every kind of outdoor activities have a big economic value and economic and social benefits of it is increasing rapidly. It can be said that nature is the raw material of outdoor sports and activities, and it is really important sustainability of environment and the natural resources. In the future, it is going to continue to be a big economic value, may be more than now.

The Relation between Environmental Attitudes and Outdoor Sports

It is expected that there is a relation between EA and outdoor sports participation. This situation explains by the Cognitive Hierarchy Model. Choice of and participation in the outdoor sports and activities should be influenced by a person's environmental values or attitudes (Bjerke et al., 2006). The people like to be in the nature can be sensitive to the environment and environmental problems than the people do not participate in outdoor activities. Dunlap and Heffernan (1975) examined that participation in outdoor activities influences environmental concern.

Some researcher's results did show that environmental concern was higher among participating in appreciative activities (hiking, camping, visit parks and scenic areas) than among subjects performing consumptive activities (hunting and fishing). Bjerke et al. (2006) found negative association between environmental concern and practicing hunting. In addition these results; Geisler et al. (1977) had a result which has positive relation between activity type and environmental concern. The associations were greatly attenuated by controlling for socioeconomic variables (age, education, place of residence). Theodori et al. (1998) reported that there is a positive correlation between environmental behavior and participation in outdoor sports and activities.

These studies show that there is a strong relation and correlation between environmental attitudes and outdoor sports and activities. Participating in outdoor activities increases EV, EA, and EB.

The New Ecological Paradigm Scale

The NEP is defined by Dunlap and Van Liere (1978) and has been used in many countries over twenty years. The scale was in five theoretical dimensions and consists of 12 items to identify ecological beliefs, values, attitude of a persons. The revised NEP scale developed by Dunlap et al. (2000) was in five factors (fragility of nature's balance, possibility of eco-crisis, anti anthropocentrism, anti exemptionalism, limit to growth) which has 15 items which explain same ecological paradigm.

There are many researches which used NEP. Cordell et al. (2004) analyzed data from the US National Survey on Recreation and the Environment (NSRE). Bjerke et al. (2006) studied NEP in outdoor recreation interests and environmental attitudes, Brymer and Gray (2010) studied NEP in intimate "relationship" with nature through extreme sports participations, Cole (2004) studied NEP in environmental impacts of outdoor recreation in wild lands, and Wolf-Watz et al. (2011) studied NEP in the relation of environmentalism and tourism preferences, and Brymer et. al. (2010) studied environmental profile of outdoor leadership, Dyck et al. (2003) studied specialization among mountaineers and its relationship to environmental attitudes, Kaltborn et al. (2009) studied NEP in Amenity development in the Norwegian mountains Effects of second home owner environmental attitudes on preferences for alternative development options. And some Turkish researcher used NEP. Isildar (2008) studied evaluation of the effects of environmental education on environmental of approaches and behaviors of vocational school students; Gunden and Miran (2008) studied environmental attitudes of farmers; Taskin (2009) studied the environmental attitudes of Turkish senior high school students.

The aim of this study is to compare NEP level of OSP and NPOS with respect to some demographic variable as gender, age and education level in Turkey.

METHOD

The scope of this study is restricted by OSP as mountaineering/rock climbing, cycling, trekking and NPOS. To determine the ecological perception, the RNEP was used. This study is descriptive and definitive research.

The sampling group of this study consists of OSP ($n=1181$, $\bar{x}_{age}=35.85$ $SD=10.61$) and NPOS ($n=538$, $\bar{x}_{age}=31.78$ $SD=11.47$) total ($n=1719$, $\bar{x}_{age}=34.57$ $SD=11.04$) participants. Sampling has been applied and an electronic questionnaire form sent to all members of mountaineering and cycling clubs bound to Turkish Mountaineering Federation and Turkish Cycling Federation. All the received survey answers (1181) have been assessed and the NPOS (538) selected randomly.

An electronic questionnaire form which included RNEP scales questions, besides demographic

characteristics of participants was developed in order to gather data suitable for the study. The survey has been restricted by OSP as mountaineers/rock climbers, cyclists and trekkers and the non participants of these outdoor sports.

RNEP scale used in this study has five sub dimensions which was developed by Dunlap et al. (2000). The original NEP scale has been developed from Dunlap and Van Liere (1978) which consists of 12 items. But later RNEP scale which has 15 items has been developed by Dunlap et al. (2000) scale in five factors; fragility of nature's balance, possibility of eco-crisis, anti anthropocentrism, anti exemptionalism, limit to growth. The likert scales to each item were totally disagree = 1, partly disagree = 2, neither agree nor disagree = 3, partly agree = 4 and totally agree = 5.

Turkish validity and reliability analysis of original form of NEP was made by Furman (1998) and RNEP's Turkish validity and reliability analysis was made by Erdogan (2009). In this study, RNEP scale is used.

Some Turkish researchers used original RNEP scale with 15 sub dimensions (Isildar, 2008; Gunden and Miran, 2008; Taskin, 2009; Erdogan, 2009; Sam et al., 2009). Erdogan (2009) studied RNEP scale with five factors; fragility of nature's balance, possibility of eco-crisis, anti anthropocentrism, anti exemptionalism, limit to growth, but grouped all these five factors in four factors named; N1=Human Hegemony, N2=Ecological Crises, N3=Capability of Nature and N4=Hegemony of Nature. Also Gunden and Miran (2008), Alniacik and Koc (2009) studied RNEP scale in four factors; ecologic hazard, technological superiority, power of nature and human's hegemony, which are different than Erdogans'. Taskin (2009) studied this RNEP scale in three factors; steady-state economy, human exemptionalism paradigm, limits of growth and balance of nature. Isildar (2008) and Sam et al. (2010) studied RNEP scale in two factors; environment centered, human centered.

All the findings above given indicate that the RNEP scale can not be readily accepted as a unidimensional measure of ecological worldview and in Turkey as well (Alniacik and Koc, 2009). It has more than one dimension and each dimension (even each item in some cases) should be evaluated separately.

Alniacik and Koc found the Cronbach Alpha as 0.68, Demirel et al. found the Cronbach Alpha as 0.72, Taskin found the Cronbach Alpha as 0.46, Sam et al. found the Cronbach Alpha as 0.53, Furman found the Cronbach Alpha is 0,60, Gunden and Miran found the Cronbach Alpha as 0.62, Erdogan found the Cronbach Alpha as 0.62. In this study, the internal coefficient of consistence for RNEP scale as Cronbach Alpha = 0.66, each factor's Cronbach Alpha are N1 = 0.71, N2 = 0.61, N3 = 0.53, N4 = 0.41 and they are in the limits of reliability.

In the process of assessing data, the descriptive statistic means such as frequency (f), percentage (%), average (M) and standard deviation (SD), and to examine the difference groups Mann-Whitney U test, to examine the correlation between demographic variables and RNEP sub dimensions Pearson Correlation test have been used. Results have been assessed according to significant level 0.01 and 0.05.

RESULTS

In Table-1 the findings about OSP and NPOS have been given according to some demographic variables. As it is seen in the table; there are no important demographic differences between OSP and NPOS. The vast majority of participants of present study are male, single, well educated, below 34 years old. Average age of NPOS is lower than OSP.

Table 1: Demographic Findings of Participants

Demographic Findings of Participants		OSP		NPOS		Total	
		n	%	n	%	n	%
Gender	Male	937	79,3	284	52,8	1221	71,0
	Female	244	20,7	254	47,2	498	29,0
Age	24 and <	174	14,7	190	35,3	364	21,2
	25 - 34	415	35,1	166	30,9	581	33,8
	35 - 44	304	25,7	74	13,8	378	22,0
	45 - 54	217	18,4	76	14,1	293	17,0
	55 and >	71	6,0	32	5,9	103	6,0
	\bar{X}_{age}	35.85 ± 10.61		31.78 ± 11.47		34.57 ± 11.04	
Education Level	Primary School	25	2,1	12	2,2	37	2,2
	High School	255	21,6	72	13,4	327	19,0
	University	748	63,3	420	78,1	1168	67,9
	Master or doctorate	153	13,0	34	6,3	187	10,9
Total		1181	100,0	538	100,0	1719	100,0

In Table-2, statistical comparisons of OSP and NPOS have been given according to RNEP items and sub dimensions. As it is seen in the table; both OSP and NPOS, RNEP means are over than medium value. There is statistically meaningful difference between OSP and NPOS in all sub dimensions as named Human Hegemony, Ecological Crises, Capability of Nature and Hegemony of Nature of RNEP ($p < 0.05$). The RNEP items as 1st, 9th, 11th, 12th and 15th which have statistically meaningful difference in favor of OSP and 5th, 6th and 14th which have statistically meaningful difference in favor of NPOS ($p < 0.05$).

Table 2: Statistical Comparison of OSP and NPOS With Respect to RNEP Items and Sub Dimensions

RNEP Items and Sub Dimensions	OSP		NPOS		Total Participants		
	M	SD	M	SD	M	SD	Z
We are approaching the limit of the number of people the earth can support.	3,68	1,02	3,36	1,12	3,58	1,06	-5,757*
Humans have the right to modify the natural environment to suit their needs.	2,42	1,22	2,52	1,21	2,45	1,22	-1,618
When humans interfere with nature it often produces disastrous consequences.	3,89	1,04	3,89	1,14	3,89	1,07	-0,710
Human ingenuity will insure that we do not make the earth unlivable.	3,12	1,06	3,09	1,09	3,11	1,07	-0,921
Humans are severely abusing the environment.	4,19	0,97	4,20	1,08	4,19	1,00	-2,160*
The earth has plenty of natural resources if we just learn how to develop them.	3,99	0,89	4,13	1,01	4,03	0,93	-4,412*

Plants and animals have as much right as humans to exist.	4,5 1	0,6 0	4,3 4	1,1 1	4,4 6	0,8 0	- 1,440
The balance of nature is strong enough to cope with the impacts of modern industries.	2,6 9	1,2 6	2,7 2	1,1 6	2,7 0	1,2 3	- 0,616
Despite our special abilities humans are still subject to the laws of nature.	4,0 3	0,9 0	3,7 0	1,1 5	3,9 3	1,0 0	- 5,342*
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	2,1 5	1,1 0	2,2 2	1,0 8	2,1 7	1,0 9	- 1,591
The earth is like a spaceship with very limited room and resources.	3,5 4	1,0 4	3,3 1	1,1 7	3,4 7	1,0 9	- 3,629*
Humans were meant to rule over the rest of nature	2,3 2	1,1 7	2,5 2	1,2 3	2,3 8	1,1 9	- 3,002*
The balance of nature is very delicate and easily upset.	3,6 8	1,0 5	3,6 4	1,1 6	3,6 7	1,0 9	- 0,152
Humans will eventually learn enough about how nature works to be able to control it.	3,2 7	1,0 7	3,4 4	1,0 3	3,3 2	1,0 6	- 2,582*
If things continue on their present course. We will soon experience a major ecological catastrophe.	4,2 5	0,8 8	4,2 4	1,0 9	4,2 5	0,9 5	- 2,469*
(HH) Human Hegemony	2,6 6	0,7 3	2,7 5	0,6 1	2,6 9	0,7 0	- 3,359*
(EC) Ecological Crises	3,7 9	0,6 8	3,6 4	0,7 1	3,7 4	0,6 9	- 3,495*
(CN) Capability of Nature	4,0 4	0,7 0	3,9 3	0,8 0	4,0 5	0,7 3	- 1,670
(HN) Hegemony of Nature	4,2 5	0,6 0	4,2 4	0,8 7	4,2 5	0,7 0	- 2,610*
n	1181		538		1719		

Z= Mann-Whitney U Test, * p < 0.05

In Table-3, statistical comparisons of OSP and NPOS with respect to some demographic variables have been given according to RNEP sub dimensions. As it is seen in the table; in HH, EC and CN sub dimension; there is a statistically meaningful difference between male OSP and male NPOS ($p < 0.05$), the results are in favor of male OSP.

There is a statistically meaningful difference between female OSP and female NPOS ($p < 0.05$) in HH and HN sub dimension. The results are in favor of female OSP in HH, are in favor of female NPOS.

There is a statistically meaningful difference between 34 years old and below OSP and NPOS ($p < 0.05$) in HH, EC and CN sub dimensions, the results are in favor of OSP. There is a statistically meaningful difference between 45 years old and upper OSP and NPOS ($p < 0.05$) in EC, CN and HN sub dimensions, the results are in favor of NPOS. In HH and HN sub dimensions; there is negative linear relation, but in CN sub dimension, there is positive linear relation between age and CN sub dimension.

There is a statistically meaningful difference between well educated whose education are high school or over OSP and NPOS ($p < 0.05$) in HH, EC and CN sub dimensions, the results are in favor of OSP. In EC and CN sub dimensions; there is negative linear relation, but in HH sub dimension; there is positive linear relation between education level and HH sub dimensions.

Table 3: Statistical Comparison of OSP and NPOS With Respect to Some Demographic Variables According to RNEP Sub Dimensions

Statistical Comparison of OSP and NPOS With Respect to Demographic Variables			Human Hegemony	Ecological Crises	Capability of Nature	Hegemony of Nature	
n							
Gender	Male		93	2.66 ±	3.78 ±	4.04 ±	
		M+	7	0.74	0.69	0.73	4.25 ± 0.60
		M -	28	2.72 ±	3.59 ±	3.89 ±	4.10 ± 0.97
		Z	4	0.59	0.76	0.85	-0,298
	Female		93	2.66 ±	3.80 ±	4.03 ±	
		M+	24	0.73	0.60	0.56	4.24 ± 0.58
		M -	4	2.78 ±	3.69 ±	3.98 ±	4.38 ± 0.72
		Z	25	0.63	0.64	0.74	-3,622 *
	Male/Female		93	-2,156 *	-3,353 *	-2,069 *	
		M+	7	-0.355	-0.311	-1.152	-0.216
		M -	28	-1.105	-1.347	-0.901	-3.234 *
		Z	4				
Age	24 and <		17	2.97 ±	3.80 ±	4.04 ±	
		M+	4	0.84	0.69	0.75	4.34 ± 0.67
		M -	19	2.83 ±	3.45 ±	3.78 ±	4.13 ± 0.98
		Z	0	0.61	0.76	0.88	-1,403
	25 - 34		41	-1,475	-4,351 *	-2,992 *	
		M+	5	2.64 ±	3.90 ±	4.07 ±	
		M -	16	0.72	0.67	0.77	4.36 ± 0.57
		Z	6	2.74 ±	3.76 ±	3.96 ±	4.28 ± 0.81
	35 - 44		41	-2,167 *	-2,521 *	-1,449	
		M+	30	2.54 ±	3.71 ±	4.03 ±	
		M -	4	0.74	0.71	0.67	4.18 ± 0.60
		Z	74	2.54 ±	3.65 ±	3.90 ±	4.19 ± 0.83
	45 - 54		30	0.55	0.72	0.81	-1,186
		M+	21	-0,457	-0,243	-0,296	
		M -	7	2.64 ±	3.72 ±	4.02 ±	
		Z	76	0.60	0.64	0.58	4.12 ± 0.56
	55 and >		21	2.75 ±	3.88 ±	4.18 ±	4.43 ± 0.70
		M+	71	0.71	0.56	0.65	-4,603 *
		M -	32	-1,444	-1,978 *	-2,573 *	
		Z	32	2.78 ±	3.51 ±	4.11 ±	-2,140 *
			71	2.58 ±	3.68 ±	3.94 ±	4.08 ± 0.52
			32	0.71	0.56	0.55	4.27 ± 0.88
			32	2.78 ±	3.51 ±	4.11 ±	-2,140 *

				0.56	0.88	0.53	
				-1,301	-0,309	-2,211 *	
Pearson Correlation between age and sub dimensions NEP	M+			-0.117 **	-0.089 **	-0.032	-0.166 *
	M -			-0.068	0.127 **	0.153 **	0.084 **
	Total			-0,110**	0,003	0,047 *	-0,057 *
Education Level	Primary School	M+	25	3.14 ± 0.79	3.73 ± 0.54	3.84 ± 0.70	4.04 ± 0.63
		M -	12	2.86 ± 0.44	3.63 ± 0.48	3.97 ± 0.48	4.17 ± 0.62
		Z		-0,914	-0,493	-1,435	-1,094
	High School	M+	25	2.68 ± 0.81	3.77 ± 0.70	3.99 ± 0.83	4.31 ± 0.59
		M -	5	2.89 ± 0.58	3.39 ± 0.79	3.67 ± 0.97	4.15 ± 1.09
		Z	72	-2,744 *	-3,439 *	-2,412 *	-0,748
	University	M+	74	2.67 ± 0.72	3.79 ± 0.67	4.06 ± 0.66	4.27 ± 0.57
		M -	8	2.73 ± 0.61	3.67 ± 0.71	3.97 ± 0.79	4.25 ± 0.85
		Z	42	-1,779 *	-2,373 *	-0,950	-2,217
	Master or doctorate	M+	15	2.48 ± 0.63	3.79 ± 0.67	4.07 ± 0.64	4.10 ± 0.69
		M -	3	2.66 ± 0.67	3.76 ± 0.54	4.02 ± 0.54	4.21 ± 0.64
		Z	34	-1,960 *	-0,429	-0,216	-0,525
Pearson Correlation between education and sub dimensions NEP	M+			-0.101 **	0.015	0.050	-0.059 *
	M -			-0.094 *	0.113 **	0.093 *	0.027
	Total			-0,099**	0.041	0,061*	-0,028

Z= Mann-Whitney U Test, * p<0.05, ** p<0.01

M+= Mean of Outdoor Sport Participants, M- = Mean of non Participants of Outdoor Sport

DISCUSSION

A person uses nature as a resource and goes to nature for many different reasons. According to a study conducted in Illinois University, the factors which motivate people to be a participant in outdoor sports are nature love, getting away from routine and family, escaping from responsibility, the need for physical activity, creativity, relaxation, realization of self, improvement and learning new skills, building relationships, making friends and observing them, meeting a famous person (if a known rock climber or somebody else is participating in the event, it draws people who want to meet him\her), spending time with family, the desire to be recognized, helping other people, social responsibility, motivating and inviting factors (e.q. a nice waterfall draws people there), gaining social statue, realization of self, the desire for success, rivalry (within and out), spending time and relaxation, intellectual aesthetics (Ibrahim and Cordes, 2002; Ardahan and Lapa Yerlisu, 2010). Individual's desire to look for him/herself finding and improving him/her in the nature that is as old as human history means "becoming mature person". Because of the reasons why people go nature which are given above, it is anticipated higher level of EA for all OSP, but in all RNEP dimensions level of EA is lower then expected. Of course in all RNEP dimensions level of OSP, EA is higher than level of NPOS. This can be the result of being familiar with nature, to experience the dimensions and results of the environmental crisis. OSP believe that there is an EC, if things go well CN will recover these setbacks and HN is supported, but HH are not supported by OSP.

Some researchers found relation between gender and NEP statistically meaningful. They stated that females have higher EA, EV and EB than males (Lou and Deng, 2008). In current study, there are statistically meaningful differences in HH in favor of OSP male and female, EC and CN in favor of OSP male and HN, CN in favor of OSP female. There is no statistically meaningful differences in all sub dimension of OSP ($p > 0.05$), but there is statistically meaningful differences in just HH sub dimension of NOSP ($p < 0.05$). The results of the current study are overlaps by these findings.

Some researchers found positive relation between age and EA (Tarant and Cordel, 2002; Zinn and Graefe, 2007; Lou and Deng, 2008). In the young aged participants, the EA is higher. This results overlap with current study. This means that in HH, EC and CN results are favor of young aged OSP, but in EC, CN and HN results are favor of medium aged NPOS. This may be affect of education and changing value of environment. Relation between education and NEP of current study support these results, too.

Some researchers found relation between education level and NEP statistically meaningful. They state that higher education level provides higher EA (Taskin, 2009). In current study, it was found that there is a negative correlation between education level and HH and a positive correlation between education level and CN. While there are a negative correlation between education level and HH and HN of OSP, there are negative correlation in HH and positive correlation between education level and EC and CN of NPOS. But in current study, the high school graduated people's NEP scores are in favor of OSP in HH, EC and CN, the university graduated people's NEP scores are in favor of OSP also in HH and EC, the master and doctorate graduated people's NEP scores are in favor of OSP also in HH. This can be a result of efficiencies of education system of Turkey about meaning and importance of ecology. When education level increases, NEP scores of OSP and NPOS increases too, but increase level is higher in OSP.

As a result of this study, there are statistically meaningful differences between OPS and NPOS with respect to age, gender and education level in favor of OSP. This means that being OSP have positive affect on EA, EV and EB. AV, EA and EB are the usually learned and/or sometimes analogized results of environmental value system of a person. There are big affect of education systems, media, social relation and etc. on AV, EA and EB and also NEP scores. From primary school to university education, the meaning of AV, EA and EB must be added to curriculum both theory and practice. At the same time, in all kind of media, these subjects must be discussed more.

From this perspective for developing higher EA, EV and EB of persons and society, the second and third age groups, females and males must be supported and motivated to join outdoor activities by their employers. Outdoor activities should be organized by private or public sector, nonprofit organizations like outdoor sports clubs or other associations. Municipalities, universities, educational institutions, youth centers, nonprofit organizations, private and public sector must take responsibility and leadership in organizing and delivering outdoor activities. Some activities must be organized for different part of society; especially disadvantaged groups like elderly, disabled persons and their family, persons who have chronic illness, homeless, the young individuals in dormitories. Activities must be done free of charge or with low cost to increase the number of OSP.

References

Alniacik, U., Koc, F., 2009. Evaluating university students' attitudes towards environment by using the new environmental paradigm scale. Burhaniye College regional development conference.

Ardahan, F., Lapa Yerlisu, T., 2010. Outdoor recreation: the reasons and carried benefits for attending outdoor sports of the participants of cycling and/or trekking activities. *Int J Human Sci.*8,1327-1341.

Axelrod, L.J., 1994. Balancing personal needs with environmental preservation: Identifying the values that guide decisions in ecological dilemmas. *J Soc Issues*. 50, 85-104.

Bjerke, T., Thrane, C., Kleiven, J., 2006. Outdoor recreation interests and environmental attitudes in Norway. *Managing Leisure*. 11, 116-128.

Brymer, E., Gray, T., 2010. Developing an intimate "relationship" with nature through extreme sports participation. *Leisure/Loisir*. 34, 361-374.

Brymer, E., Gray, T.L., Cotton, W., Carpenter, C., 2010. Profiling outdoor leadership. *J Outdoor Recreation Edu Leadership*. 2, 93-108.

Cole, D.N., 2004. Environmental impacts of outdoor recreation in wildlands. 1-16, <http://www.leopold.wilderness.net/research/fprojects/docs12/ISSRMChapter.pdf>, Download Time: 15.08.2011

Cordell, H.K., Betz, C.J., Green, G.T., 2004. Recreation and the environment as cultural dimensions in contemporary American Society. *Leisure Sci*. 24, 13-41.

Dunlap, R.E., Heffernan, R.B., 1975. Outdoor recreation and environmental concern: An empirical examination, *Rural Sociology*. 40, 18 - 30.

Dunlap, R.E., Van Liere, K.D., 1978. The "new environmental paradigm": A proposed measuring instrument and preliminary results. *J Environ Educ.*, 9, 10-19.

Dunlap, R.E., Grieneeks, J.K., Rokeach, M., 1983. Human values and pro-environmental behavior, in WD. Conn (ed) *energy and material resources: Attitudes, values, and public policy*, Boulder, CO:Westview.

Dunlap, R.E., Van Liere, K.D., Mertig, A.G., Jones, R.E., 2000. Measuring endorsement of the new ecological paradigm: A revised NEP scale. *J Soc Issues*, 56, 425-442.

Dyck, C., Schneider, I., Thompson, M., Virden, R., 2003. Specialization among mountaineers and its relationship to environmental attitudes. *J Park Recreat Adminis*. 21, 44-62.

Erdogan, N., 2009. Testing the new ecological paradigm scale: Turkish case. *African J Agricul Res.*, 4, 1023-1031.

Furman, A., 1998. A note on environmental concern in a developing country, results from an Istanbul survey. *Environ Behav.*, 30, 520-534.

Geisler, C. C., Martinson, O. B., Wilkening, E. A., 1977. Outdoor recreation and environmental concern: A restudy, *Rural Sociology*. 42, 241- 249.

Gunden, C., Miran, B., 2008. An application of the new environmental paradigm to determining

environmental attitudes of farmers: the case of Izmir, Torbali. *Ekoloji*. 18, 41-50.

Homer, P.M., Kahle, L.R., 1988. A structural equation test of the value-attitude-behavior hierarchy, *Journal of Personality and Social Psychology*. 54, 638-646.

Isildar, G., 2008. Evaluation of the effects of environmental education on environmental of approaches and behaviors of vocational school students. *J Turkish Educ Sci.*, 6, 759-778.

Ibrahim, H., Cordes, K.A., 2002. *Outdoor Recreation, Enrichment for a Lifetime*, (second ed), Sagamore Publishing, Il.

Kaltenborn, B.P., Andersen, O., Nellemann, C., 2009. Amenity development in the Norwegian mountains effects of second home owner environmental attitudes on preferences for alternative development options. *Landscape Urban Planning*. 91, 195-201.

Karp, D.G., 1996. Values and their effect on pro-environmental behavior. *Environ Behav*. 28, 111-133.

Keles, O., 2011. Evaluation of primary school students' thought about and behaviors and attitudes towards environment. *Energy Edu Sci and Technol Part B*. 3, 343-358.

Kim, D., 1999. Environmentalism in developing countries and the case of a large Korean city. *Soc Sci Quarterly*. 80, 810-829.

Lou, Y., Deng, J., 2008. The new environmental paradigm and nature-based tourism motivation. *J Travel Res*. 46, 392-402.

Mohai, P., Bryant, B., 1998. Is there a "race effect" on concern for environmental quality? *Public Opinion Quarterly*. 62, 475-505.

Rokeach, M., 1973. *The Nature of Human Values*, Free Press, New York.

Rokeach, M., 1979. From individual to institutional values: With special reference to the values of science, in M. Rokeach (ed) *Understanding human values* (pp. 47-70), Free Press, New York.

Sam, N., Sam, R., Ongen B., 2010. Investigating levels of self-esteem and environmental attitudes from the perspectives. *Academic Sight.*, 21, 1-16.

Schwartz, S. (1996). Value priorities and behavior: applying a theory of integrated value systems, in C. Seligman, JM. Olson, and MP. Zanna (ed) *the psychology of values: the Ontario symposium* (pp 1-24), vol 8, Erlbaum Publishers, NJ.

Stern, P.C., Young, O.R., Druckman, D., 1992. *Global Environmental Change: Understanding the Human Dimensions*. National Academy Press, Washington DC, 1992.

Tarrant, M.A., Cordell, H.K., 2002. Amenity values of public and private forests: examining the value attitude relationship. *Environ Manage*. 30, 692-703.

Taskin, O., 2009. The environmental attitudes of Turkish senior high school students in the context of postmaterialism and the new environmental paradigm. *Int J Sci Edu.*, 31, 481-502.

Theodori, G.L., Luloff, A.E., Willits, F.K., 1998. The association of outdoor recreation and environmental concern: Reexamining the Dunlap-Heffernan Thesis, *Rural Sociology*. 63, 94- 108.

Wolf-Watz, D., Sandell, K., Fredman, P., 2011. Environmentalism and tourism preferences: a study of outdoor recreationists in Sweden. *Scandinavian Hospitality and Tourism*.11, 190-204.

Zinn, H.C., Graefe, A.R., 2007. Emerging adults and the future of wild nature. *Int J Wilderness*. 13, 16-23.

Curiosity Levels of University Student Studying In The Various Departments

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ABSTRACT

The purpose of this study is to examine the curiosity levels of university students studying in various departments. For this purpose, 532 university students who are studying in different departments at the University of Dumlupınar randomly selected as samples of this work. During the evaluation of the data, frequency (f) and percentage (%) was used. To add these statistical methods, in order to understand whether there is any difference among participants sexes, the Independent Samples Test was used and to understand if there is an important difference among students who are studying in different departments, One way Anova analysis was made. As a result of the analysis, the average score is normally =223.38 and the participants' curiosity levels are higher than the average scale. Also according to the study, the curiosity levels of the students vary according to the gender. But no difference is found among participants in different departments.

Keywords: *Curiosity level, university, student*

PREFACE

Curiosity is a concept which tells to desire to learn the anything of a person. The human being is a being who thinks, judges, interrogates, argues by its nature; so that, he/she wonders too things and wants to learn. There are very reasons of the curiosity on a person. When studies on this area are analysed researchers emphasize concepts which cause to the inquisitiveness like that. Coming down new, interesting, abnormal or mystic items, giving the positive input such as inquiry and direction, expressing willingness and desire for learn much more about environment or his/her own of the individual, inquiring new experiences by following the environment and insisting on inquisition and examination for attain knowledge much more (17).

Piaget expresses that curiosity is a necessity to grow the knowledge (15). Bruner expresses that is a obligatory point which matters to exist both human being and specieses. They define as the premise studies in connection with curiosity (3).

The premise studies in connection with are made about 1960s. Maw and Maw have arrived the result that children who have high curiosity level remember longer time things which they learn according to children who have low curiosity level (13). Hogan and Greenberger have also observed that there is a connection between academic achievement and curiosity level on a similar study which they have made with teacher (10). Berlyne has explained that particularly creative artist, interpreter,, listener or reader live processes in connection with the curiosity, display performances in result of perceptual and cognitive activities (1). The theor, Vilder and Berlyne realising the premise studies in connection with curiosity motive have explained, have been adopted by a large environment (17,18). Berlyne expresses the curiosity theory with two kids inquisitiveness. These are perceptual and knowledge inquisitiveness (1). Many researchers have used the inquisitiveness characteristic to evaluate the academic achievement, or learning performance (2, 17, 12)

The perceptual inquisitiveness causes to expand the impulsivity perception. In other words, the organism

composes to be achieve a knowledge its own. Knowledge inquisitiveness also expresses a motivational aspect which occurs in the result of relaxation with researching and realizing of the knowledge(14,9).Berlyne defends that the perceptual inquisitiveness is a common characteristic, is an animals and humanbeings but the knowledge curiosity exists much more on humanbeings due to learning and memory characteristics(9). Nevermore; studies just continueing on neuropsychology area are within the explanation effort the near biologic-neuropsychologic factors which is just unknown in vonnection with curiosity(11). Berlyne expresses that second kind curiosity which he defines has two dimensions as original and dissocrative curiosity. While the original curiosity is defined as a researching action to a special knowledge item dissociative curiosity is a general research, analysis manner which come out in the result of boring sense. The dissociative curiosity is seen on activities such as game and entertainment much more but the original curiosity is expressed with the curiosity impulsive in relation to a topic(12). Pearson deals with the curiosity as a newness necessity(16), Zuckerman deals with ist as a learning sense(20). However, Gestalt psychologists have explained that the curiosity is an important item of signifance search in organism and a fulfilment movement as coherent to totality. Berlyne has explained the curiosity as a motivational state, Day who is the student of Berlyne has anayzed the curiosity as a personality trait(4). Therefore, he has explained that a person having to a high curiosity level is much more curious on some conditions(orginality), fusses about the topic faster on some conditions(re-activeness), points out a movement continueing an inquisitiveness statue in a long time(12).

Vidler, Derek C, Rawan and Hashim R. Have analyzed the relation between academic curiosity and performance of the university students in the similar research which is made in 1975. The curiosity levels of the students has been determined with Academic Curiosity Scale. Test poists of English and Biology lessons are used for academic performance of the students. On the research result, it is discovered a meaningful affair between points which is get from Academic Curiosity Scale and academic performance.

THE AIM OF RESEARCH

The aim of this research is to determine the curiosity levels of university students and to state whether it refers to a difference or not in terms of variant of the curiosity levels between gender, faculty.income level and the other departments with Physcal Ed. Department. This study is performed because of being thought to the curiosity characteristic will suplement to this area by being analysed in Turk sample group and in terms of the other variants. With this aim, the study which is adapted to Turkish of "Correlation of Inquitiveness" which is formed by Erwin(1998) is implemented to university students in different departments.

Sub-problems of the research are pointed like this;

- 1.What is The curiosity levels of university students?
- 2.Have the curiosity levels of university students been varying according to gender and faculty which is srudied?
- 3.Is there any difference between Physical Education Sport Upper-School and the other faculties'departments in terms of the curiosity levels of the students?

THE METHOD OF RESEARCH

The screening method has been used on this study because determining to thecuriositylevels of university students and evaluating to in terms of some variants to this state have been aimed. In the ways; the state of play is determined with quantity analysis of datas which is achieved from the curiosity scale.

Working Group

Table 1: Demographic characteristics of the working group

FACTOR	VARIABLE	f	%
Age	17-19	188	35,3
	20-22	211	39,7
	23-25	115	21,6
	26 and older	18	3,4
	Total	532	100.0
Gender	Men	312	58,6
	Women	220	41,4
	Total	532	100.0
Department	Faculty of Economics and Administrative Sciences	94	17,7
	Faculty of Fine Arts	39	7,3
	Faculty of Engineering	43	8,1
	Faculty of Education	31	5,8
	Department of Sport Management	49	9,2
	Department of Education Coaching	64	12,0
	Recreation	25	4,7
	Physical Education Teacher Education Department	82	15,4
	Vocational School	105	19,7
	Total	532	100.0
Level of Prosperity	Worst	20	3,8
	Bad	41	7,7
	Normal	262	49,2
	Good	173	32,5
	Very Good	36	6,8
	Total	532	100.0
Weekly Free Time	1-10	82	15,4
	11-20	69	13
	21-30	108	20,3
	31 and over	273	51,3
	Total	532	100,0

The personal datas' variant of students who are joined to the research are given. According to datas, 58,6 percent of students who stand on the sample group are male (f=312), 41,4 percent of them are female (f=220). Age distance is used as four items. When the age category of the sample group is evaluated students between 20 and 22 ages are tense with percent 39,7 rate and age group between 26 and upper participate in the lowest rate with percent 3,4 rate.

It is detected that the most participating to research are vocational high school with percent 19,7 rate, the lowest participating to research are the students of recreation department with percent 4,7 rate. It is seen that the sample group have "normal" prosperity level at the most with percent 49,2 rate and they have "very good" prosperity level with percent 6,8 rate. When weekly free times of the sample group are evaluated it is determined that "31&upper" hours are the most around them with percent 51,3 rates "between 11-20" hours are the lowest with percent 13 rate.

The Data Collection Tool

The first version of the Curiosity Scale was improved by Erwin, Coleman and Orlando(1998) in James Madison University. The second and third versions are improved in the result of studies improved at the later time. The third version of the scale which is also used in this study is held again according to the criosity property depicted by Ainley (1987). The Sale consists of two child size. These are called as width(27 items) and depth (20 items) the width is the analysis to datas in wide scope and diversity. The person wants tol ive impulsive diverse experiences on this size of the curiosity property. Depth is intersted in specific topic, opinion or person and knowledges in connection with these try to learn continually. So, the person wants to do a research in connection with a specific area and topic which is in the area of hid/hrt own and to enhance his/her acquisition. (Fulcher,2004:44). The curiosity level consists of a total of 47. The answer for scale item is likert-type rating scale as “the first very fit”,the second partially suitable”, “the third very few appropriate”, “the fourth very very litte is not eligible”,”the fifth partially match”, “sixth doesn’t fit at all.” According to that, when the starting point is taken one 3,5 value is assumed as middle dot of “very few appropriate” and “very little is not eligible” values. It is determined that min score is (47x1)47, median score is (47x3,5)165 and max score is (47x6)282 which will be get from scale in the general averageof the scale the confidence of curiosity index third version is detected as $p < 0,01$ at level of 0,093.

Therefore, the information form is preperated for determine demographic features of the students. the informatin form is preperated for determine demographic features of the students. it is wanted to specify by marking one of options such as gender,age, faculty, prosperity level and weekly free time zone.

Diagnosises And Comments

Table 2: The Descriptive Statistics in connection with Curiosity Level of Students

	n	x	ss
Point of curiosity	532	223,38	23,74

The highest score which is able to get from the curiosity scale is 282, the lowest score is 47 and the median score waited is 165. According to that, when scores which is taken from curiosity scale are examined it is detected that the lowest score is 119, the highest score is 273, the average score is also 223,38. According to that, the curiosity levels of the university students are on upper of scale medium scale medium score. This state comes out that the university students have the high curiosity level. Having the high curiosity level of the university students can’t explain alone to concentrating in which direction of the curiosity feature. For this reason, datas which is achieved from the sub-dimension of the curiosity scale of the students are examined. These datas are given in Table 3.

Table 3: The descriptive statistics in connection with sub-dimension of the curiosity scale.

Scale Sub-dimensions	x	n	ss
Width	127,83	532	15,007
Depth	95,55	532	11,51

When statistics in connection with sub-dimension of the curiosity scale are analysed it is realised that score average in connection with wdth dimension of students ($x=127,83$) is higher than average of depth sub-dimension. ($x=95,55$). According to, the university students don’t concentrate on a single issue which they are interested in; despite this, it is thought that they try to deal with every topic interesting in. Because, inquisitiveness is a positive proverty as a general on learning to a new knowledge, it is also analysed in two styles. People who have to width proverty spend time to find a new knowledge from many information resources and they want to reach the different knowledges. People who have to depth property want to do detailed research in connection with a specific area or topic interesting in. Curious motive is considered as one of important variants which affect to learning process. The average belongs to sub-dimension of width in curiosity scale is higher that the average belongs to sub-dimension of depth. This status shows that Professional interests and trends of students aren’t specific enough. This status could be commented with style that the topics which the students are interested in are multifarious but they aren’t consistent.

Responses given to items to the width dimension of the scale are analysed it is seen that the students participate to items in connection with this dimension more than items reflect to the depth dimension. These are examples to items which reflect to this dimension of the scale and have to high average: "M4: When I learn a new thing I try to achieve the knowledge on every topic in relation with its. ($x=4,97$)" ; "M12: I try to new things continuously. ($x=5,07$)"; "M25: I'm interested in any topic ($x=5,15$)"; "M45: I enjoy to know a little bit from everything. ($x=5,25$).". It can be said that the curiosity of the students range, the students want to interested in every topic, but they don't have enoug experience in connection with this topic and they have propartionally the negative ideas about participating and moving to activities in connection with they are interested in and learn. These are the examples to items having to lower average than width dimension and reflecting to depth dimensions: "M13: I can concentrate to the school and work projects easily ($x=4,95$)": "M35: I can spend to search a topic which I want to learn deeply to major part of my time. ($x=4,94$)" "M24: The thing which is banal for me is to live new experiences ($x=3,80$)."

It is thought that the students give the negative answers proportionally about observing to the activity of learning and participating as a voluntary to activities. Nevermore, this state should be examined in terms of socio-economic status of the students and possibility to arrive activities around them. As a result, it can be said that the students can have variable topic areas, they are the positive about newness and learning, they want to evaluate chances in connection with topics interesting in but they don't interested in topics have details, is routine, demand patiance.

Table 4: Independent groups' test result in connection with the curiosity levels according to gender

	Gender	n	x	ss	f	p
Total Of Curiosity	Men	312	220,04	24,43	-3,923	,000
	Women	220	228,13	21,91	-3,997	,000
Total Of Width	Men	312	125,91	15,28	-3,542	,000
	Women	220	130,55	14,20	-3,588	,000
Total Of Depth	Men	312	94,12	11,79	-3,447	,001
	Women	220	97,58	10,81	-3,499	,001

$p < 0,05$

When it is examined in terms of the gender the score average in connection with the curiosity level is 220,04; 228,13 for the males. It is seen that the scale average score of the students in every two groups is on upper of 164. When the curiosity levels is compared the average scores of female and male students show difference and the differentiation is high on the female students ($t=-3,997$; $p < 0,05$). This state gives to ideas that the curiosity characteristics of the female students are more dominant than the curiosity characteristics of male students. Width score average is 125,91 for the male students; it is 130,55 for female students in connection with sub-dimension. According to that; females have width score average higher than male in width sub-dimension average.(127,83). Thereby, it is seen that width dimension of female students are more dominant.($t=3,588$; $p < 0,05$). When scores of the depth dimension are examined it is seen that the average score and the female students are hyper than it.(95,55). According to this results, the depth dimension characteristic of female students is more dominant than male students' depth dimension.

Table 5: Descriptive Statistics in connection with Curiosity Levels according to Faculties

	n	x	ss
Faculty of Economics and Administrative Sciences	94	225,68	20,62
Faculty of Fine Arts	39	228,	19,74
Faculty of Engineering	43	219,97	24,95
Faculty of Education	31	222,09	22,03
Department of Sport Management	49	222,42	25,01
Department of Education Coaching	64	222,89	24,38
Recreation	25	233,2	28,14
Physical Education Teacher Education Department	82	224	20,78
Vocational School	105	219,33	27,13
Total	532	223,38	23,74

We can see in Table 5, that the highest average is belonging to the students of recreation department ($x=233,2$) the lowest average is belonging to the students of vocational highschool. ($x=219,97$). The results of anova(the analysis of variance) in connection with the curiosity levels according to faculties are given in Table 6.

Table 6: The results of anova test according to faculties in connection with the curiosity levels scores

Source of Variance	Sum of Squares	sd	Average Squares	of f	P
Between Groups	6100,55	8	762,56	1,360	,211
Within Groups	293183,68	523	560,58		
Total	299284,23	531			

$p<0,05$

We can see in Table 6 that there isn't an excessive difference between the curiosity levels according to faculties which the students continue their educations and the average scores in connection with the curiosity levels ($F=1,36$, $p<0,05$). According to that, it could be said that the curiosity scores of Dumlupınar University's students don't change according to departments; but, the different department's students have the similar curiosity levels.

DISCUSSION AND INTERPRETATION

It is determined that the curiosity levels of university students are on upper of the average score of the scale; the average scores in connection with width dimension are higher than the average of depth sub-dimension in the result of the study which purposes to determine the curiosity levels of the university students who will give the direction to the future of society. It is determined that the curiosity medium score of the female students is 228,13, the male students' is 220,04 on the result of comparison according to genders of the curiosity scale which we make on, the sample group.

According to that, it could be said that the curiosity levels of the female students are more dominant than the male students'.

Demirel M& Coşkun Y.D have reported that the average scores of the female students are 231,12 and the average scores of the male students'. They have expressed that the curiosity level of the male students are more dominant than the female students according to comparisons which they have made. This study comes out some contrasts with our study.(6)

Deringöl Y and her friend have determined that the curiosity average scores of the female students are 216,60, and the male students' are 203,71 in the studies which they have made tp teacher suitor of elementary education.

According to these results, they have expressed that the curiosity levels of female teacher suitors are more dominant than the male teacher suitors'. This study is paralel with our study (7).

In our studies which we have made, it is determined that the width dimension average score in connection the curiosity sub-dimension of the student is 130,55 for females, it is 125,91 for males and the depth dimension average score is 97,58 for females, it is 94,12 for males and depth dimension of females are more superior than the width and depth dimension of males.

Deringöl Y and her friend have determined that the width dimension score of female teacher suitors is 119,94, males' is 89,77 on the studies which they have made. According to these results, they have reported that the width and depth dimension of female teacher suitors are more superior than male teacher suitors'. This study has supported to our study(7). In the result of the curiosity levels' comparisons of university students according to departments, while it is determined that the total of squares among groups is 6100,55 average of squares is 560,58. it isn't determined that the curiosity level's average scores between $F=1,36$ & $p<0,05$ have an excellent difference on the study which they have made on the university students(6).

This study hasn't supported to our study. According to these results, there is the excellent difference between genders; furthermore, the study comes out that the curiosity levels of students are the high level because the curiosity levels of students are much more than the medium score which is produced from the scale, depth dimension's average score and width dimension's average score. It is evaluated that the students who have high curiosity level is individuals who learn throughout their life and this statue is positive.

It is determined that the average score in connection with width dimension is greater than average score in connection with depth dimension. This statue is commented in the style that the curiosity university students aren't limited on the title of one topic much more, it includes the diversity, the students are interested in every topic which they want but they don't live to enough experiences to there topics.

SOURCES

Berlyne, D. E. (1960). Conflict, arousal, and curiosity. New York: McGraw Hill.

Berlyne, D. E. (1954). Knowledge and stimulus response psychology, Psychological Review Vol 61(4), Jul 1954, 245-254.

Bruner, J. S. (1966) Toward a Theory of Instruction, Cambridge, Mass.: Belkapp Press. 176 - 179 pages.

Day, H. I. (1982). Curiosity and the interested explorer: Performance & Instruction Vol 21(4) May 19-22.

Day, R. (1971) Epistemic curiosity and incidental recognition in relation to degree of uncertainty: Some general trends and intersubject differences British Journal of Psychology Volume 72, Issue 1, Volume 72, Issue 1, Volume 72, Issue 1.

Demirel M. Coşkun Y. D (2009) Üniversite Öğrencilerinin Meraklılık Düzeylerinin Bazı Değişkenler Açısından İncelenmesi Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, Yıl 9, Sayı 18, Aralık 2009, 111-134.

Deringöl Y ve ark.(2010) İlköğretim Öğretmen Adaylarının Meraklılık Düzeylerinin İncelenmesi, International Conference on New Trends in Education and Their Implications 11-13 November, Antalya-Turkey4.

Edelman, S. (1997). Curiosity and exploration. California State University, Northridge, <http://www.csun.edu/~vcpsy00h/students/explore.htm> adresinden 10 Aralık 2011 tarihinde indirilmiştir.

- Fulcher, K. H. (2004) Towards measuring lifelong learning: The curiosity index. Unpublished doctoral dissertation, James Madison University, Department of Graduate Psychology, USA.
- Hogan, R., & Greenberger, E. (1969) Development of a curiosity scale; The development of new measures of curiosity for children. The Johns Hopkins Univ.
- Kang M., J.H. Ming.,Krajbich, I. M.,Loewenstein,G.,McClure,S.M. ,Wang, J.T.& Camerer, C.F. (2006). The hunger for knowledge: neural correlates of curiosity. The Southern California Innovation Project.
- Loewenstein, G. (1994) The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin* , 116(1), 75-98.
- Maw and Maw. (1966) Children's Curiosity and Parental Attitudes Author, *Journal of Marriage and Family*, Vol. 28, No. 3 August, pp. 343-345.
- Noone, S. M. (1994) Mandatory versus voluntary adult learners: implications for trainers. Unpublished doctoral dissertation, Oregon State University, USA.
- Piaget, J. (1952). *The Origins of Intelligence in Children* (Cook, M., Trans.). New York: International Universities Press.
- Pearson, P. (1970) Relationship between global and specified measures of novelty seeking. *Journal of Consulting Psychology*, 11, 199-204.
- Reio, T. G. (1997) Effects of curiosity on socialization-related learning and job performance In adults. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, USA.
- Ünal, H. (2005) The influence of curiosity and spatial ability on preservice middle and secondary mathematics teachers' understanding of geometry. Unpublished doctoral dissertation, The Florida State University, College Of Education, USA.
- Vidler, D. C., & Rawan, H. R. (1975). Further validation of a scale of academic curiosity: *Psychological Reports* Vol 37(1) August, 115-118.

Physical Activity and Reduction of Some Health Risk Factors

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ABSTRACT

During the past few years the cardiovascular diseases (CVD) are one of the main reasons for increased death rate in our country. The purpose of the research was to establish the effect of moderate physical activity on some risk factors regarding the cardiovascular system. The subject of the research were 32 female students. They were included in a 12-week physical activity program, consisting of individual sessions in aerobics, swimming, cycling, jogging following preliminarily developed individual programs in conformity with the physical fitness, preferences and interests of the participants, with prescriptions for the frequency, duration and intensity of the training sessions. We can underline that 12-week sessions with aerobic programs 5 times per week with duration 45 minutes and intensity 80-85% of the maximum heart rate lead to reduction in some of the risk factors leading to problems with the cardiovascular system.

Keywords: *Curiosity level, university, student*

INTRODUCTION

During the past few years the cardiovascular diseases (CVD) are one of the main reasons for increased death rate in our country. The main risk factors leading to cardiovascular incidents and death are age, heredity, regular smoking, alcohol abuse, high blood pressure, high cholesterol, diabetes, sedentary lifestyle, stress, etc. Some of these are too conservative and cannot be changed (age, family burden, heredity), but most of them could be changed by changing the lifestyle – nutrition and reduction of the body weight, increasing the physical activity, getting rid of harmful habits, etc.

The scientific literature gives a lot of data supporting the thesis that the indicated risk factors could be reduced to a significant degree by increasing the daily physical activity (Jerry, 1990, Leon & al., 1996, Дякова & Пеева, 1997, Powers & al., 1997, Peeva, 2002). Still, however, there are no accurate criteria of the intensity, duration, frequency and nature of the training sessions, which could lead to such a result.

The purpose of the research was to establish the effect of moderate physical activity on some risk factors regarding the cardiovascular system.

THE STUDY

The subject of the research were 32 female students (average age – 22.1 years) having a sedentary lifestyle who volunteered to participate in the experiment.

All participants filled in a questionnaire for health status and willingness to participate in the experiment.

They were included in a 12-week physical activity program, consisting of individual sessions in aerobics, swimming, cycling, jogging (by choice of the participants) following preliminarily developed individual programs in conformity with the physical fitness, preferences and interests of the participants, with prescriptions for the frequency, duration and intensity of the training sessions. Furthermore, each participant had to keep a personal diary

with the following data: body weight, resting heart rate, working heart rate, resting blood pressure, self-confidence. The diaries were checked periodically by the researchers.

Once a week group sessions were carried out, including work on a treadmill, bicycle ergometer, step, rowing training machine and aerobics. During the entire session the fitness instructor was monitoring for the proper execution of the exercises and for control of the heart rate every 10 minutes.

In the beginning and at the end of the experimental period the following parameters were measured: body weight, height, waist and hip girth, and based on them the ratio waist / hip and BMI were calculated. The additionally recorded data is the heart rate and the arterial blood pressure while resting, the lipid profile and a step-test for indirect determination of VO_2 max.

Each participant was asked to examine her lipid profile in a clinical laboratory.

In practice the entire training cycle was divided into two stages. During the first stage – the first two weeks – the frequency of the sessions was 3 times per week with duration of 30 minutes and intensity 50-60% of the maximum heart rate. following the program selected by the participants.

During the second stage the frequency was 5 times per week with intensity 70-85% of the maximum heart rate and duration 40-45 minutes.

A statistical analysis of the results was carried out with the use of SPSS software. The level of $p < 0.05$ was considered significant.

FINDINGS

On **Table 1** are represented the results from the conducted experiment. The reduction in the diastolic blood pressure (**fig. 2**) and the resting heart rate (**fig. 1**) and the increase in the maximum oxygen consumption (**fig. 5**) show improvement of the economy and effectiveness of the cardiac muscle and improvement of the fitness of the oxygen provision systems. which in turn leads to a lower risk of cardiovascular diseases. despite the fact that heart rate and maximum oxygen consumption do not pertain to the risk factors. Our results contradict the results of other authors, which do not find a change in the values of maximum oxygen consumption (Grants & al., 1992, Leon & al, 1996, Дякова, Пеева & Божкова, 2007). We should note, however, that the main characteristics of their training programs are different from ours – duration of 1 session – 25 minutes, frequency – 3 times per week, intensity – 60-70% of the maximum heart rate.

Table 1: Data for comparative analysis

№	Parameters	I examination			II examination			Absolute growth
		X	S	V %	X	S	V %	
Anthropometric parameters								
1	Height (cm)	165.8	4.8	2.8	165.8	4.8	2.8	0*
2	Body weight (kg)	68.4	7.6	2.8	64.1	6.4	9.9	-4.3*
3.	BMI	25.14	3.1	12	23.56	3.6	15	-1.58*
4.	Waist (cm)	78.1	2.6	3.3	73.2	3.1	4.2	-4.9*
5.	Hip (cm)	96.3	4.7	4.8	94.3	5.1	5.4	-2.0*
6.	Waist/hip	0.81	0.5	61.0	0.80	0.4	50.0	-0.01**
7.	Body fat (%)	24.1	5.52	22.9	22.03	3.91	17.7	-2.08*
Functional parameters								
1.	HR (beats/min)	74.4	4.3	5.7	70.8	3.2	5.5	-3.6*
2.	RR syst. (mmHg)	120.0	12.0	10.0	121.0	11.0	9.0	1.0**
3.	RR diast. (mmHg)	84.0	9.0	10.7	81.0	10.4	12.8	-3.0*
4.	Total cholesterol (mmdl)	109.1	39.0	35.7	106.0	40.0	37.7	-3.1**
5.	High density cholesterol (mmdl)	69.0	15.0	23.8	69.0	15.0	23.8	0**
6.	Low density cholesterol (mmdl)	112.0	20.0	17.8	110.0	19.0	17.8	-2**
7.	VO_2 max (l/ min)	2.27	0.32	14.0	2.31	0.26	11.2	0.04*
8.	VO_2 max (ml/kg/min)	33.1	3.29	9.9	36.0	35.2	9.8	2.9*

* - Pt = 95 %, ** - Pt < 95 %

The body weight and composition are one of the serious factors leading to cardiovascular incidents and diseases. The reduction of the body weight (**fig. 3**), % Body fat (**fig. 4**) and BMI, which in the beginning were higher than the norm (%BF – 20 %; BMI - 19-24.9) and after the experiment were normalized (exception - %BF) confirms the statement that regular physical activity sessions (five times per week) of aerobic nature and intensity 80-85% of the maximum heart rate lead to positive changes in people leading a sedentary lifestyle (Bryneret & al., 1997, Дякова, Пеева & Николова, 1997, Miller & al., 1997, McCord & al., 1998, Peeva, 2002). We should not ignore the motivation of the participants to reduce their weight and % of body fat together with reducing other risk factors regarding the cardiovascular system.

In the values of the systolic blood pressure the ratio waist/hip and the lipid profile no statistically reliable differences were established.

Our results confirm the results of other authors, according to which in order to obtain significant changes in these parameters the training period must be longer than 12 weeks (Grants & al., 1992, Powers & al., 1997, Пеева, 2004, Дякова, Пеева & Божкова, 2007).

Another reason for the lack of changes in the systolic blood pressure is the fact that the average value of this indicator in the beginning of the experiment was within the normal limits. According to many authors in this case one should not expect a reduction in the values as a result of physical exercises and sports.

The lipids and the lipoproteins depend largely on the hereditary factors, the lifestyle (nutritional habits) and the habitual physical activity. The combination of low fat food and increased physical activity would definitely lead to reduction in the values of lipids and lipoproteins. In our case, however, the participants retained their nutrition habits during the experiment, which in addition were not controlled by the researchers.

The ratio waist/hip is reduced, but the difference is insignificant and statistically unreliable, compared to the results of other authors who find a significant reduction in this index with similar intensity and duration of the program (Jerry, 1990, Grants & al., 1992, Leon & al., 1996, Дякова, Пеева & Николова, 1997, Дякова, Пеева & Божкова, 2007).

The probable reason for the lack of a significant difference in our case is the normal initial level of this ratio.

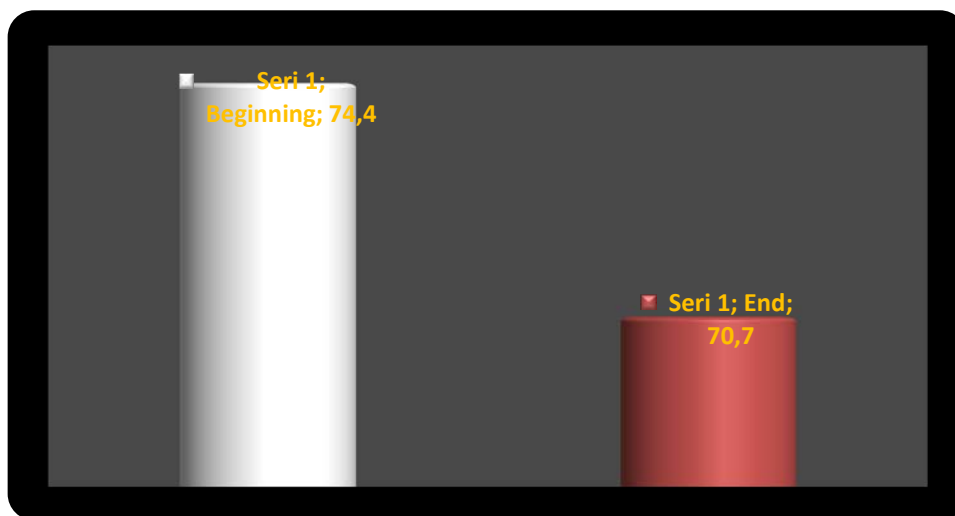


Fig. 1 Heart rate (beats/min)

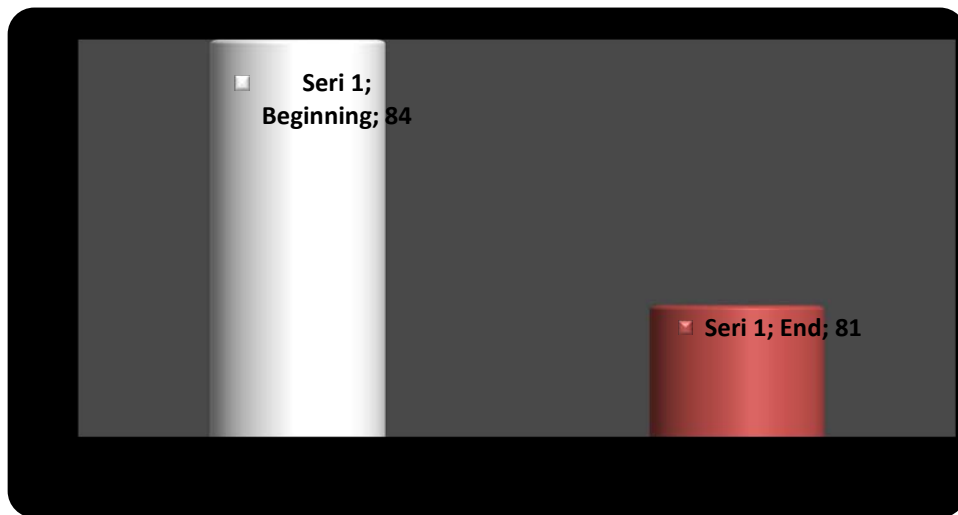


Fig. 2 Blood pressure - diast. (mm/Hg)

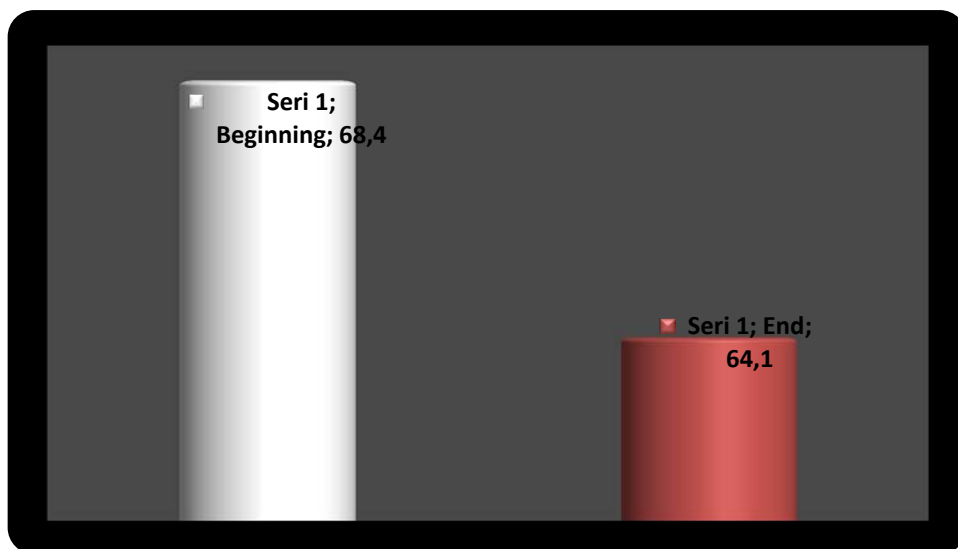


Fig. 3 Weight (kg)

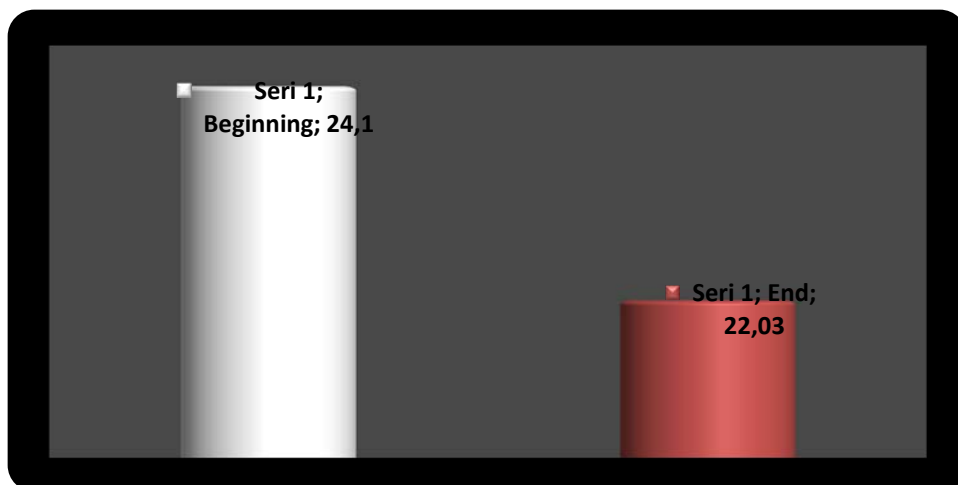


Fig. 4 Body fat (%)

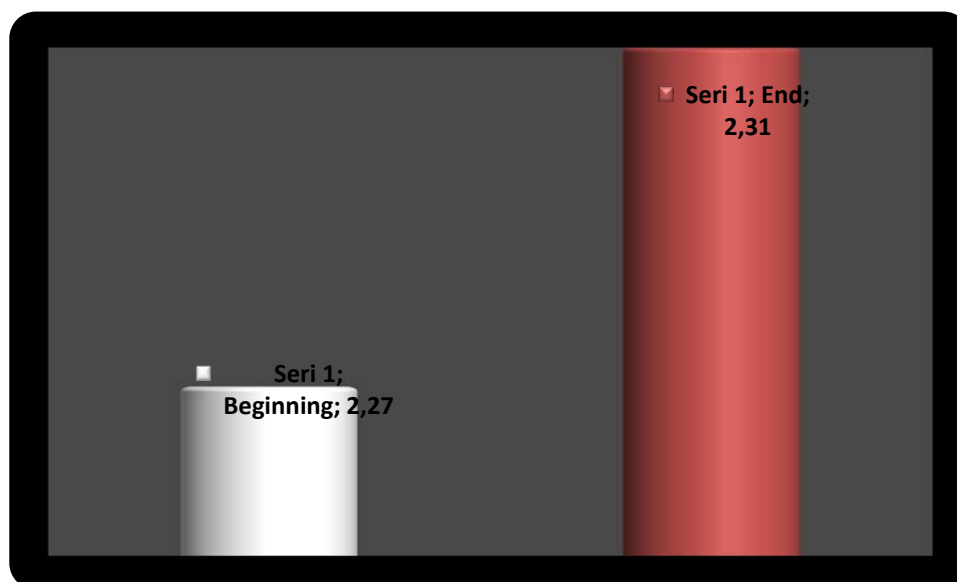


Fig. 5 VO₂ max (l/min)

CONCLUSIONS

In conclusion we can underline that 12-week sessions with aerobic programs 5 times per week with duration 45 minutes and intensity 80-85% of the maximum heart rate lead to reduction in some of the risk factors leading to problems with the cardiovascular system, namely – diastolic blood pressure, body weight, % body fat and BMI. Although the resting heart rate and the maximum oxygen consumption are not risk factors. their positive changes could play a significant role in the reduction of the risk of cardiovascular diseases and for improvement of the health status of the participants. For reduction of the lipids and the lipoproteins it is necessary for the physical activities to be combined with a low animal fat diet and significant changes in the systolic blood pressure could be achieved after a longer period.

REFERENCES

- Bryner, R. C. et al. (1997). The effect of exercise intensity on body composition, weight loss and Dietary composition in women. *J. Amer. Coll. Nutr.*, 16, 68.
- Дякова Г., Пеева, Е. Николова. (1997). Тренировъчна програма „ Бодифит”- методика и ефективност. СиН, 3.
- Дякова Г., Пеева, П., Божкова, А. (2007). Изследване вариативността на физическите качества и морфофункционалните показатели на студенти от Тракийски университет. СиН, Изв. брой 1, с.587.
- Grants, S. et al. (1992). The effect of university program on health-related variables in previous sedentary males. *Br.J. Sp. Med.*.
- Jerry, G. B. (1990). Participation in a twelve-week moderate exercise program. *JOPERD*, F.
- Leon, A. S et al. (1996). Effects of 2000 kcal per week of walking and stair climbing on physical fitness and risk factors for coronary heart disease. *J .Cardiol. Reh.*, 16,183.

- McCord et al. (1998). The effect of low impact dance training on aerobic capacity submaximal heart rates and body composition of college-aged females. *J. of Sportsmed and Ph.fitness*, June.
- Miller, T.D. et al. (1997) Exercises and its role in the prevention and rehabilitation of cardiovascular disease. *Annals Beh.Med.*, 19, 13, p. 220.
- Peeva P. (2002). Effect of a health training program on some morphofunctional characteristics of college females. *PE and Sport, Warsava*, vol. 46, suppl.1, part 1.
- Пеева П. (2004). Характер и динамика на физическото натоварване в различните стилове аеробни занимания. Сб. Национална сигурност, физическа подготовка, спорт. НСА, С., с. 247.
- Пеева П., Дякова, Г., Йорданов, С. (2007) Въздействие на заниманията с аквааеробика върху някои морфофункционални показатели и двигателни способности на 14-годишни момичета. *СИН, XLX*, 1, с.100.
- Powers, S.K. et al. (1997). *Exercise physiology-Theory and Application to performance*.

Reaction Time Comparison Of Young Volleyball Players In Smasher And Setter Positions

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ABSTRACT

This study was carried out to determine auditory and visual reaction time of male and female volleyball players in smasher and setter positions aged 15-17 and to analyze their differences. Measurements of volleyball teams were made on 13 teams and 133 athletes one day before the first competitions of youth group in Afyonkarahisar. The test was done with Power Newtest 2000 device and was described to the players in details. To evaluate the auditory and visual reaction times, measurements were made three times for each athletes and the best degree was evaluated. The obtained data were analyzed with SPSS 17.0 for Windows program and the dependent variables were performed by Covariance (Ancova) analysis. The average of the right hand visual reaction time of female setter was 236 mls while the reaction time of the male setter was 248 mls. Average left hand visual reaction time of female setter was 211 mls while it was 233 mls for male setter. Right hand average auditory reaction time of female setter was 200 mls while it was 206 mls for male setter. Average left hand auditory reaction time of female setter was 199 mls while it was 203 mls for male setter. Average right hand visual reaction time of female smasher was 237 mls while it was 248 mls for male smasher. Average left hand visual reaction time of female smasher was 222 mls while it was 227 mls for male smasher. Average right hand auditory reaction time of female smasher was 201 mls while it was 187 mls for male smasher. Average left hand auditory reaction of female smasher was 199 mls while it was 196 mls for male smasher. In conclusion, differences between auditory reaction time of right hand of male setter and male smasher are found to be statically significant.

Keywords: *reaction time, volleyball, smasher, setter*

INTRODUCTION

Volleyball has a high tempo; it is a dynamic and physical game which doesn't have a definite duration, and based on speed, power, dynamism, flexibility, endurance and jumping (Ergül, 1995). Reaction time and hand-eye coordination are the other important parts of this game (Bayar et al.1992). Reaction time is a hereditary aspect that determines the time period between a signal and individual's muscular reaction or activity towards it. In other words, reaction time is the period between the appearance of a rapid signal without a predecessor and the answer given to it. Reaction time is a decisive factor in many sports and can be developed by regular training (Bonpa, 1998). In volleyball, different, fast and successive movements are required in fast changing game positions; and various different actions are fit into a short amount of time. A setter has to be ready for quick thinking and creating various solutions to a good or bad pump; a smasher has to have a good approach and a reaction time against after-attack blocked balls which is accepted to be one of the most important aspects of volleyball players (Fröhner, 1999).

In volleyball, every team tries to end the action with a strong hit in order to win the game. On the other hand, a good pass is crucial in order to make an effective hit.

This study was carried out to determine auditory and visual reaction time of male and female volleyball players in smasher and setter positions aged 15-17, and to present their differences.

MATERIALS AND METHODS

29 smashers and 15 setters from 5 male teams and 49 smashers and 20 setters from 8 female teams which attended the Group Championship Volleyball Games, voluntarily participated in this study. Totally 113 volleyball players were in the study.

In order to measure the reaction time, Power 2000 New Test Simple Reaction Time Measuring device was used. Measuring device: The device has the aspect of measuring both the light and sound reaction time and can show the results on screen. In order to react as fast as possible to the stimulus sent by a sensitive button, experiment subject touched the button in front of him with his/her hand. Electronic brain of the device is made of an electronic chronometer which measures the reaction time between the light or sound stimulus and answer in terms of milliseconds (msec) and shows the result on digital screen.

All players were informed about how does the power 2000 New Test device work and how will all of the measurements be made; in order to ensure learning, test measurements were conducted on all of the members of study group. Measurement environment was quiet, airy and there were no distracters. During tests, players successfully carried out the test's directives and were encouraged to have the maximum attention. Measurements were done one day before the games.

Data of this research are analyzed with SPSS 17.0 Windows Program. Comparison of the research sampling group in terms of visual and audible reaction times according to sex and positions is made with Covariance (Ancova) analysis and meaningfulness level is determined to be 0.05.

RESULTS

Table: 1 Comparison of male and female volleyball players' reaction times

Variable	Sex	N	Average	Standard Deviation	F	Significance
Visual Right	Female	69	237.015	42.558	0.002	0.964
	Male	44	248.205	45.274		
Visual Left	Female	69	218.899	31.188	0.908	0.343
	Male	44	229.546	32.972		
Audible Right	Female	69	201.551	43.048	0.464	0.497
	Male	44	194.114	35.499		
Audible Left	Female	69	199.377	40.678	0.001	0.973
	Male	44	198.796	35.531		

Results of the comparisons between male and female players visual right, visual left, audible right and audible left reaction times showed that, there wasn't a meaningful difference in terms of sex. While some female volleyball players gave reactions in shorter times in visual right and visual left; male volleyball players gave reactions in shorter times to audible right and audible left stimulus.

Table 2: Comparison of female setters and smashers in terms of reaction times

Variable	Position	N	Average	Standard Deviation	F	Significance
Visual Right	Setter	20	236.900	50.697	0.207	0.650
	Smasher	49	237.061	39.352		
Visual Left	Setter	20	211.050	26.550	1.096	0.299
	Smasher	49	222.102	32.602		
Audible Right	Setter	20	200.750	44.036	0.830	0.366
	Smasher	49	201.878	43.098		
Audible Left	Setter	20	199.500	41.868	0.336	0.564
	Smasher	49	199.327	40.624		

There wasn't a statistically meaningful difference between reaction times of female setters and smashers in terms of visual right and left, and audible right and left ($p > 0.05$).

Table 3: Comparison of male and female setters in terms of reaction times

Variable	Sex	N	Average	Standard Deviation	F	Significance
Visual Right	Female	20	236.900	50.697	0.005	0.942
	Male	15	248.333	47.873		
Visual Left	Female	20	211.050	26.550	0.718	0.404
	Male	15	233.866	37.210		
Audible Right	Female	20	200.750	44.036	1.425	0.242
	Male	15	206.267	43.557		
Audible Left	Female	20	199.500	41.868	0.060	0.809
	Male	15	203.867	38.919		

There wasn't a statistically meaningful difference between reaction times of male and female setters in terms of visual right and left, and audible right and left ($p > 0.05$).

Table 4: Comparison of male and female smashers in terms of reaction times

Variable	Sex	N	Average	Standard Deviation	F	Significance
Visual Right	Female	49	237.061	39.352	0.137	0.712
	Male	29	248.138	44.743		
Visual Left	Female	49	222.102	32.602	0.454	0.502
	Male	29	227.310	31.019		
Audible Right	Female	49	201.878	43.098	0.004	0.951
	Male	29	187.828	29.439		
Audible Left	Female	49	199.327	40.624	0.050	0.823
	Male	29	196.172	34.067		

There wasn't a statistically meaningful difference between reaction times of male setters and smashers in terms of visual right and left, and audible right and left ($p > 0.05$).

Table 5: Comparison of Male Setters and Smashers according to their reaction time

Variable	Position	N	Average	Standard Deviation	F	Significance
Visual Right	Setter	15	248.333	47.873	0.201	0.656
	Smasher	29	248.138	44.743		
Visual Left	Setter	15	233.867	37.210	0.001	0.972
	Smasher	29	227.310	31.019		
Audible Right	Setter	15	206.267	43.557	5.325	0.027*
	Smasher	29	187.828	29.439		
Audible Left	Setter	15	203.867	38.919	1.277	0.266
	Smasher	29	196.172	34.067		

It is determined that while there wasn't a statistically meaningful difference between reaction times of male setters and smashers in terms of visual right and left, and audible left, there was a statistically meaningful difference between male setter and smashers in terms of audible right hand reaction time ($p < 0.05$).

DISCUSSION AND CONCLUSION

Analysis of audible and visual reaction times of 15-17 aged male and female volleyball players in terms of smasher and setter positions, and presentation of their differences were the goals of this study whose findings were evaluated by correlating with the present literature.

It is seen in our study that female volleyball players' visual reaction times were shorter than male players. Related with this, Silverman mentioned that male advantage in visual reaction time is decreasing (Silverman 2006). On the other hand, Reimersa and Maylora showed that in terms of reaction time, there is an interaction between retries and sex, and although female players are slower at the beginning, when they face an obstacle, they move faster than males (Reimersa et.al. 2011). Besides this, Gürsoy found out that hand-eye reaction time is significantly lower than women (Gürsoy, 2010). On the other hand, in this study, although audible reaction time of male aren't found to be significantly meaningful, these values are better than female.

Female reaction time values in Akarsu's study are higher than the values in our study (Akarsu 2008). Önder found out that big league female players' left hand visual and audible reaction time is better than their right hand visual and audible reaction time (Önder, 2008). Besides the parallelism between this result and our study's result, it is seen that big league players' reactions are faster. In respect to this, More et al. mentioned that successful players are better than the others in reaction time measurements (More et. al. 1992).

In Koç and Aslan's study, they measured the reaction time values of 12 aged male players who attend the trainings regularly at least for 3 years; the values they measured are lower than the values of this study (Koç et. al 2010). Factors such as age, attention, warm up and regular training can be the causes of low values. Davranche, Burle, Audiffren and Hasbroucq showed in their study that training develops reaction time performance (Davranche et. al. 2006). On the other hand, Polat mentioned that values of individuals that keep in training are better than the values of sedentary (Polat, 2000). Duyul determined that university student male volleyball players' right hand visual reaction time is better than their left hand visual reaction time; and left hand audible reaction time is better than right hand audible reaction time (Duyul 2005). The values of Duyul's study are lower than the values in our study which brings into the minds that age factor can be effective. Marancı and Müniroğlu made a research on soccer goalkeepers and other players; at the end of the research, it was determined that goalkeepers' reactions to visual and audible stimulus are better than the other players (Marancı et. al. 2001). These results are in parallel with our study. We can explain this situation as; like goalkeepers in team sports, in volleyball, smashers are tactically and technically very well developed players as they can give fast decisions, move fast, and estimate the ball's incidence angle.

In our study, while it is found that there isn't a statistically meaningful difference between male setters and smashers' visual right, visual left and audible right, audible left reaction times; a statistically significant difference was found to be between male setters and smashers' audible right hand reaction time ($p < 0.05$). As a result, we can say

that smasher players are positively affected as struggles on the net, counter attacks to rapid balls after offenses are faster today with short pass, jet pass and lead pass.

RESOURCES

- Ergul F. (1995) Elit ve elit olmayan bayan voleybolcuların fiziksel ve fizyolojik profillerinin değerlendirilmesi. Yüksek Lisans Tezi, Ankara: Gazi Üniversitesi 28-52
- Bayar P., Kuruç Z., (1992) Reaksiyon Zamanı ve El-Göz Koordinasyonu Ölçer İki Aracın Türkiye Normlarının Saptanmasına Yönelik Ön Çalışma, Spor Bilimleri Ulusal Sempozyumu; 136 - 143, 11.
- Bompa T.O., (1998) Antrenman Kuramı ve Yöntemi, İlknur K.A, Burcu T, (Çev) Ankara, Bağırğan Yayınevi.
- Fröhner B., (1999) Voleybol Oyun Kuramı ve Alıştırmaları Cengiz A, (Çev) Ankara, Bağırğan Yayınevi; 10-11
- Silverman I.W., (2006) Sex Differences in Simple Visual Reaction Time: A Historical Meta-Analysis (Sports Events), A Journal of Research, 54 (1-2); 57-69
- Reimersa S., Elizabeth A., (2011) Gender Effects on Reaction Time Variability and Trial-to-Trial Performance, Maylora University of Warwick, United Kingdom.
- Gürsoy R., (2010) Sex Differences In Relations Of Muscle Power, Lung Function, And Reaction Time In Athletes, Perceptual and Motor Skills: Volume 110; 714-720
- Akarsu S., (2008) Sedanter ve Çeşitli Branşlardaki Sporcu Adölesan ve Yetişkinlerde Reaksiyon Zamanı, Kuvvet ve Esneklik Arasındaki İlişkiler, Yüksek Lisans Tezi, Erzurum: Atatürk Üniversitesi.
- Önder H.U., (2008) Serdar E, Ankara Birinci Lig Takımlarında Oynayan Bayan Voleybolcuların Bazı Fiziksel ve Fizyolojik Parametrelerinin İncelenmesi, Beden Eğitimi ve Spor Bilimleri Dergisi / Journal of Physical Education and Sport Sciences, Cilt: 10, Sayı: 3
- More A., Komi P.V., Gregor R.J., (1992) Biomechanics of Sprint Running, Department of Biology of Physical Activity, University of Jyväskylä, Finland; 32
- Koç H., & Aslan C.S., (2010) Erkek Hentbol ve Voleybol Sporcularının Seçilmiş Fiziksel ve Motorik Özelliklerinin Karşılaştırılması 11. Uluslararası Spor Bilimleri Kongresi, Antalya; 376-378
- Davranche K., Burle B., Audiffren M., & Hasbroucq T., (2006) Physical Exercise Facilitates Motor Processes In Simple Reaction Time, Neuroscience Letters, Volume 396, Issue 1; 54-56
- Polat Y., (2000) Çabuk Kuvvet ve Sprint Antrenmanlarının Reaksiyon Zamanına Etkisi, Yüksek Lisans, Konya: Selçuk Üniversitesi.
- Duyul M., (2005) Hentbol, Voleybol ve Futbol Üniversite Takımlarının Bazı Motorik ve Antropometrik Özelliklerinin Başarıya Olan Etkilerinin Karşılaştırılması, Yüksek Lisans Tezi, Samsun: Ondokuz Mayıs Üniversitesi
- Marancı B., & Müniroğlu S., (2001) Futbol Kalecileri ve Diğer Mevkilerde Bulunan Oyuncuların Motorik Özellikleri, Reaksiyon Zamanları ve Vücut Yağ Yüzdelerinin Karşılaştırılması, Gazi Beden Eğitimi ve Spor Bilimleri Dergisi, 6 (3); 13-26

Reflection and Effectiveness in Physical Education

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ABSTRACT

The focus of the current research is the effective mastering of the educational content of physical education classes, Fitness and Bodybuilding module in particular, by 16 to 19 year-old students applying the principle of learning through reflection. Good practices and effective prerequisites for encouraging the mental perception of physical movements have been established through:- project development under the national programme "The school - students' territory" and a financial support by the Ministry of Education for the equipment of a fitness sports hall in the Private Secondary School for General Education "New Century", Stara Zagora, with modern sport facilities allowing students to practice daily sport activities;- the writing of an electronic methodology textbook on fitness and bodybuilding created by Trakia university professors and school teachers in compliance with state educational standards and requirements for curriculum development.

Keywords: *Reflection, Effectiveness, Physical Education*

INTRODUCTION

The focus of the current research is the effective mastering of the educational content of physical education classes, Fitness and Bodybuilding module in particular, by 16 to 19 year-old students applying the principle of learning through reflection. Good practices and effective prerequisites for encouraging the mental perception of physical movements have been established through:

- project development under the national programme "The school – students' territory" and a financial support by the Ministry of Education for the equipment of a fitness sports hall in the Private Secondary School for General Education "New Century", Stara Zagora, with modern sport facilities allowing students to practice daily sport activities;
- the writing of an electronic methodology textbook on fitness and bodybuilding created by Trakia university professors and school teachers in compliance with state educational standards and requirements for curriculum development.

As a result of the above students' individual potential has been enhanced through the use of effective means, methods and forms of education to address society's values, nature, human self-value and the contemporary role of physical culture for a healthy life.

The interest in the relationship between the processes reflection, physical education, efficiency stems from a great number of uncertainties in their sides. In theoretical and practical aspect, it is necessary to optimize their ever-changing conditions and increasing requirements for:

- formation of personality through successful implementation of physical education;
- provision of personal and socially significant preconditions for motor active life through systematic physical exercises and sports classes.

The reflection is seen in scientific publications from different positions [1; 3; 4; 6 etc.]. It is the ability of

consciousness to concentrate on itself, to master itself. This is the transition from unconscious to conscious knowledge, development of self-consciousness, the basis of self-expression. The reflection is meditation, introspection, analysis of your own thoughts, experiences. It includes the elements of the psyche: self-knowledge (cognition), self-experience, self-esteem (affectivity) and conduct toward yourself (conation) [5]. It forms and reflects the self perception of "I": as physical, social, spiritual "I" "I" - the image - real and ideal, "I" as a present, past and future. It reveals and develops itself through evaluation and self-evaluation, claims, activity, self-regulation, self-mastery and more [1; 2; 7; 8 etc.].

But regardless of that reflection:

- has important functions in the formation and expression of personality;
- is crucial for the results in physical exercises and sports;
- has been placed as a problem since the first pedagogical publications (Jan. A. Comenius) up to now;
- is investigated and specified by different specialists.

It holds potential for physical education in the present. Our and other studies show that it is difficult to connect the theory with the practice in the motor learning. Often the curriculum is managed by students mechanically, without understanding. For complete absorption and utilization of knowledge and skills is a reflection of the need to update the pedagogical interactions.

Our view is that in the physical education can be created and used favorable conditions for the onset and development of reflexes, contributing to improve performance in personal development.

That gives us grounds for applied research with a **goal**: to optimize the physical education of 16-19 year old students to raise awareness and activity performance through reflection and **tasks**:

- To explore opportunities and prerequisites for improving the mechanisms of reflection on motor learning in fitness and bodybuilding.
- To identify key interdependencies in pedagogical interactions with the development of reflection.

METHODS AND RESULTS

A scientific research, which covers the school years from 2008 to 2011 for experimental work in Private Secondary School for General Education 'New Century', Stara Zagora, Bulgaria is carried out. The implemented system of work is a manifestation of reflection and development by:

- Increasing the interest in theoretical and applied nature of reflection processes, physical education and personal development in an interactive learning environment;
- Implementation of individual fitness programs for self-organization, self-control, self-evaluation;
- Stimulating group and individual creativity in the performance of integrated classes in aerobic and anaerobic mode of complexes of exercises to gain muscle mass and reduce fat, of complexes of stretching exercises;
- Putting in place of discovery, exploration of the characteristics, qualities, processes for physical exercise;
- Disclosure of their own achievements and errors in motor performance, interactions, relationships, comparisons with others involved;
- Targeting active and conscious participation by observation and introspection, analysis and self-analysis, evaluation and self-evaluation, control and self-control with specific tasks in a free choice according to the objectives, the individual, age and other characteristics;
- Orientation to the values in society, nature and man as self-value and the role of physical culture for healthy living, using affordable and persuasive means, methods, forms;
- Application of reflection activating technical means - audio-visual recordings, teaching materials with creative ideas and analysis.

Characteristic for the implemented pedagogical interactions in the research and development is our goal to create a positive emotional environment for knowledge and insight understanding, goodwill, cooperation and encouragement.

The testing criteria and indicators for reflection and effectiveness in physical education, used in the research

are mainly for:

- Health and vitality of the performers;

- Accuracy, comprehension, application of knowledge and skills;

- Development of personal qualities and self-consciousness, manifested in the performance of physical exercise in special control measurements.

Work carried out and reported performance data show that reflection helps to optimize physical education. According to the interests, age, experience, it allows to get acquainted with the individual circumstances and specifics of the processes taking place in and through motor activity, such as:

- Characteristics of some basic concepts, criteria and indicators for assessment and self-assessment of physical development and health;

- Motor skills - specifics, methods and age dynamics of their development. Assessment tests, control and self-control;

- The training in bodybuilding - principles, division into periods, training experience; physical loading and criteria for determining the workload; tiredness-recovery- hyper recovery, special training, overtraining, work hypertrophy;

- Drawing up a nutrition and nutritional balance, according to energy consumption in various activities in their daily schedules. The influence of androgen hormones and enhancers on the process of increasing muscle mass;

- Characterization of the main muscle groups and the specifics of their development in bodybuilding-occupation. Physical exercises for major muscle groups;

- Characteristics of the training in bodybuilding for teenagers – specifics for teenage girls and teenage boy; selection of the physical exercises for the self-preparation; methodological guidelines for working with strength training. Tests for assessment of the level of training;

- Gym-rules of use; methodological guidelines for the work of trainers and cardio equipment. Control by cardio-leading devices;

- Sample training programs for beginners;

- The daily regimen and self-control in it.

On the base of motion are derived habits of introspection, comparing, analyzing, perception of others (teacher, classmate), and their own actions; favorable conditions for reflection and through it - for effective participation and development of the learner have been created; the motor and mental activity are improved; the possibilities for detection of significant, notable for the performances, for finding appropriate solutions in fitness activities, a successful self-organization, self-evaluation and self-control are increased. It builds confidence; knowledge and skills to operate according to their capabilities have been learned. The orientation in terms of performance is faster and more accurately.

These correlations in *fig.1* are a small proportion of positive interactions between physical, mental and moral development in the unity of personality, society, nature and their specificity for reflection. The **results** show that it supports the realization of the important functions of the educational process:

- *target* - to learn knowledge, to develop relationships that form the sports culture as an important component of the overall culture of the individual;

- *content and information* - complementary skills to improve the physical preparedness and harmony of body composition by enhancing knowledge of purposeful use of basic tools and methods of training to develop conditioning and coordination skills;

- *motivational* - develops personal and social motivation for systematic physical exercises in school and leisure activities;

- *coordination-inclusive* - bound to motor training with general education in school and learning, integrating various aspects of the experience - cultural, social, physical, mental, etc.;

- *corrections* - developing competencies for analysis and planning of physical training, drawing on introspection and self-assessment of individual self-study programs;

- *control* - ability to learn to self-achievement, and self-control in self-practicing;

- *developing-educational* - to stimulate the expression of autonomy and responsibility in achieving educational goals, strengthens the initiative and sense of belonging among students in solving problems related to ecology, communication, spiritual values and more.

Conducted research and development leads to the **conclusion**:

- Development and expression of reflection and physical education are mutually constitutive and have positive influence in the personal formation.

- The knowledge of the mechanisms and the development of reflection is essential for the effectiveness of motor learning.

- Reflection helps optimizing fitness classes by creating opportunities for activity, awareness and deployment characteristics of individual learners.

- The increased interest, motivation and awareness in the performance of physical exercise are essential for motor active healthy lifestyle through fitness and bodybuilding.

REFERENCES:

Dimitrova, S. (1996) Ecology of human development. Sport & Health. Sofia.

Implementation of "Education and Training 2010" Work Programme. (2004) Key competences for lifelong learning a European reference framework, European Commission Directorate-General for Education and Culture: http://europa.eu.int/comm/education/policies/2010/et_2010_en.html

Korthagen, F. A. J. (2002). Docenten leren reflecteren. Soest: Nelissen

Mezirow, J. (1998) On critical reflection. Adult Education Quarterly, 48 (3), 185-199.

Popov, N. (1994) Psychology. General Psychology. Sofia.

Schon, D. (1987) Educating the reflective practitioner: Toward a New Design for Teaching and Learning in the Professions. San Francisco: Jossey-Bass.

Stefanova, M. (2005) The pedagogical innovation.

Vasilev, V. (2006) The reflection in the knowledge, self-knowledge and practice.