TOJRAS
The Online Journal of Recreation and Sport
www.tojras.com

ISSN: 2146-9598

The Online Journal of Recreation and Sport

Volume 5 Issue 1
January 2016

www.tojras.com
01.01.2016

Contact Address:
Assoc. Prof. Dr. Metin YAMAN
TOJRAS, Editor in Chief
Ankara-Turkey

Published in TURKEY

Message from the Editors

TOJRAS welcomes you and would like to thank you for your online journal interest which helped TOJRAS to gain popularity and dignity among academic publications locally and internationally. We need to indicate that we are so pleased that various researchers, teachers, teacher trainers, parents, and students around the world have visited TOJRAS for four years continuously. It means that TOJRAS has contributed to the dissemination of new trends in sport education and research to all over the world for years. We hope that this latest issue will also follow our global educational goal.

TOJRAS provides its readers with the opportunity of meeting different aspects on sport education so that they can expand their study fields. In addition, the content is freely accessible without charge to the user or to his/her institution. Also, any views expressed in this publication are the views of the authors and are not the views of the Editor and TOJRAS.

TOJRAS thanks and appreciates the editorial board and reviewers who have contributed a lot to the submissions of this issue for their valuable contributions.

Call for Papers

TOJRAS invites you for article contribution. Submitted articles can be about all aspects of sport education. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJRAS. Manuscripts must be submitted in English.

TOJRAS is guided by it's editors, guest editors and advisory boards. If you are interested in contributing to TOJRAS as an author, guest, editor or reviewer, please send your CV to tojras.editor@gmail.com.

January, 2016

Assoc. Prof. Dr. Metin YAMAN

Editor in Chief

Table Of Contents

AN EXAMINATION ON THE PERSONAL AND SOCIAL ADJUSTMENT LEVELS OF THE ATHLETES ACCORDING TO THE GENDER, AGE AND BRANCH VARIABLES

Mehmet GÜÇLÜ[1], Zülfikar ÇEMREK[1], Pınar YAPRAK KALEMOĞLU[2], Nigar YAMAN[3]
[1]Gazi University, Recreation Department, Ankara
[2]Gazi University, Sport Management Department, Ankara
[3]BartinUniversity, Physical Education Department, Ankara

Abstract : The purpose of this study is to examine the personal, social and general adjustment levels of athletes according to the age, gender and sports branch variables. Hacettepe Personality Inventory (HPI) was used to collect data. The Inventory was applied to the 145 girls and 100 boys, totally 245 athletes active in different organized sports. Results indicated that there were no significant differences in personal, social, and general adjustment levels of athletes in terms of gender, age, and branches. However, there were significant differences in the psychotic indicator of personal adjustment according to gender, also in the social norm indicator of social adjustment regarding the age variable and finally in social relations indicator of social adjustment and self-actualization indicator of personal adjustment regarding branch variable. General adjustment levels of athletes were found high according to the HPI indicators.
Key Words: Athlete, Hacettepe Personality Inventory, Personal Adjustment, Social Adjustment, Sport.

SPORCULARIN KİŞİSEL VE SOSYAL UYUM DÜZEYLERİNİN YAŞ, CİNSİYET VE BRANŞ DEĞİŞKENLERİNE GÖRE İNCELENMESİ

Özet: Bu araştırmanın amacı, yaş, cinsiyet ve branş değişkenlerine göre sporcuların kişisel uyum (KU), sosyal uyum (SU) ve genel uyum (GU) düzeylerini incelemektir. Verilerin toplanması için Hacettepe Kişilik Envanteri (HKE) kullanılmıştır. Envanter farklı branşlarda örgütlü spora katılan 145 kız ve 100 erkek, toplam 245 sporcuya uygulanmıştır. Araştırmanın sonuçlarına göre sporcuların GU, SU ve KU düzeyleri yaş, cinsiyet ve branş değişkenlerine göre anlamlı bir farklılık göstermemektedir. Bununla birlikte, KU alt ölçeği olan psikotik belirtilerde cinsiyete göre, ayrıca SU alt ölçeği sosyal normda yaşa ve branşa göre, yine SU alt ölçeği sosyal ilişkilerde ve KU alt ölçeği kendini gerçekleştirmede branşa göre anlamlı farklılıklar bulunmuştur. HKE ölçütlerine göre sporcuların genel uyum düzeylerinin yüksek olduğu belirlenmiştir.
Anahtar Kelimeler: Hacettepe Kişilik Envanteri, Kişisel Uyum, Sosyal Uyum, Spor, Sporcu.

INTRODUCTION

Individual's unique and distinctive personality is a whole which embodies many aspects such as a person's interests, skills as well as that person's style of adjustment to their environment (Eysenck&Wilson, 2000). Studies on personality and adjustment point out to the importance of the individuals' self-knowledge, their interaction with their social environment and the balance and harmony in relation to these for a healthy and productive living (Kurç, 1990; Gençöz, 1998; Akay, 1990; Gençtan, 1994; Özduran, 2001). Personality has also been defined as a style of behavior insomuch as individuals develop to adjust to their environment (Özoğlu 1975).

Adjustment with bio-psycho-social dimensions refers to reactions that individuals form in the search for balance and order or depending on their judgments in the face of changing and varying personal, environmental or social situations (Sandstöm, 1975; Gençöz, 1998; Gençtan, 1994; Baron&Byrne, 1991). According to Gençöz (1998), the way of evaluating events can be accepted as a part of personality which develops as a result of past experiences acquired during similar events (Gençöz, 1998). In the development and continuation of congruent reactions, studies point out to those who engage in sports are more active and productive in comparison to those who do not and in this respect, underline the important role of organized sports experiences in young people's dealing with daily problems (Dolenc, 2015).

As an individual's social relationships expand, the frequency of exposure to certain experiences which have influence in the maturation process such as being aware of other people, respecting their rights and wishes may also increase (Dobson et al., 1995; Kurç, 1990). However, socializing people may encounter situations which put

a strain on their power of personal and social adjustment in every stage of their life. In particular adolescence is one of the periods during which adjustment difficulties are most frequently experienced. Children and adolescents struggle to interact with and to adapt their membership to the environmental elements which usually expand as they get older such as the family, society or nation they born in (Dobson et. al., 1995; Yaprak Kemaloğlu, 2016). In such a process, sports has been dealt with as an activity which provides experiences that facilitate dealing with problems and discernment in general and has various positive effects on the formation of personality, socialization and social adjustment (Singer, 1972; Başer, 1998; İkizler 1994, 1998; Özduran, 2001; Eccles&Gootman, 2002; Viau&Poulin, 2014; Dolenc 2015).

While politicians and practitioners have made physical activity, physical education and sports an important shareholder of the social institutions primarily regarding education and youth, through the sports policies in which the positive effects of sports valued; sports sociologists' notices have continued against the approaches which prevent critical investigations on sports (Coakley 2015). In addition, researches revealed that "involvement across a variety of activities during high school was more beneficial for emerging adults than a narrow focus in sports or limited involvement" (Kort-Butler&Martin, 2013). Therefore, studies on the contribution of the youth participation in organized sports, for example on their long-term adjustment, point out that there is a need for further research to understand the differences which can be found in particular indicators of adjustment levels (Viau and Poulin 2014). In this respect, it has been aimed in this study to determine the personal, social and general adjustment levels of female and male athletes who are/under 20 years of age and have participation in competitive organized sports activities in different branches and to identify the similarities or differences of athletes' related adjustment levels in accordance with variables such as gender, age groups and the sports branches they are engaged in.

THE STUDY

A total of 260 athletes, whom engage in competitive organized sports activities in basketball (N:111), swimming (N:51), tennis (N:43) and volleyball (N:40), have volunteered to participate in this study. 145 females and 100 male athletes of 20 years of age and below from a total of four cities, two of these being metropolitan cities (Istanbul, Ankara) and the other two being cities of smaller populations (Kayseri, Kırıkkale) have participated in the study. For the collection of data, a survey from which contains the personal information of the athletes and Hacettepe Personality Inventory (HPI) have been used in the views of specialists in this field. The surveys of 15 athletes have not been included in the evaluation since they were not able to meet the inventory criteria. The tests and statistical procedures in line with the collected data have been carried out with the SPSS program; Frequency distribution, arithmetic average, Pearson correlation coefficient, one way variance analysis and t test have been used. In order to test which groups caused significance differences in the one way variance analysis (ANOVA) results, the Tukey-HSD multiple comparison test has been performed. In the comparisons, interpretations have been made based on the arithmetical averages and significance values.

FINDINGS

In the study, the personal adjustment (PA), social adjustment (SA) and general adjustment (GA) levels obtained from 245 athletes have been found high according to HPI (by being in the 75% segment). The table and evaluations related to the values and comparative statistics of the PA, SA and GA scores in accordance with gender, age and sports branches and, of the self-actualization (SAc), emotional decisiveness (ED), neurotic tendencies (NT), psychotic symptoms (PS) which are subscales of PA and family relations (FR), social relations (SR), social norms (SN) and anti-social tendencies (AST) related to SA have been presented below.

Findings and Evaluations Related to the Gender Variable

The statistics related to the HPI scores in accordance with the athletes' gender have been presented in Table 1.

Table 1. t-Test Results According to Gender

Indicators	Gender				t	p
	Female (N:145)		Male (N:100)			
	$\overline{X}$	S	$\overline{X}$	S		
GA	103.59	19.18	105.75	19.70	.858	.392
SA	56.26	9.22	55.69	9.89	.458	.648
PA	47.12	11.48	49.79	11.53	1.788	.075
SAc	14.26	3.08	14.47	3.17	.530	.597
ED	10.28	3.58	11.10	3.35	1.803	.073
NT	11.86	3.76	12.62	3.44	1.606	.110
PS	10.46	3.43	11.53	3.68	2.324	.021*
FR	15.39	3.60	15.76	3.38	.803	.422
SR	15.08	3.17	14.68	3.50	.920	.358
SN	13.14	2.82	12.80	3.23	.887	.376
AST	12.74	3.34	12.63	3.29	.250	.803

*There is a p<.05 level of significance.

A significant difference has not been found between the athletes' GA [t(243)=0.858, p>.05], SA [t(243)=0.458, p>.05] and PA [t(243)=1.788, p>.05] scores in terms of gender. In subscales of PA, there is no significant difference found between the score averages of the athletes related to SAc [t(243)=0.530, p>.05], ED [t(243)=1.803, p>.05] and NT [t(243)=1.606, p>.05] in terms of gender. However, the athletes' PS score averages have displayed a significant difference in terms of their gender [t(243)=2.324, p<.05]; While the PS score average in females has been 10.46, this value has been determined as 11.53 in males.
SA subscales' (FR [t(243)=0.803, p>.05], SR [t(243)=0.920, p>.05], SN [t(243)=0.887, p>.05] and AST [t(243)=0.887, p>.05]) score averages have not displayed a significant difference in terms of gender. The PA, SA and GA levels and subscale scores of the athletes in terms of gender have been found high with respect to HPI standards.

Findings and Evaluations Related to the Age Variable
The statistics related to the HPI scores in accordance with the age variable have been presented in Table 2.

Table 2- Descriptive Data and ANOVA Results Related to the Age Variable

Indicators	Age Groups										F	p
	10–13 (N:39)		14 (N:66)		15 (N:46)		16 (N:45)		17–20 (N:49)			
	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S		
1. GA	107.67	21.43	100.91	19.78	107.83	19.77	104.56	19.67	103.49	16.08	1.202	.311
2. PA	49.44	12.41	46.85	12.27	49.96	10.06	47.62	12.13	47.96	10.75	.633	.639
3. SA	57.41	10.09	54.08	9.21	57.43	11.26	56.93	9.02	55.39	7.65	1.325	.261
4. SAc	14.21	2.76	13.64	3.34	14.15	3.27	15.02	3.09	14.96	2.81	1.958	.102
5. ED	11.03	4.09	10.52	3.81	11.13	2.91	10.09	3.56	10.43	3.05	.681	.606
6. NT	12.64	4.13	11.91	3.71	12.80	3.22	11.87	3.87	11.84	3.31	.774	.543
7. PS	11.38	3.50	10.44	3.58	11.74	3.57	10.67	3.61	10.55	3.52	1.262	.285
8. FR	15.46	3.65	15.21	3.57	15.61	3.67	15.71	3.38	15.84	3.39	.264	.901
9. SR	15.31	2.54	14.23	3.57	15.33	3.32	15.20	3.49	14.88	3.28	1.115	.350
10. SN	13.90	3.20	12.85	2.47	13.39	3.21	13.18	2.99	11.98	3.05	2.652	.034*
11. AST	12.92	3.61	11.91	3.46	13.28	2.91	12.62	3.19	13.08	3.24	1.524	.196

*There is a p<.05 level of significance.

A significant difference has not been found in the GA [$F_{(4–240)}$=1.202, p>.05], SA [$F_{(4–240)}$=1.325, p>.05] and PA [$F_{(4-240)}$=0.633, p>.05] dimensions of the athletes' scores they received from HPI and additionally in their PA subscales in terms of the age variable. The score averages of SA subscales of FR [$F_{(4–240)}$=0.264,p>.05], SR [$F_{(4–}$

$_{240)}$=1.115, p>.05] and AST [$F_{(4-240)}$=1.524, p>.05] also have not displayed a significant difference in terms of the age variable. However, there is a significant difference between the SN score averages of the athletes in terms of their age groups [$F_{(4–240)}$ = 2.652, p<.05]. In the study, it has been determined that the SN scores of students in the 10-13 age group were higher in comparison to the students in the other age groups.

Findings and Evaluations Related to the Branch Variable

The statistics related to the HPI scores in accordance with the athletes' branch have been presented in Table 3. A significant difference has not been found between the athletes' score averages of GA [F(3–241)=1.136, p>.05], PA [F(3-241)=2.208, p>.05] and SA [F(3-241)=0.214, p>.05] according to the branch variable. In SAc which is a subscale of PA, a significant difference has been found in terms of branches [F(4-240)=4.796, p□.05]. Here, the highest score average among the branches has been found in the basketball group (=14.79). This is followed by tennis (=14.56) and swimming (=14.47) groups. The lowest score average has been found in the volleyball group (=12.70).

Besides there, a significant differences has not been found between the athletes' ED [F(4-240)=2.328, p>.05], NT [F(4-240)=1.113, p>.05] and PS [F(4-240)=1.495, P>.05] PA scores in terms of branches. A significant difference has not been found between the score averages of SA subscales of FR [F(4-240)=0.357, p>.05] and AST [F(4-240) = 0.410, p<.05]; however, a significant difference has been found between the SR scores [F(4-240)=3.200, p<.05]. While the lowest score average related to the SR dimension belongs to the volleyball group (=13.50), this is followed by swimming (=14.90) and basketball (=15.23) groups. The highest score has been found in the tennis group (=15.42). In addition, a significant difference has been found in the SN scores [F(4-240)=2.742, p<.05] among the branches. The lowest score has been found in the basketball group (=12.62) and the lowest score (=14.10) has been found in the volleyball group.

Table 3- Descriptive Data and ANOVA Results Related to the Branch Variable

Indicators	Sports								F	p
	1. Basketball (N:111)		2. Swimming (N:51)		3. Tennis (N:43)		4. Voleyball (N:40)			
	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S		
GA	104.10	18.12	105.63	20.40	107.91	21.88	100.33	18.52	1.136	.335
PA	48.02	11.00	49.29	11.80	50.81	12.59	44.53	11.01	.214	.887
SA	56.06	9.25	56.13	10.00	56.70	10.53	55.05	8.52	2.280	.080
SAc	14.79	2.88	14.47	2.90	14.56	3.71	12.70	2.88	4.796	.003*
ED	10.38	3.35	11.06	3.39	11.53	3.47	9.73	3.90	2.328	.075
NT	12.02	3.43	12.47	3.71	12.84	4.92	11.50	3.36	1.113	.344
PS	10.85	3.60	11.31	3.90	11.42	3.57	9.95	3.02	1.495	.217
FR	15.56	3.52	15.92	3.25	15.37	3.90	15.20	3.44	.357	.784
SR	15.23	3.14	14.90	3.55	15.42	2.95	13.50	3.56	3.200	.024*
SN	12.62	3.17	12.73	3.04	13.30	2.85	14.10	2.27	2.742	.044*
AST	12.76	3.14	12.78	3.56	12.91	3.55	12.18	3.26	.410	.746

*There is a p<.05 level of significance.

Correlations between the Variables

A medium level, positive and significant correlation has been found (r=0.67, p<.01) between the PA and SA scores of the athletes who participated in this study. According to this data, it can be stated that when PA increases, the level of SA increases as well. When the determination coefficient (r^2=0.45) is taken into consideration, it can be stated that 45% of the variance in the PA scores are explained by the SA scores. However, this variance which explained is valid for the other variable as well. In other words, it can be said that the SA score explains the PA score as well. Here, between two variables, not a cause and effect but only a relationship can be stated. The correlations between SR and ED, NT and PS have been presented in Table 4.

Table 4- The Correlation Values between Self-Realization and Emotional Determination, Neurotic Tendency and Psychotic Symptoms

Variables	1	2	3	4
SAc	1.00			
ED	.46**	1.00		
NT	.51**	.71**	1.00	
PS	.50**	64**	.73**	1.00

** p<.01, N:245.

The SAc scores have shown a medium level, positive and significant relationships with ED (r=0.46, p<.01), NT (r=0.51, p<.01) and PS (r=0.50, p<.01). It has been found that there is a high level, positive and significant relationship between ED and NT (r=0.71, p<.01). The relationship between ED and PS is medium level, positive and significant (r=0.64, p<.01). There is a high level, positive and significant relationship between NT and PS (r=0.73, p<.01).

The Correlation coefficients of FR, SR, SN and AST have been presented below in Table 5. While a low level, positive and significant relationship (r=0.26, p<.01) has been found between FR and SR scores, also a low level, positive and significant correlation (r=0.29, p<.01) has been found between FR and SN. However, it has been seen that the correlation between FR scores and AST is medium level, positive and significant (r=0.50, p<.01).

Table 5- Correlations of Family and Social Relations, Social Norms and Anti-social Tendencies

Değişkenler	1	2	3	4
1. Aile İlişkileri	1.00			
2. Sosyal İlişkiler	.26**	1.00		
3. Sosyal Normlar	.29**	.20**	1.00	
4. Antisosyal Eğilimler	.50**	.25**	.45**	1.00

** p<.01, N=245.

While a low level, positive and significant relationship has been determined between SR and SN (r=0.20, p<.01), a medium level, positive and significant relationship has been determined between SN and AST (r=0.450, p<.01).

RESULTS AND DISCUSSION

The results of the study revealed the social, personal and general adjustment levels of athletes' as high and that these levels do not display a significant difference in terms of age and gender. Significant differences have been determined in terms of certain variables in particular indicators.

Here, among the female and male athletes, only in PA subscale PS has been determined as significantly higher in male's adjustment level. In terms of the gender variable, it has been determined that there is a significant difference in particular in subscales such as psychotic, neurotic and psychoticism (Akdoğan et. al., 2007; Tosunoğlu, 2008; Ulucan&Bahadır, 2011) and between females who are engaged in sports and not engaged in sports (Bayar, 2003) as well in some other personality studies. According HPI, while neuroticism in PA has been associated with symptoms such as chronic fatigue and headache, PS is related to the tendencies of the individual such as the alienation from others and preference to be alone. For instance, as the PS score decreases, introversion increases (Özgüven, 1992). In this respect, more detailed comparative studies need to be carried out to be able to explain the findings of difference scales but in particular specific subscales based on gender to evaluate whether they support each other or not.

In this study, although there is no significant difference, also SA levels have been determined to be higher in females compared to males and, PA and GA levels of males have been determined to be higher than the levels of females. This data is in line with studies which point out a higher social relationship level in females compared to males. Although there are studies which in general support that there is no significant difference in the

adjustment levels in terms of gender (Kıran, 1993; Balaban, 1990), some studies with their different variables point out to different results in terms of gender . For instance, Güçlü and Yentür (2008) have found that the female athletes' PA levels are significantly low in wrestling and weight lifting branches. On the other hand, Kıran (1993) has concluded that there is no significant difference between the adjustments of gender groups among adolescents (Kıran, 1993). Similarly, Balaban (1990) has found that genders of students who go to teacher training high-schools do not have any influence on the SA and PA levels (Balaban 1990). According to Şahin and Tunçel (2008), who have found a significant difference in the psycho-social adjustment levels of university students from different departments and classes in terms of gender, females displaying lower adjustment in comparison to males can be regarded as due to certain disadvantageous traditional attitudes such as girls' and women's being subject to more oppressive and protective behaviors and boys' and men's being approached with more tolerance by their families (Şahin and Tunçel, 2008). This interpretation is in line with particular findings representing the struggles of women and girls to participate in physical education and sport in Turkey (Yaprak&Amman 2009).

While results for particular variables of studies differ, research show that participating in sports has positive effects on personal and social adjustment and, individuals who are engaged in sports have higher adjustment levels compared to individuals who are not engaged in sports. For instance, Bayar (2003)'s study on the personality traits of female athletes who are engaged in sports and not engaged in sports has shown a significant difference in numerous subscales and has stated that in general individuals who are engaged in sports are more responsible and extravert, obey the rules more and have more self-esteem (etc.).

In age groups, there is no significant difference observed between the athletes' GA, SA and PA scores. Only, according to HPI although the SN scores of all athletes were high, the score of the first group between the 10-13 and 17-20 age groups has been found significantly higher. According to Kohlberg's Moral Development Rules (Bacanlı, 2003), children in the 10-13 age group are at the stage of interpersonal adjustment and at this stage caring about others, being good, honest and reliable and obeying the rules are essential (Özoğlu, 1975). The SN findings of this study and Kohlberg's morality theory support each other.

A significant difference has not been observed in the GA scores the athletes have received in accordance with the branches they are engaged in. The GA order of the branches is tennis, swimming, basketball and volleyball. This point out that GA levels of athletes who are engaged in individual sports are higher than the levels of athletes who are engaged in team sports. In Yentür & Güçlü (2004)'s study on female athletes, it has been found that there is no significant difference in the SA levels among the branches. However, it has been determined that the SA scores were high (Yentür&Güçlü, 2004). In Yılmaz (1996)'s study, it has been determined that the personality structures of individuals who are engaged in different sports display very little significant difference among each other (Yılmaz, 1996). These results support the findings obtained in this study as well.

In addition, a significant difference against volleyball players has been found between volleyball and other branches in the PA subscale of SAc scores. In terms of the correlation coefficients between SR and ED, ED affects the SAc score in the rate of 22%. Özgüven (1992) states that the SAc score is related to individuals' self-esteem, being aware of their skills, being able to make decisions about themself and telling what they think is right (Özgüven 1992). In results such as this and as female athletes' adjustment being significantly lower in wrestling and weight lifting branches (Yentür and Güçlü 2004), there is need for more research in order for more dimensions about participation in certain sports branches to be shown, in which different personal, environmental and socio-cultural variables are included. In the light of differences in the SAc subscore of volleyball players whose scores have been found low and the findings obtained through the HPI "Athlete Profile Form", the success of the team stated as very low in interview notes and it has been observed that they were not successful in the tournament. In addition, these athletes are generally from rural areas and the whole team consists of female athletes. Basketball players whose SAc score is the highest among the branches are mostly players from the camp of Turkish National Team. Also the influence of tennis and swimming athletes living in metropolitan cities and doing individual sports can be taken into consideration to explain SAc difference. In addition, the only score of volleyball players, whose SAc values are significantly low, is the SN subscore which is higher compared to other sports branches. A medium level significance has been determined in the favor of the volleyball branch in terms of adjustment to SN between the volleyball branch and basketball branch. In addition, a significant relationship has been determined in the SA subscore SR in terms of branches. When the differences between the branches were considered, significance has been determined between the basketball, tennis branches and the volleyball branch. In the light of data obtained from the interviews with the athletes and their trainers, they pointed to the issues of the volleyball teams being from the rural area and limited area social relationships which can create a certain differences in comparison to metropolitan athletes. According to Başer (1998), sports branches which can be very different in terms of the quality and quantity of psychological pressures they may contain, require diverse personality characteristics (Başer, 1998). The results of this study reveals that the difference in adjustment levels among individual and team sports athletes can be a research question in future even if these differences were small in number in this study.

CONCLUSIONS

The aims of this study were to examine the personal, social and general adjustment levels of athletes according to the age, gender and sports branch variables using HPI to collect data. Findings revealed the high personal, social and general adjustment levels in athletes according to HPI which provide additional support for previous research on adjustment levels of athletes. Moreover results indicated that there were no significant difference in personal, social, and general adjustment levels of athletes in terms of gender, age, and branches. However, there were significant differences found in the psychotic indicator of personal adjustment according to gender, also in the social norm indicator of social adjustment regarding the age and branch variables and finally in social relations indicator of social adjustment and self-actualization indicator of personal adjustment according to branch variable. For example Basketball group which consist of national team players, and Tennis group which includes athletes from metropolitan cities were higher in social relations adjustment level in comparison to Voleyball players from a rural city whose adjustment levels to social norms also found significantly higher. Researchers should consider these results that accompany sport experience for their further quest and longitidunal and diverse personal, environmental, socio-cultural situational factors in these further investigations needed as well. Although differences were explained also based on particular personal, environmental or situational observed factors for given adjustment levels in this study, further research needed to explain the contexts that these differences occur (i.e. what are the sporting contexts that a particular indicator of a particular adjustment associates with some of the variables) and to understand the relavent implications.

REFERENCES

Akay, N. (1990). Lise Öğrencilerine İlişkin Bazı Niteliklerin Sosyal ve Kişisel Uyum Düzeylerine Etkisi. HÜ. Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi, Ankara.

Akdoğan, S., Arslan, F., Bayraktar, G. (2007). gazi üniversitesi beden eğitimi ve spor yüksekokulu öğrencileri ile gazi üniversitesi eğitim fakültesi öğrencilerinin cinsiyet değişkenine göre kişilik özelliklerinin incelenmesi.Çukurova Üniversitesi 5. Ulusal Beden Eğitimi ve Spor Öğretmenliği Sempozyumu. Adana.

Bayar, P. (2003). Spor Yapan ve yapmayan bayanların kişilik özelliklerinin karşılaştırılması. Hacettepe Spor Bilimleri Dergisi. 14(3):133-143.

Bacanlı, H.(2003). *Gelişim ve Öğrenme*, Nobel Yayın Dağıtım,Ankara, p.74.

Balaban, F. (1990). Öğretmen liselerinde okuyan öğrencilerin kişisel ve sosyal uyum düzeylerine etkileyen bazı etmenler. Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi, Ankara.

Başer, E. (1998). *Uygulamalı Spor Psikolojisi*. Öğrenci Basımevi, İzmir. p:42-105.

Baron, R.A.; Byrne, D. (1991). *Social Psychology: Understanding Human Interaction*. Allyn and Bacon, Boston.

Coakley J. (2015). Assessing the sociology of sport: On cultural sensibilities and the great sport myth. International Review for the Sociology of Sport, June-August 2015; vol. 50, 4-5: pp. 402-406.

Dobson, C.B.; Hardy, M.; Humphreys, A.; Humphreys, P. *Understanding Pyschology*, 10th Peprinted, Oxford University Pres, 1995, p:300.

Eysenck,H.J.,Wılson,G., Kişiliğinizi Tanıyın, (Ç;Erol Erduran,)Remzi Kitabevi, 4.Baskı,İstanbul, 2000, s:7

Gençöz F. (1998). Uyum Psikolojisi. Kriz Dergisi. 6(2): 1-7.

Gençtan, E. (1994). *Çağdaş Yaşam ve Normal Dışı Davranışlar*. Remzi Kitabevi,10. Baskı, İstanbul.

İkizler, C. (1994). *Sporda Başarının Psikolojisi*. Alfa Basım Yayım Dağıtım, p:81.

Kılıççı, Y. (1989). *Okulda Ruh Sağlığı*. Şafak Matbaası, Ankara.

Kıran, B. (1993). Cinsiyetleri ve denetim odakları farklı lise öğrencilerinin uyum alanları ve yöntemlerinin incelenmesi. H.Ü. Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi.

Kort-Butler, L.A., & Martin, D.D. (2013). The influence of high school activity portfolios on risky behaviors in emerging adulthood. Advance online publication. Justice Quarterly.

Kurç, G. (1990). Kişisel, sosyo-ekonomik ve kültürel bazı değişkenlerin gençlerin uyum alanları ve uyum yöntemlerine etkisi. Eğitim ve Bilim. 14(76):3-9.

Özduran, K. (2001). 18–24 Yaşları Arası Spor Yapan Gençlerin Sosyal Uyum Düzeylerinin İncelenmesi, Uludağ Üniversitesi, Sağlık Bilimler Enstitüsü, Yüksek Lisans Tezi, Bursa.

Özgüven, İ.E. (1992). *Kişiliğin Ölçülmesi El Kitabı*. Odak Ofset Matbaacılık, Ankara.

Özoğlu, S.Ç. (1975). Psikolojik danışmada benlik kavramı. Ankara Üniversitesi Eğitim Fakültesi Dergisi, 8:93-112.

Sandstöm, C.J. (1975). *The Psychology of Childhood and Adolescence*. Honel Watson and Viney Ltd. Great Britain, p:9.

Singer, N.R. (1972). *Coaching Athletics and Psyhoolgy*. Mac Graw-Hill Boks Company,Toronto, p:114.

Şahin, C; Tunçel, M. (2008). Sınıf öğretmenliği ve beden eğitimi öğretmenliğinde öğrenim gören öğrencilerin psikososyal uyum düzeylerinin incelenmesi. KEFAD. 9(2):45-50.
Tosunoğlu, F. (2008). Orta öğretimde okuyan takım sporları ile uğraşan sporcu öğrencilerin spor branşlarına göre kişilik özelliklerinin incelenmesi. Yayımlanmamış yüksek lisans tezi, Gazi üniversitesi Eğitim bilimleri enstitüsü, Ankara.
Ulucan, H.; Bahadır, Z. (2011). Haltercilerin kişilik özelliklerinin farkli değişkenlere göre incelenmesi. Nigde University Journal of Physical Education And Sport Sciences. 5(2):175-183.
Viau, A. and Poulin, F. (2014). Youths' Organized Activities and Adjustment in Emerging Adulthood: A Multidimensional Conception of Participation. Journal of Research on Adolescence, 25(4), 652–667.
Yaprak Kemaloğlu, P. (2016). Sağır ve ilgili paradigmaların biyolojik, politik ve sosyo-kültürel inşası. In: Engin Arık (ed): Türk İşaret Dili Araştırmaları. İstanbul, Koç Üniversitesi Yayınları.
Yaprak, P.; Amman, MT. (2009). Sporda kadınlar ve sorunları. Türkiye Kickboks Federasyonu Spor Bilimleri Dergisi. 2(1): 39-49.
Yentür, J.; Güçlü, M. (2008). Milli takım düzeyindeki elit bayan sporcuların kişisel ve sosyal uyum düzeyleri ile bedenlerini algılama düzeylerinin karşılaştırılması. Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi, 2008, VI(4):183-192.
Yılmaz, S. (1996). Bursa İlinde Orta Öğretim Kurumlarında 14-17 Yaş Grubunda Bireysel Spor ve Grup Sporu Yapanlarla Hiç Spor Yapmayan Öğrencilerin Kişilik Özelliklerinin Karşılaştırılması. Uludağ Üniversitesi, Sağlık Bilimler Enstitüsü, Yüksek Lisans Tezi.

COMPARISON OF BODY COMPOSITION PARAMETERS OF STUDENTS IN SCHOOL OF PHYSICAL EDUCATION AND SPORTS ACCORDING TO THEIR BIRTH MONTHS

Ayhan Tepe[1], Bekir Mendeş[2], Gökhan Doğan[3], Kenan Uzun[4]

[1]Borsa İstanbul Başakşehir Mesleki ve Teknik Anadolu Lisesi, İstanbul, tepeayhan@hotmail.com

[2]Gaziantep Üniversitesi Beden Eğitimi ve Spor Yüksekokulu, Gaziantep

[3]İstiklal Ortaokulu, Gaziantep, [4]Mehmet Ünsal Ortaokulu, Gaziantep

*This study presented at 13thInternationale Sport Science Congress as a Poster Announcement (17-19 November 2014).

Abstract: In this study it is aimed to put differences forward that by determining the body compositions of university students, birth months, compairing according to age and gender. The age average being 22.470 +- 0.163 years 215 male students and the age average being 21.183 +- 0.150 years 142 female students in total 357 volunteers attended. The measurements of the group attended to study is taken as, age, height weight, BMI (body mass index) , BF% (body fat percentage), waist-hip percentage and skin-crease thickness. In comparing the averages of the group the Variance Analysis Technique in factorial order is used , as in determining the different groups Tukey Multi Comparing Test is used. In the result of the measurements of age, weight, height, BMI, BF%, waist-hip percentage in the result of the variance analysis made as statistically between two groups, when birth month x gender interaction and the effect of birth age isn't found meaningful ($P<0.05$). So, the differences between gender as it doesn't change according to the birth weight of athletes, the charecteristics taken into account the differences in birth month is determined as doesn't effect at important level. In the other side the gender differences effected at important level the charecteristics taken into account. Out of BF% the average of male students in regard of other whole whole characteristics is found higher at important rate. There is not an important difference between birth month and gender and the difference of gender effects all the other characteristics in favour of males but in regard of BF% the average of females can be said that it is higher than males.

Keywords: Antropometer, Gender, Birth Month, Physical Characteristics, Body Composition.

INTRODUCTION

We can say that body composition is the mirror of a society in aspect of health and sports. At the same time body composition gives important informations about the lifesteyles of individuals. Untill this day very different formules are being developed according to determining body composition with the help of very different techniques. However there is not a certainity that the usability of these formules for different socieeties too, and in which situations can be applied for (Gültekin, 2004; Prijatmoko, 1995). It is focused on body composition studies measuring of body compositions, quantitative relations among components. Human body composition includes the measurements of bone mineral, intracellular fluid and extracellular fluid volume, lean mass, fat distribution and fat measurement. In theoric aspect body composition is enlightening the unknown points about human biologie. In practise the research of changes of body compositions, fort he understanding the degrees of ilnesses like obesity, malnutrition and utilizes in aspect of sportive performance (Going et al., 1995; Kuczmarski 1989; Önal, 2011). The method the most used one in evaluating the obesity clinically is body mass index. Recently, with body mass index waist circumference or waist/hip rate is being used. We think that our study is thought hasimportance in aspects of body fat percentage, BMI, the determination of waist hip rate shows how a changeaccording to birth months of the studens of Physical Education and Sports. In this study it is aimed

to put forward that surrounding, length and with weight measurements the changes of body composition parameters according to birth mont and gender of the male and female students of University of Gaziantep physical education and sports.

METHOD

This study is done on the students of University of Gaziantep Physical Education and Sports. After the required permissions taken from University of Gaziantep Ethics Foundation of Clinic Researches; in total 400 students attended as being female and male studying at Physical Education and Sports, but by excluding 43 students from the study according to their will, the measurements of 357 voluntary students was evaluated. After the demographic informations (birth dates as being date, month and year, in which department they study, age, height, weight, gender) of the students attending to study taken, for determining the body compositions, body fat percentage was calculated by benefitting from BMI and skin crease thickness, waist-hip rate with tape measure. It is informed to the male and female students taking part in the study about the measurements being done and what to do during measurements.

The Applied Tests

The Calculation of Age, Height, Body Weight and Body Mass Index

While the age of athletes is being detected as year, their heights bare foot or being with socks by height scala in 0,01 cm sensitivity, being on the steel yard, body weights with shorts by steelyard with 0.01 kg sensitivity is measured. Body Mass Index is determined by dividing to square of height of obtained weight. BMI= Body Weight (kg)/Height2(m)

Waist/Hip Rate Measurement

The perimeter of waist from the belly line, and the perimeter of hip on the line passing over pubis and from the most protruding point of the muscle gluteus maximus is measured. In the measurement of W/H rate W/H= Perimeter of Waist (cm)/ Perimeter of Hip (cm) (Atar, 2005). formule is used.

Body Fat Percentage (%)

For determining the Body Fat Percentage Yuhazs formule and by using the under skin fat thickness formule measured from 4 zone (Triceps, Suprailiac, Abdominal and Subscapula) fat rate is calculated. For body fat percentage measurement skinfold caliber (Holtain, UK) is used. As in determining the fat percentage of test subjects Yuhazs formule is used (% Yağ = 5,783 + 0,153 (Triseps + Subscapula + Suprailiak + Abdomen) (Gribble and Hertel, 2004).

Statistical Methods

In the research of the effects of age and genders on the features taken into account, the Variance analysis Technique on Factorial order is used, and in the determining of different groups Tukey Multi Compairing Test is used. In the making of this subjected statistical analysis Minitab for Windows ver.17,0 and SPSS for Windows version 20,0 pocket programme is used.

FINDINGS

In the aspect of the handled features common presentive statistics are in table 1, the presentive statisticsaccording to genders are in table 2, and the common presentive statistics according to birth months are in table 3, and as being seperately for male and female athletes, the presentive statistics according to birth months are given in Table 4 and in table 5.

Table 1. Common Presentive Statistics

Varıables	N	$\bar{X} \pm S_{\bar{X}}$	Min.	Maks.
Age(Year)	357	21.958 ± 0.119	18.000	36.000
Weight (kg)	357	66.835 ± 0.610	45.000	108.000
Height (cm)	357	1.7346 ± 0.005	1.170	2.000
BMI(kg/m²)	357	22.068 ± 0.172	0.16	51.136
BF% (mm)	357	13.464 ± 0.165	8.910	27.820
Waist/Hip	357	0.806 ± 0.003	0.620	1.040

Table 2. Presentive Statistics According to Genders

Varıables	Gend	n	$\bar{X} \pm S_{\bar{X}}$	Mi	Ma	P
Age(Year)	MALE	215	22.470 ± 0.163	18.000	36.000	0.000
	FEMALE	142	21.183 ± 0.150	18.000	28.000	
Weight(kg)	MALE	215	72.730 ± 0.686	52.000	108.000	0.000
	FEMALE	142	57.908 ± 0.588	45.000	88.000	
Height(cm)	MALE	215	1.779 ± 0.005	1.170	2.000	0.000
	FEMALE	142	1.668 ± 0.005	1.550	1.860	
VKİ(kg/m²)	MALE	215	23.001 ± 0.215	17.359	51.136	0.000
	FEMALE	142	20.655 ± 0.240	0.16	33.531	
BF%(mm)	MALE	215	12.581 ± 0.183	8.910	27.820	0.000
	FEMALE	142	14.802 ± 0.274	10.520	25.830	
Bel/Kalça	MALE	215	0.831 ± 0.003	0.690	1.040	0.000
	FEMALE	142	0.767 ± 0.005	0.620	0.950	

When the presentive statistics according to genders are analysed, while male students have higher values than female students in regard of age, body weight, height, BMI, and waist-hip rate is visible, it is seen that the values of female studens in regard of BF% is higher (Table2)

Table 3. Common Presentive Statistics According to Birth Months

Varıables	Bırth Months	n	$\bar{X} \pm S_{\bar{X}}$	Min.	Max.
	DEC-JAN-FEB	87	21.805 ± 0.212	19.000	28.000
Age(Year)	SPT-NVM-DCM	78	21.679 ± 0.247	18.000	28.000
	JUN-JLY-AĞS	88	22.045 ± 0.249	19.000	36.000
	MRC-APR-MAİ	104	22.221 ± 0.241	18.000	29.000
	DEC-JAN-FEB	87	65.4 ± 1.180	45.000	100.000
Weight (kg)	SPT-NVM-DCM	78	65.53 ± 1.430	46.000	108.000
	JUN-JLY-AĞS	88	68.27 ± 1.300	45.000	100.000
	MRC-APR-MAİ	104	67.8 ± 1.010	47.000	90.000
	DEC-JAN-FEB	87	1.7324 ± 0.010	1.550	2.000
Height(cm)	SPT-NVM-DCM	78	1.729 ± 0.010	1.550	1.980
	JUN-JLY-AĞS	88	1.7465 ± 0.010	1.600	1.970
	MRC-APR-MAİ	104	1.7307 ± 0.009	1.170	1.920
	DEC-JAN-FEB	87	21.416 ± 0.348	0.016	29.321
BMI(kg/m²)	SPT-NVM-DCM	78	21.748 ± 0.296	16.494	30.557
	JUN-JLY-AĞS	88	22.259 ± 0.301	16.529	33.218
	MRC-APR-MAİ	104	22.691 ± 0.378	16.788	51.136
	DEC-JAN-FEB	87	12.861 ± 0.300	9.030	21.390
BF%(mm)	SPT-NVM-DCM	78	14.049 ± 0.392	9.060	25.070
	JUN-JLY-AĞS	88	13.92 ± 0.358	8.920	27.820
	MRC-APR-MAİ	104	13.145 ± 0.274	8.910	25.830
	DEC-JAN-FEB	87	0.79678 ± 0.006	0.660	0.920
Waist/Hip	SPT-NVM-DCM	78	0.80051 ± 0.008	0.620	1.040
	JUN-JLY-AĞS	88	0.8142 ± 0.006	0.680	0.950
	MRC-APR-MAİ	104	0.8101 ± 0.006	0.670	0.990

Although differences among age, weight, height, BMI, BF% and waist-hip rate according to birth months is visible, it is fixed that these differences are not found meaningful statistically (p>0.05), (Table 3).

Table 4. The Presentive Statistics of Male Students According to Birth Months

Varıables	Bırth Months	n	$\bar{X} \pm S_{\bar{X}}$	Min.	Maks.
Age(Year)	DEC-JAN-FEB	52	22.442 ± 0.282	19.000	28.000
	SPT-NVM-DCM	40	22.300 ± 0.360	18.000	28.000
	JUN-JLY-AĞS	51	22.431 ± 0.362	19.000	36.000
	MRC-APR-MAİ	72	22.611 ± 0.303	18.000	29.000
Weight(kg)	DEC-JAN-FEB	52	71.560 ± 1.280	59.000	100.000
	SPT-NVM-DCM	40	73.470 ± 1.910	52.000	108.000
	JUN-JLY-AĞS	51	74.730 ± 1.570	55.000	100.000
	MRC-APR-MAİ	72	71.750 ± 0.986	54.000	90.000
Heightcm)	DEC-JAN-FEB	52	1.784 ± 0.0111	1.630	2.000
	SPT-NVM-DCM	40	1.792 ± 0.0101	1.680	1.980
	JUN-JLY-AĞS	51	1.795 ± 0.009	1.650	1.970
	MRC-APR-MAİ	72	1.756 ± 0.011	1.170	1.920
BMI(kg/m²)	DEC-JAN-FEB	52	22.435 ± 0.283	18.016	29.321
	SPT-NVM-DCM	40	22.781 ± 0.448	17.783	30.557
	JUN-JLY-AĞS	51	23.151 ± 0.422	17.359	33.218
	MRC-APR-MAİ	72	23.424 ± 0.466	19.362	51.136
BF%(mm)	DEC-JAN-FEB	52	11.822 ± 0.266	9.030	17.250
	SPT-NVM-DCM	40	12.626 ± 0.377	9.060	18.640
	JUN-JLY-AĞS	51	13.419 ± 0.503	8.920	27.820
	MRC-APR-MAİ	72	12.511 ± 0.286	8.910	22.400
Waist/Hip	DEC-JAN-FEB	52	0.828 ± 0.006	0.740	0.920
	SPT-NVM-DCM	40	0.830 ± 0.010	0.690	1.040
	JUN-JLY-AĞS	51	0.835 ± 0.006	0.770	0.940
	MRC-APR-MAİ	72	0.832 ± 0.006	0.740	0.990

It is seen that statistically not meaningful the rates of age, height, body weight, BMI, BF% and waist-hip according to birth months in males (Table4).

Table 5. The Presentive Statistics of Female Students According to Birth Months

Varıables	Bırth Months	n	$\bar{X} \pm S_{\bar{X}}$	Min.	Maks.
Age(Year)	DEC-JAN-FEB	35	20.857 ± 0.246	19.000	25.000
	SEP-NVM-DEC	38	21.026 ± 0.305	18.000	26.000
	JUN-JLY-AĞS	37	21.514 ± 0.302	19.000	28.000
	MRC-APR-MAI	32	21.344 ± 0.344	19.000	27.000
Weight(kg)	DEC-JAN-FEB	35	56.260 ± 1.010	45.000	68.000
	SEP-NVM-DEC	38	57.160 ± 1.010	46.000	74.000
	JUN-JLY-AĞS	37	59.380 ± 1.140	45.000	75.000
	MRC-APR-MAI	32	58.910 ± 1.530	47.000	88.000
Height(cm)	DEC-JAN-FEB	35	1.655 ± 0.010	1.550	1.860
	SEP-NVM-DEC	38	1.662 ± 0.008	1.550	1.760
	JUN-JLY-AĞS	37	1.680 ± 0.010	1.600	1.840
	MRC-APR-MAI	32	1.674 ± 0.011	1.550	1.830
BMI(kg/m²)	DEC-JAN-FEB	35	19.902 ± 0.685	0.016	27.120
	SEP-NVM-DEC	38	20.660 ± 0.297	16.494	25.606
	JUN-JLY-AĞS	37	21.028 ± 0.326	16.529	25.781
	MRC-APR-MAI	32	21.042 ± 0.549	16.788	33.531

BF%(mm)	DEC-JAN-FEB	35	14.405 ± 0.538	10.520	21.390
	SEP-NVM-DEC	38	15.547 ± 0.617	10.750	25.070
	JUN-JLY-AĞS	37	14.610 ± 0.478	11.100	21.550
	MRC-APR-MAI	32	14.572 ± 0.542	10.780	25.830
Waist/Hip	DEC-JAN-FEB	35	0.750 ± 0.007	0.660	0.850
	SEP-NVM-DEC	38	0.770 ± 0.010	0.620	0.890
	JUN-JLY-AĞS	37	0.785 ± 0.010	0.680	0.950
	MRC-APR-MAI	32	0.760 ± 0.009	0.670	0.850

In table 5 it is not found meaningful the rates of age, weight, height, BMI, BF%, and waist-hip of female students ($p>0.05$).

DISCUSSION and CONCLUSION

In the estimation of body composition, determining only body weight can be misleading. For preventing this delusion updated and more qualified methods are found. Some of this methods are bioelectricity strength measurement (BSM), underskin fat thickness measurements (Skinfold tests) , underwater weighing method, DEXA (Xray absorbiometer), neutron activation analysis, ultrared interactive measurements, magnetic resonace monitoring and from other measurement methods; waist perimeter measurement, waist-hip rate, abdominal caliber measurement and BMI methods (Kayıhan and Ersöz, 2010) the methods like DEXA (Xray absorbiometer) and underwater weight measurement are methods despite givig exact results, the usege of them is limited because of the cost (Arroyo et al., 2004).

In our study it is aimed that by determining the body compositions of the students of University of Gaziantep Physical Education and Sports Highschool by compairing according to birth months, age and gender, putting the differences forward. As there are studies showing similarities with our findings, there are results available showing no similarities made on university students. The age average of the male students taken into the extend of research 22.470+-0.163 years (Table 2) and the age average of the whole test subjects is fixed as 21.958+-0.119 years. This difference is found meaningful as statistically ($p<0.05$).

Arslan and Mendes in a study they made on different university students, the age average of the students composed of PESHS 22,4+-2,85 years (Arslan and Mendeş, 2003). Reuter and fri. In a study they made on the students of physical education and physic, the age average of the male and female students in physical education respectively 22,8+-4,2 years and 22,3+-3,8 years, the age averge of the male and female students in faculty of physic reported as respectively 24+-2,7 years and22,5+-2,1 years (Reuter et al., 2012). Gropper and fri. Reported

that the age average of female and male students attending at University respectively 18,2 years – 18,1 years (Gropper et al., 2011). It can be said that this study made formerly and the studies resembling to this, the age average values found in the study we made with the average of age shows similarity. The body weight average of the male and female students attending to our study respectively 72.730+-0.686 kg and 57.908+-0.558 kg (Table2). Sarıtas and fri. body weiht of male university students 71.76+-10.12 kg (Sarıtaş et al., 2011). Güllü and fri. this value in male students74.54+-93.94 kg (Güllü et al., 2012). Gropper and friends the body weight of university students, in female students 64,7+-2,3 kg in male students 70,0+-2,6 kg (Gropper et al., 2011). According to Reuter and Friends' report, the weight average of female students studying at Faculty of Physic, 57,7+-9,9kg, the weight average of males, 80,9+-13,2 kg, the weight average of female students studying at Physical Education Faculty 61,8+-9,1 kg, the weight average of males is 76+-10,3 kg (Reuter et al., 2012). The findings related to one of the important parameters of height in researches related to body composition is fixed in male and female students respectively 1.779+-0.005 cm and 1.668+-0.005 (Table 2). In the study made in young Turk males, they indicated that the height average of106 test subjects included in the study as 175,06 cm (Yılmaz, 2006). Reuter and fri. reported that the height average of female and male students of Physical Education, 1,60+-0,1 cm, 1,70+-0,1 cm, Faculty of Physic 1,70+-0,1 cm (Reuter et al., 2012). Sanlıer fixed that the height average of females, 163,5 cm, the height average of males is 175,7 cm (Şanlıer, 2005).

In our study when female and male students compared as gender in terms of height parameter male students male students have higher values than female students is identified.

BMI is being used often in actual environment with the aim of body compositions of individulas , identifying of obesity and tracing of nutrition conditions (Barbosa et al., 2003; Edefonti et al., 2001; Faisy et al., 2000) ıt is fixed that BMI values of female and male students as average in male students; 23.001+-0.215, as in female students 20.655+-0.240 from the measurements of BMI being an important parameter in identifying body compositions.When students are compared by gender, it is seen that male students have higher BMI than female students (Table2) saygılı in a study he did, indicated that the BMI belonging to the female students attending at Faculty of Physic in average, 21,1+-2,6 kg/m2, the values belonging to male is as 23,01+-2,5 kg/m2 (Saygılı, 2003). Gropper and fri. founf that the BMI of female and male students 22,4+-4,4 kg/m2 in females, 23,5+-3,9 kg/m2 in males (Gropper et al., 2011). Webb and fri. in a study they did on women students attending at university they indicated that the BMI of women as 21,2 kg/m2 (Webb and Hardin, 2012). Sevindi and fri. reported that the average values of350 women female studnets of PESHS 20,2 kg/m2, in males 24,1 kg/m2 (Sevindi et al., 2007).

The average values of Body Mass Index of Physical Education and Sports Academy students constituting our sample group, like showing similarities with literature results, can be accepted between the values 18,5kg/m2 and 24.99 kg/m2 (Zorba, 2001; Ergün and Baltacı, 1997; Heyward, 1998) being accepted as normal by World Health Organization (WHO)

In this study, the average values of BF% is detected as in female students 14.802+-0.274mm, as in male students12.581+-0.183mm . While all the values are higher in charge of male students, only BF% average values is found higher in charge of male students, only bf% average values is found higher in charge of female students ($p<0.05$, Table 2)

Reuter and fri. reported that in a study they made on University students, the average of body fat percentage of male and female students of Physical Education and Faculty of Physic as; 28,3+-3,6mm – 16,7+-6,1 mm 31,1+-5,6mm – 21,6+-5,6mm (Reuter et al., 2012). While the average of body fat percentage is 13,51mm (%) it is reported that made on the studies of the students of KTU Physical Education and Sports, the average of body fat percentage of the students of ODTU Physical Education and Sports, is %12,5 mm (%) and the average of body fat percentage of the students of University of Seljuk Physical Education and Sports %11.64 mm (%) (Başkal, 2006).

In the study we did our findings belonging to body fat percentage with literature findings can be said that generally show similarities. However, the differences coming into being quantitative , can be said that it is thought because of the differences during territorial measurements and different techniques used during the calculation of body fat percentage.

In the parameters we used in body composition, while the waist hip rate is found in women 0.767 ± 0.005, this rate is found in males 0.831 ± 0.003 cm (Table 2). Sevindi and fri. in the study they made on the 350 PESA students, according to their report, they identified the waist/hip rate of males and females respectively, 0.75±0.05, 0.74±0.03 (Sevindi et al., 2007). Simzari and fri. reported that the waist-hip rate of Iranian female university students 0,75+-0,04, the waist-hip rate of the male students 0,88+-0,08 (Simzari et al., 2012). Marlove and fri. reported that in the students of USA between 18-22 ages 0,73+-0,04, in the Polish students 0,73+-0,049, in the Chinese students 0,72, in the Australian students 0,80 (Marlowe et al., 2005).

In our study the rate of waist radius / hip radius of females and males being below normal, the test subject groups being young, can be a sign to their basal metabolisms and their physical activity levels partly more than sedentary individuals.

In our study the birth month parameter we handled body composition average values don't make an important meaning in female and male studens is fixed. ($p>0.05$) (Table 4-5). As a result of the variance analysis being made, while birth month x gender interaction and the effect of birth month are not found important statistically in female and male students ($P<0.05$). So, like the differences between the genders don't change according to birth months, it is identified that the differences of birth month do not effect at important level the differences taken into account like BMI, BF% and waist-hip rate. Otherwise , the gender differences effected at important level the characteristics taken into account.

Because of the limited number of research related to our study, we evaluated the finding that we obtained in itself. However, due to showing resemblance with our study, in a study done by Akcakaya and Hazır on 141 footballers U11 and U12 age group, it is reported that the birth month of the children who birth in the same year in different months, the effect on anthropometric and physical fitness parameters is not clear. As a result of this study, in accordance of the obtained datas the birth month is not an important factor in determinig the body composition parameters is qualitative at supporting our idea (Akçakaya and Hazır, 2013).

In the literature scan we did, we saw that there are different results belonging the evaluations studying at universities or doing sports, anthropometric, physical fitness and body compositions. All of the volunteer test subjects attended our study are composed of PESHS students. When these datas are considered, our physical and anthropometric findings belonging to test subjects, while showing similarities with some findings, we

observed that they show differences with some findings. In our study the datas related to age, weight, height, BMI and waist-hip rate belonging to test subjects, while they are found meaningful on behalf of males, only it is fixed that the body fat percentage shows meaning on behalf of females ($p<0.05$) (Table2).

As a result, it can be said that the findings related to BMI, BF% and like waist-hip rate used in determining body composition show compatibility with the literature. Besides, it can be said that by setting off from the findings of this study, the birth month is not a factor in determining the body composition parameters and the birth month needn't to be considered so much.

REFERENCES

Akçakaya MC, Hazır T. U11 Born in the U12 age group and Player of the Month Effect on Physical Fitness. *Training Science Congress Abstract Book,* 2013; 02-04 July. Ankara.

Arroyo M, Rocandio A. M, Ansotegui L, Herrera H, Salces I, Rebato E "Comparison of predicted body fat percentage from anthropometric methods and from impedance in university students", *British Journal of Nutrition,* 2004; 92, 827–832.

Arslan C, Mendeş B. Investigation of daily fluid intake of university students. *Ataturk University Journal of Physical Education and Sport Sciences,,* 2003; 5, p.1: 1-9.

Atar, A., Examining the Relationship Between Plasma Lipid Levels and anthropometric measurements were obese. Taksim Training and Research Hospital Family Medicine Coordinator. *Family Medicine Thesis,* 2005; İstanbul.

Barbosa -Silva MC, Barros AJ, Post CL, Waitzberg DL, Heymsfield SB. Can bioelectrical impedance analysis identify malnutrition in preoperative nutrition assessment? *Nutrition,* 2003; 19: 422-426.

Başkal, M., Playing basketball between 18- 25 years of age, the Nat Basketball and anthropometric the regular Sedentary students and Investigation of respiratory parameters. Nigde University, Institute of Social Sciences, Department of Physical Education and Sports, *high Licence Thesi,* 2006; Niğde.

Edefonti A, Picca M, Damiani B. Prevalence of malnutrition assessed by bioimpedance analysis and anthropometry in children on peritoneal dialysis. *Perit Dial Int.* 2001; 21: 172-179.

Ergün N, Baltacı G. Rehabilitation Principles in sports injuries.Ankara: *Hacettepe University Press,*1997.

Faisy C, Rabbat A, Kouchakji B, Laaban JP. Bioelectrical impedance analysis in estimating nutritional status and outcome of patients with chronic obstructive pulmonary disease and acute respiratory failure. *Intensive Care Med.* 2000; 26: 518-525.

Going SB, Williams DP, Lohman TG. Aging and body composition: Biological chance and methodological issues. In. J. Holloszy (Ed), *Exercise and Sport Science Review,* 1995; 23: 411-458. Baltimore: Williams and Williams.

Gribble PA, Hertel J. Effect of lower-extremity muscle fatigue on postural control. *Arch Phys Med Rehabil.* 2004; 589-592.

Gropper SS, Newton A, Harrington P, Simmons K.H, Connell LJ, Ulrich P. Badi Composition Changes During The First Two Years Of Üniversty. *Preventive Medicine,* 2011; 52: 20-22.

Güllü E, Tamer K, Özer Ç, Güllü A, Cicioğlu İ. Comparison of the Oxidative Stress and Antioxidant Levels of the Endurance Athletes After Maximal and Submaximal Exercise. *Selcuk University Journal of Physical Education and Sport Sciences,* 2012; 14(2): 184-190.

Gültekin, T., Body Composition Values of adult individuals living in Ankara. Ankara University, Institute of Social Sciences, Department of Anthropology, *PhD Thesis,* 2004; Ankara.

Heyward H.Vivian. "Assessing Body Composition", In: Heyward VH, eds. Advenced Fitness Assessment And Exercise Prescription. 3rd. ed. Champaign: (IL), *Human Kinetics Pub.* 1998; 145-176.

Kayıhan G, Ersöz G. Assessment of Body Composition in Terms of Physical Fitness and Performance at the Turkish Police Organization. *Police Science Magazine,* 2010; 12:3: 67-82.

Kuczmarski, RJ., Need for body composition information in elderly subjects. *American journalof Clinical Nutrition,* 1989; 50: 1150-1157.

Marlowe F, Apicella C, Reed D. Men's Preferences For Women's Profile Waist-To-Hip Ratio İn Two Societies. *Evolution And Human Behavior,* 2005; 26: 458.

Önal, S., Dil ve Tarih - Comparative Analysis of Body Composition Parameters Faculty of Male and Female Students. Ankara University, Institute of Social Sciences, Department of Anthropology, *high Licence Thesi,* 2011; Ankara,

Prijatmoko D, Strauss BJG. "Using low–cost body composition technology for health surveillance" Asia Pacific *Journal of Clinical Nutrition,* 1995; 4: 15-17.

Reuter C, Stein CE, Vargas DM. Bone Mass and Body Composition İn College Students. *Rev Assoc Med Bras.* 2012.; 58: 3: 328-334.

Sarıtaş N, Özkarafakı İ, Pepe O, Büyükipekçi S. Evaluatıon of Body Fat Percentage of Male University Students According to Three Different Methods. *Journal of Health Sciences,* 2011; 20(2):107-115.

Saygılı, ES., Blood Pressure Mass Index and Waist-Hip Ratio in Healthy Young Adults With Analysis of the Relationship Between Smoking and exercise. E.Ü. *Journal Of Health Sciences,* 2003; 123: 37-41.

Sevindi T, Yılmaz G, İbiş S, Yılmaz B. Physical Education and Sports School, Students' Evaluation of Nutrition and breakfast habit. *Gazi University,* 2007; (1): 3.

Simzari K, Ersoy N, Ersoy G. *JNutr and Diet* 2012; 40(1). 21-29.

Şanlıer, N., Biochemical Findings Youth, anthropometric measurements, body Even Assessment of Nutrition and Physical Activity Status. *Journal of Gazi Education Faculty,* 2005; 25: 347-73.

Webb J.B, Hardin A.S. Preliminary Evaluation Of BMİ Status İn Moderating Changes İn Body Composition and Eatig İn Ethnically-Diverse First-year College Women. *Eating Behaviors.* 2012; 13 402-405.

Yılmaz, A., Some of the Artistic Anatomy body proportions of young Turkish men Angle. Trakya University, Institute of Health Sciences, Anatomy Department, *PhD Thesi,* . 2006; Edirne.

Zorba, E., Physical fitness. 2nd edition, *Virgo offset Gazi bookstore,* 2001; p. 64-65. Muğla.

INSULIN RESISTANCE AND DIETS AND EXERCISE

Hakan Ozalp[1] , Gurcan UNLU[2], Asım CENGIZ[2], Menzure Sibel Yaman[3]
[2]Department of Physical Education, Middle East Technical University. Ankara
[1]Gedik University, Physical Education Department, Istanbul
[3]Gazi University, Institute Of Health Science, Department of Physical Education and Sports, Ankara
awesome77@gmail.com

Abstract: Obese people progress resistance to the cellular actions of insulin. This review aimed to provide information for the use of diets it was suggested that people must be educated about healthy living. Knowledge about the treatment of obesity and insulin resistance should be provided. Obesity treatment should be treated with realistic approaches. Both the fat content of daily caloric intake and restricted diet helps metabolism positively. A balanced weight control must be provided. Regular physical activity must be targeted.

Key words: insulin resistance, obesity, activity

INTRODUCTION

It was confirmed that obese people progress resistance to the cellular actions of insulin, characterized by an impaired facilitation of insulin to restrain glucose output from the liver and to promote glucose uptake in fat and muscle (Saltiel and Kahn 2001; Hribal et al. 2002).

Insulin resistance (IR) is a physiological state in which cells fail to react to the normal actions of the hormone insulin. The body produces insulin, but the cells in the body turn into resistant to insulin and are not capable of using it as efficiently, causing to hyperglycemia. Beta cells in the pancreas consequently raise their creation of insulin, additional contribution to hyperinsulinemia. This frequently rest unnoticed and can give to a diagnosis of Type 2 Diabetes ("Equivalent insulin resistance", 2014).

One of insulin's mission is to control transport of glucose into cells to supply them with energy ("A heavy burden", 2012). Insulin resistant cells cannot receive in glucose, amino acids and fatty acids. Thus, glucose, fatty acids and amino acids 'leak' out of the cells. A reduction in insulin/glucagon ratio inhibits glycolysis that in turn decllines energy construction. The resultant augment in blood glucose may elevate levels outside the normal range and bring about unfavorable health outcomes, depending on dietary circumstances. Certain cell types such as fat and muscle cells necessitate insulin to grasp glucose. When these cells fail to react effectively to circulating insulin, blood glucose levels get higher. The liver helps adjust glucose levels by dropping its emission of glucose in the existence of insulin. This normal decrease in the liver's glucose creation may not take place in people with insulin resistance ("Equivalent insulin resistance", 2014).

Insulin resistance is often found in obese people. It was reported that the affiliation between obesity and insulin resistance is prone a cause-and-effect connection since many point out that mass loss/gain correlates very much with rising/reducing insulin sensitivity, correspondingly (Sims et al. 1973; Freidenberg et al. 1988; Bak et al. 1992). Thus, in this review, it was aimed to explore the relationship between insulin resistance and popular diets and exercise.

Relationship of insulin with metabolism disorders was supported by epidemiological studies. But each obese or who have insulin resistance, in insulin presentation in the metabolic syndrome with resistance, may be of different phenotypes, genetic. To investigate the effect of historic importance, indeed, studies in different ethnic groups were carried out. For example; with high incidence of

obesity and insulin resistance, Pima Indians with a population; type 2 diabetes mellitus (DM) frequency has raised; hyperlipidemia or hypertension. There are also studies that show high correlation (Collins, Dowse, Finch ,& Zimmet, 1990) of insulin resistance to the metabolic syndrome. Furthermore, accompanying the metabolic syndrome there is an association of insulin resistance with prothrombotic state.

Type 2 diabetes occurrence is primarily in the development process; the development of tissues to insulin resistance. Hyperglycemia appears later. Insulin sensitivity of tissues is different, insulin resistance primarily reduced muscle glucose degradation starts and this leads to postprandial hyperglycemia. This situation causes more obvious ineffectiveness of the insulin and the liver tracks glucose output increases. Thus, fasting hyperglycemia and all day hyperglycemia would become observable (DeFronzo, 1998).

Insulin resistance and lipid metabolism and an increase in adipose tissue insulin resistance, type 2 DM pathogenesis seems to be in cooperation. Insulin resistance in ; while plasma lipoprotein lipase (LPL) activity decreases, plasma triglycerides increases due to increase in LPL activity in the liver. One of the features of insulin resistance is increased plasma free fatty acids (FFA) concentration.

FFA alerts the triglyceride accumulation in the liver. But the FFA has a complex role in the development of insulin resistance. It includes more complicated mechanisms. To understand the relationship of obesity to insulin resistance; adipose tissue, apart from being an energy store, is endocrine body that works as a lot of movement of peptide of complement factor and cytokine-secreting organ.

DISCUSSION

Higher BMI is a key marker of insulin resistance, and mass reduction is practically always connected with augmented insulin sensitivity. Nevertheless, there is greatly less assurance concerning the best possible nutritional recommendation for succeding mass reduction and enhanced insulin sensitivity and CVD risk condition (Smith et al., 2006). Body fat distribution is an important the risk factor for insulin resistance. Vague and friends (1956) made the first systematic assessment of the issue in 1956. Obesity is classified as "android " and " gynoid type. In this study, android obesity and diabetes and compared with coronary artery disease, obesity, type –jinoid was found to be more- linked (Vague, 1956). Subsequent studies have also supported these findings. Between ages 5 to 16, In a study of obese girls, waist circumference, plasma insulin and insulin resistance had significant correlation (Maffeis, Corciulo & Livieri, 2003).

Inverse relationship between insulin sensitivity and fat intake was detected, but BMI difference excluding this association lost statistical significance (Mayer-Davis, Monaco, Hoen, et, al., 1998). Therefore, it was suggested that the diet itself, beyond the effect of carbohydrate - fat, metabolic components of the syndrome may directly affect the insulin resistance.

It was recommended an typical to high-carbohydrate (HC) diet for treatment as well as avoidance of diabetes, with the proposition that intact fruit and vegetables and wholegrain products should provide as much as possible total dietary carbohydrate (Franz et al., 2003) High-fibre, low glycemic index foods are encouraged. Lately, there has been growing attention in low carbohydrate–high fat (HF) (Atkins, 1992) and high protein (HP) (Sears, 2000) diets, which have been shown in many studies of free-living individuals to be connected with notable weight reduction and enhanced CVD probability indicators over a comparatively brief stage of time (up to 6 months). Though, longer time may consequence in better improvements.

A few studies used a yearlong evaluation of trendy diets. For instance, Smith et al. (2006) study compared three types of diets over one year. This study suggested that it is possible that a superior intake of fibre-rich carbohydrate containing foods would have resulted in a better enhancement in clinical and metabolic features of the insulin-resistant syndrome. Also, two other studies by Brinkworth et al., (2000) one in people with type 2 diabetes, the other in obese normoglycaemic individuals, compared high protein and regular diets. No differences were reported between the two diets, but attrition rates were very elevated. A more current study by Due et al. (2004) indicated larger decrements in abdominal fat and a larger quantity of participants who had lost 10 kg or more among those on the high protein diet than on the conventional diet. It was also reported lower attrition rates

on the high protein group.
This study provides strong support for the utilizing of higher protein diets as an option to the conservative method. Body weight, fat mass and several most important metabolic features of insulin resistance were enhanced in the long term (Torgerson et al., 2004). Not maintaining longterm reduction in LDL cholesterol most likely reflects inadequate stress on the necessity to lessen saturated fatty acids, and specific dietary recommendation should strengthen this facet.

There are studies on the benefits of exercise on the fraction of insulin resistance. For example, Of Thorell et al, In a study about the exercise, the GLUT -4 receptors moving through the plasma membrane in skeletal muscle was shown to increase glucose transport (Thorell, Hirshman, Nygren et. al., 1999). Preceding studies from long-term clinical trials (6 months) advocate that diet therapy is further efficient than exercise in dropping body weight and body fat mass in obese subjects. Some investigations in young obese subjects have shown that short-term exercise and calorie-limited diets are evenly effectual in enhancing insulin sensitivity (Jannsen, 2002). Nevertheless, the independent effect of CR and exercise induced energy restriction (EX) on CHD were investitigated in risk reduction in lean or overweight subjects (Hellenius, 1993; Katzel, 1995; Ross, 2000). These studies showed that exercise causedin minimum or no weight loss due to increased energy intake, noncompliance with exercise, or both. On the other hand, Fontana et al. (2007) study intended to find out if fat loss induced by long-term calorie restriction (CR) or augmented energy expenditure induced by exercise (EX) has some influence on CHD risk factors in nonobese subjects. One year study resulted that caloric reduction or exercise causes reductions in many CHD risk factors (Qiao, 2003).

CONCLUSION

This review provides strong support for the use of higher protein diets as an alternative to the conventional approach. People must be educated about healthy living. This would be possible to deal with the treatment of obesity and insulin resistance. Obesity treatment should be " Realistic target " not ideal body weight the current. Both the fat content of your daily caloric intake and restricted diet helps metabolism positively. A balanced weight control must be provided. Regular physical activity must be targeted.

REFERENCES

Atkins RC. Dr Atkins' New Diet Revolution. Avon Books Inc.: New York, 1999.

Berg, A.H., Combs, T.P., Du, X., Brownlee, M., Scherer, P.E.(2001) The adipocyte-secreted protein Acrp30 enhances hepatic insulin action. *Nat. Med*. 7:947–953.

Brinkworth GD, Noakes M, Parker B, Foster P, Clifton PM (2004). Longterm effects of advice to consume a high-protein, low-fat diet, rather than a conventional weight-loss diet, in obese adults with Type 2 diabetes: one-year follow-up of a randomised trial. *Diabetologia*; 47 (10): 1677–1686.

Brinkworth GD, Noakes M, Keogh JB, Luscombe ND, Wittert GA, Clifton PM (2004). Long-term effects of a high-protein, low-carbohydrate diet on weight control and cardiovascular risk markers in obese hyperinsulinemic subjects. *Int J Obes*; 28 (5):661–670.

Collins V, Dowse G, Finch C, Zimmet P (1990). An inconsistent relationship between insulin and blood pressure in three Pacific island populations. *J Clin Epidemiol*; 43:1369-78.

DeFronzo RA(1998). Pathogenesis of type 2 diabetes: metabolic and molecular implications for identifying diabetes genes. *Diabetes Reviews*; 5:177-269.

Due A, Toubro S, Skov AR, Astrup A (2004). Effect of normal-fat diets, either medium or high in protein, on body weight in overweight subjects: a randomised 1-year trial. *Int J Obe*; 28 (10): 1283–1290.

Fain, J.N., Madan, A.K., Hiler, M.L., Cheema, P., Bahouth, S.W.(2004) Comparison of the release of adipokines by adipose tissue, adipose tissue matrix, and adipocytes from visceral and subcutaneous abdominal adipose tissues of obese humans. *Endocrinology* 145:2273–2282

Freidenberg, G.R., Reichart, D., Olefsky, J.M., Henry, R.R.(1988) Reversibility of defective adipocyte insulin receptor kinase activity in non-insulin-dependent diabetes mellitus. Effect of weight loss. *J. Clin*. Invest. 82:1398–1406

Fontana L, Villareal DT, Weiss EP, Racette SB, Steger-May K, Klein S, Holloszy JO(2007). Calorie restriction or exercise: effects on coronary heart disease risk factors. A randomized, controlled trial. *Am J Physiol Endocrinol Metab* 293: E197–E202.

Hribal, M.L., Oriente, F., Accili, D.(2002) Mouse models of insulin resistance. Am. J. *Physiol. Endocrinol. Metab*. doi:10.1152/ajpendo.00561.2001

Grundy SM, Brewer BH Jr, Cleeman JI, Smith SC, Lenfant C (2004). Definition of metabolic syndrome: report of the National Heart Lung and Blood Institute/American Heart Association Conference on scientific issues related to definition. *Circulation*; 109:433-8.

Ministry of Health. Food and Nutrition Guidelines for Healthy Adults: A Background Paper. Ministry of Health, Wellington: New Zealand, October, 2003.

Franz MJ, Bantle JP, Beebe CA, Brunzell JD, Chiasson JL, Garg A et al (2003). Evidence-based nutrition principles and recommendations for the treatment and prevention of diabetes and related complications. *Diabetes Care*; 26 (Suppl 1): 51–61.

Hellenius ML, de Faire U, Berglund B, Hamsten A, Krakau I 1993). Diet and exercise are equally effective in reducing risk for cardiovascular disease. Results of a randomized controlled study in men with slightly to moderately raised cardiovascular risk factors. *Atherosclerosis* 103: 81–91.

Jannsen I, Fortier A, Hudson R, Ross R (2002). Effects of an energy-restrictive diet with or without execise on abdominal fat, intermuscular fat, and metabolic risk factors in obese women. *DC* 25: 431–438.

Katzel LI, Bleecker ER, Colman EB, Rogus EM, Sorkin JD, Goldberg AP (1995). Effects of weight loss vs aerobic exercise training on risk factors for coronary heart disease in healthy, obese, middle-aged and older men: a randomized controlled trial. *JAMA* 274: 1915–1921.

Klein S, Fontana L, Young VL, Coggan AR, Kilo C, Patterson BW, Mohammed BS (2004). Absence of an effect of liposuction on insulin action and risk factors for coronary heart disease. *N Eng J Med* 350: 2549–2557.

Maffeis C, Corciulo N, Livieri C(2003). Waist circumference as a predictor of cardiovascular and metabolic risk factors in obese girls. *European Journal of Clinical Nutrition*; 57:566-72.

Smith, RW Taylor, RT McLay, SM Williams and JI Mann, iKA McAuley (2006). Long-term effects of popular dietary approaches on weight loss and features of insulin resistance. *International Journal of Obesity*. 30, 342–349.

Racette SB, Weiss EP, Villareal DT, Arif H, Steger-May K, Schechtman KB, Fontana L, Klein S, Holloszy JO (2006). One year of caloric restriction in humans: Feasibility and effects on body composition and abdominal adipose tissue. *J Gerontol Med Sci* 61A: 943–950.

Ross R, Dagnone D, Jones PJH, Smith H, Paddags A, Hudson R, Janssen I (2000). Reduction in obesity and related comorbid conditions after diet-induced weight loss or exercise-induced weight loss in men: A randomized, controlled trial. *Ann Int Med* 133: 92–103.

Saltiel, A.R., Kahn, C.R.(2001) Insulin signalling and the regulation of glucose and lipid metabolism. *Nature* 414:799–806

Stefanick ML, Mackey S, Sheehan M, Ellsworth N, Haskell WL, Wood PD (1998). Effects of diet and exercise in men and postmenopausal women with low levels of HDL cholesterol and high levels of LDL cholesterol. *N Engl J Med* 339: 12–20.

Sears B. AWeek in the Zone. 1st edn. Harper Collins Publishers Inc.: New York, 2000.

Torgerson JS, Hauptman J, Boldrin MN, Sjostrom L. XEN (2004). Cliniical in the prevention of

diabetes in obese subjects (XENDOS) study: a randomized study of orlistat as an adjunct to lifestyle changes for the prevention of type 2 diabetes in obese patients. *Diabetes Care*; 27 (1): 155–161.

Thorell A, Hirshman MF, Nygren J, et al.(1999). Exercise and insulin cause GLUT-4 translocation in human skeletal muscle. *Am J Phys*; 277:733-41.

Qiao Q, Jousilahti P, Eriksson J, Tuomilehto J (2003). Predictive properties of impaired glucose tolerance for cardiovascular risk are not explained by the development of overt diabetes during follow-up. DC 26: 2910–2914.

Vague J (1956). The degree of masculine differentiation of obesities: a factor determining predispodition to diabetes, atherosclerosis, gout and uric calculous disease. *Am J Clin Nutr,* 4:20-34.

RECREATION HABITS OF THE STUDENTS STAYING AT RESIDENCE

Huseyin OZTURK[1]
Gaziantep University, Physical Education and Sport Department, Gaziantep/TURKEY

Abstract: The purpose of this research is determination of recreation habits of the students staying at residence in Gaziantep province. The research sample consists of 572 students. The datas obtained in this study have been analysed by using SPSS 22.0 package software. Frequency, percentage distribution and chi square test have been used in analysing of the available research datas. As a result of the study, women mostly prefer reading, while men prefer using internet in their spare time; when considered participants doing sport or not in their spare time, it is seen that women don't prefer doing sport, while men prefer playing football; when considered the effect of economic factors, it is seen that the ones who study with family support prefer watching TV, while the ones who get scholarship prefer reading and doing sport and the ones working prefer mostly joining various fun.

Key Words: Spare Time, Recreation, Student, Residence

1. INTRODUCTION

Spare time is a period of time when people can spend upon their own requests and desires except for the obligations and duties of life (*Karakucuk, 1999*), in other words spare time is a time when individuals benefit for relaxion, entertainment, social and individual

l success and it also helps people about socialising, interacting and cooperating with other people socially, culturally and occupational with his or her free will (*Binarbasi, 2006*).

Recreation activities which are effective in social, pyschological and cultural development, will give people opportunities to contribute to the society socially and economically. Another factor which makes spare time more important is to ensure various satiations to individulas and to be effective in social adaptation and integration (*ozkalp, 2001*).

Recreation activities are a range of interests such as relaxion, amusement, knowledge and skill development and attendance in community life which are done voluntarily after occupational, familial and social duties of the individuals (Aslan and Aslan, 2001**).**

There are several of recreation activities in terms of content and the area where the activities have been done. These activities will be preferred depending on physical quality of individual, gender, education, his or her opportunities, economic status and abilities (*ozturk, 1998*).

Spare time is a time period when one can use for self-improvement, self-education and cultural and ability development (*Outhwaite, 1989*), it is a period of time when people are closest to their individuality (*Winnifrith and Cyril*, l989), it is a meaningful purpose (*Smith, l987*), it can be defined as participation in recreation activities and these are active and organized activities such as sports, cultural activities and hobbies (*Shaw, l986*).

All the activities are done for reviving spiritually and physically, conributing to the health by attending events and acts which make individuals hold on to the life, relax, amuse, occupy or satisfy, except for daily routines, works and suchlike obligations, defined as recreation (*Bayer, l974*).

Standing out from monotonous modern life and boring life struggle, people find themselves socialising with people who are feeling the same way and acquiring a social personality by joining one or more activities which are suitable for their personalities. (*Erkan, 1995; Bucher, 1974*).

Recreation habits contain all the recreation activities like play, amusement, mass communication, relaxion, communication with friends, listening to music and reading a book. Recreation activities are important period of times in view of the fact that people can avoid from boredom and stress of real life or at least may have them less (*Akkaya, 2008*).

Recreation activities which we often experience frequently in communal living, excite attention of people from all strata and ages but mostly effective on youth. Developping and planning these types of areas where particularly young people can do these activities collectively and regularly are significant responsibilities of universities, private institutions and other governmental institutions (*Balci, 2003*). Spare time is an important period of time that people can become socialized and express themselves (*Demiray, 1987*).

The purpose of this study is to determine the recreation habits of the students staying at residence in Gaziantep province. Universities have an important role on students about spending their spare times efficiently. To make the students spend their spare times effienciently, both universities and residences and also local goverments should take on this task. It is thought that fulfilling the wishes of the students about this topic will contribute to both their education and social life. Since recreation has many positive contributions to people as physical, social and psychological contributions (*Agaoglu, 2002, Gedik, 1985; Cardwell, 1978, Kraus, 1977*).

2. MATERIAL AND METHOD

Research Model

This study that has been done for determination of recreation habits of the students staying at residence and the research model of this study has been chosen as scanning (survey) method. It has been benefited from the survey in this study which was done by Akkaya (2008) for the study named as Popular Culture Activites and Recreation Habits of University Students.

Population and Sample

The population of this study consists of 572 students as 336 women and 236 men who are staying at residence in Gaziantep province and chosen by chance.

Data Collection Tool

Survey method has been used as data collection tool in this study. The questionnary comprises of two sections that fit for the purpose of the study. There is a personal knowlegde form in the first chapter that aims to reveal the demographic characteristics of the patricipants. In the second chapter, there are survey questions which are developped by Akkaya (2008) for learning recreation habits of the students.

Analysis of Data

The relations between categorical variables have been tested by chi-square analysis. Frequency and percentage values are given as identification statistic. SPSS for Windows Version 22.0 packaged software has been used for statistical analysis.

3. FINDINGS

Table 1: Personal characteristics about research group

Variable	Groups	N	Percentage (%)
Gender	Women	336	58.7
	Men	236	41.3
Age	17-19 aged	74	12.9
	20-22 aged	334	58.4
	23-25 aged	132	23.3
	26 aged and over	32	5.6
Monthly Income	Family support	224	39.2
	I'm getting a scholarship	278	48.6
	I'm working	70	12.2

n=572

When examined Table 1, it is seen that 336 (58.7%) of the participants are women and 236 of them are men (41.3%); 334 (58.4%) of them aged between 20-22 and 278 of them (48.6%) are getting scholarship, while 70 (12.2%) of them are working.

Table 2. Daily internet usage time of the participants

Variable	Percentage	Frequency
1-2 hours	134	23.4
3-4 hours	212	37.1
5-6 hours	150	26.2
7 hours and over	76	13.3

When examined Table 2, it is seen that 212 (37.1%) of the participants' daily internet usage time is between 3-4 hours.

Table 3. Branch of sports done by the participants as recreation

Variable	Percentage	Frequency
İ don't do sports	252	44.1
Swimming	88	15.4
Football	68	11.9
Tennis	30	5.5
Fitness-Aerobics	46	8.0
Basketball-Volleyball	88	15.4

When examined Table 3, it is seen that 252 (44.1%) of the participants don't do sports, while 196 (30.4%) of them do sports and mostly prefer swimming, basketball and volleyball.

Table 4. Way of recreation of the participants

Variable	Percentage	Frequency
Watching TV	92	16.1
Reading Book	166	29.0
Using İnternet	200	35.0
Doing sport	48	8.4
Joining the fun	66	11.5

When examined Table 4, it is seen that 200 (35.0%) of the participants prefer using internet in their spare time, while 48 (8.4%) of them prefer doing sport.

Table 5. The relation between way of recreation and gender of the participants

		Women	Men	df	X^2	p
Watching TV	n	56	36	4	43.71	0.00
	%	16.7	15.3			
Reading Book	n	120	46			
	%	35.7	19.5			
Using İnternet	n	108	92			
	%	32.1	39.0			
Doing sport	n	10	38			
	%	3.0	16.1			
Joining the fun	n	42	24			
	%	12.5	10.2			

There is a significant relation between gender and way of recreation of the participants statistically at a level of $p<0.05$ according to Table 5. Women participants prefer reading book initially at the rate of 35.7% (120 people), while men prefer using internet initially at the rate of 39% (92 people) in their spare times.

Table 6. The Relation Between Gender and Branch of Sports Done by Participants

		Women	Men	df	X^2	p
İ dont do sport	n	210	42	7	48.51	0.00
	%	62.5	13.7			
Swimming	n	46	42			
	%	13.7	17.8			
Football	n	76	92			
	%	32.1	39.0			
Tennis	n	10	20			
	%	4.2	6.0			
Fitness-Aerobics	n	14	12			
	%	4.2	5.1			
Basketball/Volleyball	n	36	52			
	%	10.7	22.0			

There is a significant relation between gender and branch of sports done by participants statistically at a level of $p<0.05$ according to Table 6. It is seen that women participants don't prefer doing sports in their spare time initially at the rate of 62.5% (210 people), while men prefer playing football initially at the rate of 39% (92 people) in their spare times.

Table 7. The relation between income status and way of recreation of the participants

		Family support	I'm getting a scholarship	I'm working	df	X^2	p
Watching Tv	n	44	36	12	8	40.71	0.00
	%	47.8	39.1	13.0			
Reading book	n	58	90	18			
	%	34.9	54.2	10.8			
Using internet	n	90	100	10			
	%	45.0	50.0	5.0			
Doing sport	n	10	26	10			
	%	20.8	54.2	12			
Joining the fun	n	22	26	18			
	%	33.3	39.4	27.3			

There is a significant relation between income status and way of recreation of the participants statistically at a level of $p<0.05$ according to Table 7. It is seen that students who are studying with family support prefer watching TV at the rate of 47.8% (44 people), while students who are getting scholarship prefer reading at the rate of 54.2% (90 people) and doing sport at the rate of 54.2% (26 people) but people who are working prefer joining fun at the rate of 27.3% (18 people).

4. DISCUSSION AND CONCLUSION

It has been benefited from the survey which was done by Akkaya (2008) for the study named as Popular Culture Activites and Recreation Habits of University Students.

Most of the participants earn their keep by getting a scholarship at the rate of 48.6% (278 people), while 39.2% (224 people) of them getting family support and 12.2% (70 people) of them are working. According to the study done by Akkaya (2008) and named as Popular Culture Activites and Recreation Habits of University Students, 47.4% of the students who attented to the study earn their keep by both getting family support and a scholarship, 30.6% of them earn their keep by only getting family support, while 11.1% of them earn their keep by both getting family support and working and also 4.6% of them earn their keep by only working.

Considering the participants daily internet usage time, it is seen that their daily usage time is between 3-4 hours. According to the study done by Akkaya (2008), most of the participants answered their daily internet usage time as 1-2 hour at the rate of 41.7%. When has been considered these results, it can be say that development of technology cause an increase in internet usage.

It is seen that 44.1% (252 people) of the participants don't do sports, while 30.4% (196 people) of them do sports and mostly prefer swimming, 30.4% of them prefer basketball and volleyball. According to the results of the study done by Akkaya (2008), most of the participants prefer swimming in their spare times. Considering these results, universities having covered swimming pools and their availability in season and out of season are important factors.

When it has been examined the recreation activities of the participants, it is seen that they are mostly spending their time on internet at the rate of 35% (200 people), while doing sport is at least at the rate of 8.4% (48 people). As a result of the study done by Kuçuktopuzlu et al. about relation between recreation and spare time and recreation habits of university students, it has been concluded that one of the most extensive and interesting recreation activity is sport activity (Kuçuktopuzlu et al., 2003). In the study done by Tezcan (1982) about sociologic aspects of recreation, it has been concluded that people prefer doing sport commonly after transition from childhood to adulthood in their spare times. In the study done by Ozkan and Yilmaz (2010) and named as University Students' Adaptation to University Life, it has been determined that 41.1%of the students prefer doing sport in their spare

times; in the study done by Soyer and Can (2003) and named as Comparison of Recreation Habits and Sportive Tendency According to Occupational Orientation, it has been concluded that 40.8% of the students prefer doing sport. In the study done by Kir (2007) about higher education students' participation in recreation activities, it has been determined that 8.2% of the students mostly prefer doing sport; according to study done by Gazi University about university students in 2001, only 9.1% of the students in Turkey prefer doing sport with priority in their spare times. In the study done by Filiz and Ozçalikusu (2012) about recreation habits of boarding primary school students in Hatay province, it is seen that 34% of the students participate in sport and folk dance trainings. In the study done by Ozmaden (1997) about recreation activity problems of the student who are staying at higher education credit and hostels institution, it is seen that there are mostly TV rooms and reading rooms as recreaiton in dorms.

As a result of the study done by Yilmaz (1996) and named as recreation problem of the women who are staying at higher education credit and hostels institution (Ankara province example), most of the participants prefer to go outside for going to cinema, theatre, place of amusement or listening to music have been placed near the top. In the study done by Akgun (2011) about consideration of attitudes for recreation activities of people from different cultures, it has been determined that there is high level of participation in sportive and physical recreation activities in England. As a result of the study done by Balci (2003) about university students' participation in recreational activities in Ankara, it is seen that most of the students prefer passive activities like going to cinema or listening to music. In the study done by Suzer (1197) about recreation activities of university students, it is seen that most of the students prefer reading book in first pace. In study done by Yigit and et al. (2007) in four High School of Nursing and in seventeen Health High School, it has been determined that 89.6% of the students prefer reading book. In study done by Afyon and Karapinar (2014) and named as consideration of participation manners of final year undergraduate students in recreation activities, it has been concluded that most of them prefer watching TV. The reason of these different results is that, the internet service has been increasing day by day and it makes people passive. They can easily reach almost everyting under favour of internet technology and it is thoght that this reason causes to decrease in activities like reading.

Considering relation between gender and way of recreation of the participants, it is seen that women participants prefer reading book initially, while men prefer using internet initially in their spare times. As a result of the study done by Kayra (2003) about recreation activities of the students staying at dormitory, it is seen that women mostly prefer reading, listening to music, drawing and dancing courses, while men prefer both team sport and individual sports like football, basketball and ping pong. According to result of the study done by Vidarte and Velez (2012) about problems of youth about participation in social activities, it has been concluded that women prefer watching TV or keeping time for their own needs, while men prefer doing sport or going place of entertainments. In the study done by Sabbag and Ersoy (2011) about recreation activities of university students and employees in Adiyaman Example, it has been seen that women who are not doing sport is more in number than men. As a result of the study done by Kartal et al. (2012) there is a statistical relation between gender and sporting habit, 72.2% of the male student doing sport, while 56% of the female student not doing sport. When it has been examined the results of the study, it can be said that male students prefer doing sport more than female students.

Conclusion

The rate of the students who are staying at residence during their university life and not working is higher than the rate of the students who are studying at residence and working at the same time. Students prefer using internet in their spare times. The main reason of increasing internet usage is because of the free access service to internet, commen use areas and free internet usage services in residences, people prefer using internet instead of television and newspaper to learn the news in their daily life.

When it has been examined the sport branches done by participants, it is seen that most of the participants don't do sports but they mostly prefer swimming, playing basketball and volleyball. It can be said that the most efficient factor for students doing these branches is undoubtedly the reason why Gaziantep University has appropriate facilities for these sports.

Recreation habits differ by gender; women generally prefer reading book, while men prefer using internet in their spare times. When it has benn considered sporting habits, male students prefer doing sport more than female students and they prefer football in the first place between other branches.

When it has been considered income status, it is seen that students who are studying with family support prefer watching TV, while students who are getting a scholarship prefer reading and doing sport but people who are working prefer joining fun. It has been thought that socio-economic conditions have strong effects on these different ways of evaluations.

Suggestions

Spending their time efficiently will make a huge contribution to students both in their social and academic life. Appropriate environments should be provided for children to spend their time efficiently. Studies in recent years have showed that spending time efficiently reduce stress, increase coping skills, increase academic and social success and keep away people from drug habits (Payne, Ainsworth and Godbey, 2010, Kleiber, 1999; Atus , 2010), it prevents students who are at the age of consent to live this adolescence period risky (Caldwell, 2004; Tibbits, Smith, Caldwell and Flisher, 2011), and it is seen that the students who participate in recreation activities reduce their drinking alchocol levels (Patrick, Maggs and Osgood, 2010) .

When it has been considered about these results, we can conclude that offering opportunities to students for spending their spare times efficiently will provide important advance to them.

5. REFERENCES

Afyon, Y.A. and Karapinar. M. (2014). Lise Son Sinif Ogrencilerinin Serbest Zaman Faaliyetlerine Katilim Bicimlerinin Degerlendirilmesi. *Mugla Sitki Kocman Universitesi Sosyal Bilimler Enstitusu Dergisi*, 33:147-163.

Agaoglu, Y.S. (2002). *Turkiye'deki Universitelerin Rekreasyon Programlarinin Gelistirilmesi*. Ondokuzmayis Universitesi, Saglik Bilimleri Enstitusu, Beden Egitimi ve Spor Anabilim Dali, Yayinlanmamis Doktora Tezi, Samsun.

Akgul, B.M. (2011). *Farkli kulturlerdeki bireylerin bos zaman aktivitelerine yonelik tutumlarinin degerlendirilmesi, Ankara-Londra ornegi*. Doktora Tezi, Gazi Universitesi Saglik Bilimleri Enstitusu, Ankara.

Akkaya, S. (2008). *Universite Ogrencilerinin Populer Kultur Etkinlikleri ve Bos Zaman Aliskanliklari*. Yuksek Lisans Tezi, Sosyoloji Anabilim Dali Anadolu Universitesi Sosyal Bilimler Enstitusu, Eskisehir.

Aslan, K. and Aslan, N. (2001). Bos zaman degerlendirmede cevre faktoru. *Ege Egitim dergisi*, 1 (1): 1-12.

Balci, V. (2003). Ankarada'ki Universite Ogrencilerinin Bos Zaman Etkinliklerinin Katilimlarinin Arastirilmasi. *Milli Egitim Dergisi*, 158: 1-9.

Bayer, M.Z. (1974). Memleketimizde Tabiati Koruma ve Rekreasyon. Calisma ve Calisma Disi Zamanin Planlanmasi Semineri. *Ankara O.D.T.U. Yayinlari*, 253: 49-81.

Binarbasi, S. (2006). *Kutahya İlinde İlkogretim Okullarinda Gorev Yapan Ogretmenlerin Bos Zamanlarini Degerlendirme Aliskanliklarinin Tespiti ve İncelenmesi*. Yayinlanmamis Yuksek lisans Tezi, Dumlupinar Universitesi Sosyal Bilimler Enstitusu, Kutahya.

Bucher, C. and Bucher, R.D. (1974). Recreation for Today's Society, Prentice Hail İnc., Englewood Cliffs, New Jersey, pp. 6-8.

Caldwell, L.L. (2005). Leisure and health: Why is leisure therapeutic? *British Journal of Counseling and Psychology*, 1: 7-26.

Cardwell, G.R. (1978). Research and the Fallacy of Recidivism. Studies on Wilderness Programs for TroubledYouth, paper presented at the 6th Annual Conference on Experiential Education, St Louis, Missouri.

Demiray, U. (1987). Acikogretim Fakultesi Ogrencilerinin Bos Zamanlarmi Degerlendirme Egilimleri. *Anadolu Universitesi Yayin No:252,* Eskisehir.

Erkan, N. (1995). Bos Zamani Degerlendirme, Ankara: *19 Mayis Genclik ve Spor Akademisi Ders Notlari.*

Filiz, K. and Ozcalikusu, O. (2010). Hatay ili yatili ilkogretim bolge okullarinda okuyan ogrencilerin bos zaman aliskanliklari. Ataturk Universitesi BESYO. *Beden Egitimi ve Spor Bilimleri Dergisi*, 1(3): 82-87.

Gedik, N .(1985). Gencligin Serbest zamanlari Degerlendirme Sorunlari. *Turk Hemsireler Dergisi*, 25(2): 33-38.

Karakucuk, S. (1999). *Rekreasyon, Bos Zamanlari Degerlendirme, Kavram, Kapsam ve Bir Arastirma*, Seren Matbaacilik Yayinlari, Ankara.

Kartal, A., Cinar, İ.O. and Aggon, P. (2012). Saglik Yuksek Okulu Orgencilerinin Bos Zaman Degerlendirme Aliskanliklari, *Cumhuriyet Nursing Journal*, 1(1): 1-9.

Kaya, S. (2003). *Yetistirme Yurtlarinda Kalan Genclerin Bos Zaman Degerlendirme Egilimi ve Etkinliklerin Sosyallesmeye Etkisi*. Doktora Tezi, Gazi Universitesi Saglik Bilimleri Enstitusu Beden Egitimi ve Spor Anabilim Dali, Ankara.

Kir, İ. (2007). Yuksek Ogretim Gencliginin Bos Zaman Etkinlikleri, Ksu Ornegi. *Firat University Journal Social Science,* 17(2): 307-328.

Kleiber, D. (1999). *Blank experience and human development: a dialectical interpretation.* Basic Books, New York.

Kraus R.G. (1977). Recreation Today, Program, Planing and Leadership, *Goodyear Publishing Compa inc.*, Santa Monica,

Kucuktopuzlu, F., Gozek K. and Ugurlu, A. (2003). Bos zaman rekreasyon iliskisi ve universite ogrencilerinin bos zaman degerlendirmeye yonelik bir arastirma. İ. Geclik bos zaman ve doga sporlari sempozyumu bildiriler kitabi. Birinci Baski, Turk Hava Kurumu Basim Evi isletmeciligi, pp. 33-34.

Outhwaite, W. (1989). The Diversity of Social Time. *The Journal of the İnternational Sociological Association,* 27(3): 214.

Ozkalp, E. (2001). Sosyolojiye Giris, *Anadolu Universitesi Yayinlari*, Eskisehir.

Ozkan, S. and Yilmaz, E. (2010). Universite ogrencilerinin universite yasamina uyum durumlari (Bandirma ornegi). *Firat Saglik Hizmetleri Dergisi*, 5(13): 153-159.

Ozmaden, M. (1997). *Yuksekogrenim Kredi ve Yurtlar Kurumu'nda İkamet Eden Ogrencilerin Bos Zaman Faaliyetlerini Degerlendirme Sorunlari Uzerine Bir Arastirma (Canakkale İli Ornegi).* Yuksek Lisans Tezi. Universitesi Saglik Bilimleri Enstitusu Beden Egitimi ve Spor Ana Bilim Dali, Ankara.

Ozturk, F. (1998). Toplumsal boyutlariyla spor. *Bagirgan Yayinevi*, Ankara.

Payne, L. and Ainsworth, B.G. (2010). Godbey Entertainment and Health. *Making Connections Publishing İnitiative,* State College, Pennsylvania.

Patrick, M., Maggs, G. and Osgood, D. (2010). LateNight Penn State soft programming: Student attend on days they drink less. *Prevention Science*, 11: 155-162.

Sabbag, C. and Aksoy, E. (2011). Universite Ogrencileri ve Calisanlarin Bos Zaman Etkinlikleri. Adiyaman Ornegi, *Mehmet Akif Ersoy Universitesi Sosyal Bilimler Enstitusu Dergisi*, 3(4): 10-23.

Shaw, M.S. (1986). Leisure, Recreacition or Free Time? Measuring Time Usage. *Journal of Leisure Research,* 18(4): 177-189.

Smith, J. (1987). Men and Women at Play: Gender, Life-cycle and leisure. *Sport Leisure and Social Relations*, pp.51-58.

Horne, John, Alan Tomlinson,and Gary Whannel. 1999. *Understanding sport: An introduction to the sociological and cultural analysis of sport*. London.

Soyer, F. and Can, Y. (2003). Universite ogrencilerinin bos zaman aliskanliklari ve sportif egilimlerinin mesleki yonelislerine gore karsilastirilmasi. İ. Genclik bos zaman ve doga sporlari sempozyumu bildiriler kitabi. Birinci Baski. Ankara. *Turk Hava Kurumu Basim Evi isletmeciligi*, pp.102-120.

Suzer, M. (1997). *Universite Ogrencilerinin Bos Zamanlarini Degerlendirme Aliskanliklari*. Yayinlanmamis Yuksek Lisans Tezi. Hacet-tepe Universitesi, Ankara.

Tezcan, M. (1982). Sosyolojik acidan bos zamanlarin degerlendirilmesi, Ank*ara Universitesi Egitim Bilimleri Fakultesi Yayinlari,* pp.161-163.

Tibbits, M., Smith, M.L. and Caldwell, L. (2011).Polydrug use and Healthwise South Africa Flish A. Effect on high risk sexual behavior, *Health Education Research*, 26(4): 653-663.

Vidarte, J.A. and Vélez, C. (2012). Caracterización de la realidad juvenil de Caldas (Colombia): Área de Deporte, Recreación y Tiempo libre. Apunts. *Educación Física Deportes*, pp.78-88.

Winnifrith, T. and Cyril, B. (1989). The Philosophy of Leisure. London, Macmillan Press.

Yilmaz, E. (1996). *Yuksekogrenim Kredi ve Yurtlar Kurumu'na Bagli Yurtlarda Kalan Bayan Ogrencilerin Rekreasyon (Bos Zaman Degerlendirme) Sorunlari Uzerine Bir Arastirma (Ankara İli Ornegi)*. Yuksek Lisans Tezi, Gazi Universitesi Bilimleri Enstitusu Beden Egitimi ve Spor Anabilim Dalı, Ankara.

Yigit, R., Esenay, F. and Derebent, E. (2007). Turkiye'de hemsirelik son sinif ogrencilerinin profili. *Cumhuriyet Universitesi HYO Dergisi*, 11(3): 1-11.

Yurtkur, (1967). Kurum Yurtlarinda Barinan Ogrencilerin Bos Zamanlarini Degerlendirme Anketi Sonuclari, *Yurtkur Yayini*, No:3, Ankara.

