

Measuring Cognitive Behavioral Physical Activity Levels of Students Aged 17-18

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Abstract

This study intended to measure the cognitive behavioral physical activity levels of students aged 17-18 enrolled at different schools. The study population was comprised of the 17-18 age group and the study sample was comprised of 159 students in total n:76 (47.8%) enrolled at 15 Temmuz Şehitler Sports High School and n:83 (52.2%) enrolled at Cumhuriyet Anatolian High School in the province of Niğde. The data was analyzed with Statistical Package for the Social Sciences and the confidence level was 95%. According to the Kolmogorov Smirnov analysis, t and ANOVA tests were used as the participants' cognitive behavioral physical activity scores had normal distribution ($p>0.05$) and Mann Whitney U and Kruskal Wallis tests were used as result expectation, self-regulation and personal obstacles subdimension scores did not have normal distribution ($p<0.05$). According to the study results, there was no significant difference between the students enrolled at the Sports High School and the Anatolian High School. There was significant difference between the participants aged 17 and 18 considering cognitive behavioral physical activity by school. There was significant difference between the female and male participants in terms of Personal Obstacles. Accordingly, females had higher Personal Obstacles. Considering cognitive behavioral physical activity by gender, there was significant difference between the female and male participants in terms of cognitive behavioral physical activity. Accordingly, males had higher Cognitive Behavioral Physical Activity.

Keywords: 17-18 age group, cognitive behavioral physical activity

1. Introduction

In parallel with rapid technological development and digital advancement since the 20th century, people are now able to meet all their needs on their desks, with a single click on their computers. Thus, people have started to adopt a more sedentary lifestyle differently from the previous eras. Motion, required by people to meet their essential needs (shelter, hunting, security etc.) in old times, has significantly reduced with the recent technological advancements.

The main factors to live a healthy life and to minimize possible age-related health risks are healthy diet and increased physical activity. Daily regular physical activity, together with a healthy diet, is the most important component to prevent chronic diseases (Garibağaoğlu et al., 2006).

The main purpose of exercise for health is to prevent organic and physical degradation caused by a sedentary life, to improve further the physiologic capacity which is the main component of the bodily health and to maintain physical competence and health for long years. The reason for increased interest in exercise in developed countries can be explained by the need for a biological balance (Günay et al., 2008). Regular exercise is of utmost importance for physical, mental and emotional health (Selim, 2007).

Various studies demonstrate participation in regular physical activities among teens and adults has diminished recently (Plotnikoff et al., 2013). The negative impacts of a sedentary lifestyle on health play a key role in assessment of this situation as a social problem. It is important to develop effective approaches intended to increase physical activity especially among teens and to understand the motivation, attitude and behaviors of these individuals towards participation in regular exercise (Mirzeoğlu & Çoknaz, 2014).

There are various studies into the psychological, environmental, behavioral and social factors to have an impact

on participation in physical activities, based on different theoretical foundations with regard to participation in physical activity (Schembre et al., 2015). Based on this, the purpose of this study is to measure the Cognitive Behavioral Physical Activity levels of students aged 17-18 enrolled at different schools.

2. Method

2.1 Study Model

The study used the screening model. The screening model is an approach to research which aims for describing a condition which occurred in the past or occurs in the present as it is (Büyüköztürk, 2012).

2.2 Study Group

The study population is comprised of the 17-18 age group and the study sample was comprised of 159 students in total n:76 (47.8%) enrolled at 15 Temmuz Şehitler Sports High School and n:83 (52.2%) enrolled at Cumhuriyet Anatolian High School in the province of Niğde. The rate of those with a major in athletics is 13.2% (n:10), football is 13.2% (n:10), volleyball is 23.7% (n:18), basketball is 13.1% (n:10) and others is 36.8% (n:28) among the participants enrolled at the sports high school. The rate of those in the math department is 66.3% (n:55) and in the equal weight department is 33.7% (n:28) among the participants enrolled at the Anatolian high school.

Table 1. Distribution of data according to school status

		n	%
School	Sports High School	76	47.8
	Anatolian High School	83	52.2

Table 2. Distribution of participants by age and gender

		n	%
Age	17	63	39.6
	18	96	60.4
Gender	Female	69	43.4
	Male	90	56.6

2.3 Data Collection Tool

The Cognitive Behavioral Physical Activity Questionnaire developed by Schembre et al. (2015) and validated and verified by Eskiler et al. (2016) was used as the data collection tool. The Cronbach's Alpha for the measurement tool was 0.84.

2.4 Data Analysis

The data was analyzed with the SPSS 22 program and the reliability level was 95%. According to the conducted Kolmogrow Smirnov analysis, the Cognitive Behavioral Physical Activity scores of the participants demonstrated normal distribution ($p>0.05$), whereas the Result Expectation, Self-Regulation and Personal Obstacles subdimension scores did not demonstrate normal distribution ($p<0.05$). The difference according to demographic variables among Result Expectation, Self-Regulation and Personal Obstacles subdimension scores was analyzed with non-parametric test methods Mann Whitney U and Kruskal Wallis. The difference according to demographic variables between Cognitive Behavioral Physical Activity Questionnaire scores was analyzed with parametric test methods, t and ANOVA tests.

3. Result

Table 3. Examination of result expectation, self-regulation, and personal obstacles subdimension points in terms of the branches of the participants in sports list (Kruskal Wallis)

Branch		n	Mean Rank	X ²	p
Result Expectation	Athletic	10	43.30	3.566	.468
	Football	10	48.50		
	Volleyball	18	34.08		
	Basketball	10	35.43		
	Others	31	36.98		

Self Regulation	Athletic	10	42.40	8.316	.081
	Football	10	55.90		
	Volleyball	18	36.03		
	Basketball	10	33.93		
	Others	31	34.10		
Personal Obstacles	Athletic	10	48.35	7.752	.101
	Football	10	32.30		
	Volleyball	18	45.61		
	Basketball	10	24.71		
	Others	31	36.31		

Table 4. Examination of cognitive behavioral physical activity in terms of branches of the participants who read on the sports level

BRANŞ		n	Ortalama	ss	F	p
Cognitive Behavioral Physical Activity Questionnaire	Athletic	10	4.20	3.23	1.110	.359
	Football	10	5.56	3.56		
	Volleyball	18	3.33	2.51		
	Basketball	10	4.06	3.14		
	Others	31	3.88	2.28		

Considering result expectation, examination of result expectation, self-regulation, and personal obstacles sub-dimension points in terms of the branches of the participants in sports (ANOVA) , there is no significant difference between the participants.

Table 5. Descriptive Statistics of the Cognitive Behavioral Physical Activity Questionnaire and Subdimension Scores

	n	Minimum	Maximum	Mean	ss
Result Expectation	159	1.00	5.00	3.61	1.27
Self Regulation	159	1.00	5.00	3.14	0.96
Personal Obstacles	159	1.00	5.00	2.79	0.89
Cognitive Behavioral Physical Activity Questionnaire	159	-1.40	9.00	3.96	2.26

Table 6. Analysis of Result Expectation, Self-Regulation and Personal Obstacles Subdimension Scores by School

	School	n	Mean Rank	U	P
Result Expectation	Sports High School	76	76.01	2851.000	.293
	Anatolian High School	83	83.65		
Self Regulation	Sports High School	76	83.97	2852.500	.297
	Anatolian High School	83	76.37		
Personal Obstacles	Sports High School	76	71.42	2502.000	.024
	Anatolian High School	83	87.86		

When the result expectation, self-regulation and personal obstacles subdimension scores are examined according to the school, there is no statistically significant difference between the participants enrolled at the Sports High School and the Anatolian High School in terms of Result Expectation, Self-Regulation ($p > 0.05$). There is a significant difference between the participants enrolled at the Sports High School and the Anatolian High School in terms of the subdimension of Personal Obstacles ($p < 0.05$). While the mean rank of the participants studying at the sports high school is 71.42, the mean rank of the participants studying at the Anatolian High School is 87.86. Accordingly, the participants studying at the Anatolian High School have higher Personal Obstacles scores.

Table 7. Analysis of cognitive behavioral physical activity by school

	School	n	Mean	ss	t	P
Cognitive Behavioral Physical Activity Questionnaire	Sports High School	76	4.03	2.74	.354	.724
	Anatolian High School	83	3.90	1.73		

Considering cognitive behavioral physical activity by school (Independent Groups t test), there is no significant difference between the participants enrolled at the Sports High School and the Anatolian High School in terms of cognitive behavioral physical activity ($p > 0.05$).

Table 8. Analysis of result expectation, self-regulation and personal obstacles subdimension scores by gender

	Gender	n	Mean Rank	U	P
Result Expectation	Female	69	72.50	2587.500	.071
	Male	90	85.75		
Self Regulation	Female	69	73.41	2650.500	.113
	Male	90	85.05		
Personal Obstacles	Female	69	89.07	2479.500	.029
	Male	90	73.05		

When the result expectation, self-regulation and personal obstacles subdimension scores are examined according to the gender, there is no statistically significant difference between the female and male participants in terms of Result Expectation, Self-Regulation ($p > 0.05$).

There is statistically significant difference between the female and male participants in terms of Personal Obstacles ($p < 0.05$). Females have 89.07 mean rank, whereas males have 73.05 mean rank. Accordingly, females have higher Personal Obstacles scores.

Table 9. Analysis of cognitive behavioral physical activity by gender

	Gender	n	Mean	ss	t	P
Cognitive Behavioral Physical Activity Questionnaire	Female	69	3.54	1.83	-2.165	.032
	Male	90	4.28	2.51		

$p < 0.05$ =significant difference; $p > 0.05$ =no difference.

When cognitive behavioral physical activity is examined according to gender (Independent Groups t test), there is significant difference between the female and male participants in terms of cognitive behavioral physical activity ($p < 0.05$). Females have 3.54 mean score, whereas males have 4.28 mean score. Accordingly, males have higher Cognitive Behavioral Physical Activity scores.

4. Discussion

There is no significant difference between result expectation, self-regulation and personal obstacles subdimension scores of the participants aged 17 and 18. There is no significant difference between the participants aged 17 and 18 considering cognitive behavioral physical activity by school. Those who engage in physical activities regularly are very rare in the study of Yorulmaz et al. (2002). It has been determined the state of being physically active becomes infrequent with age. Adolescents in primary school are more active compared to those in elementary school. Men engage in physical activities more than women. Öztora (2005) determined only 15.7% of adolescents worked out for 4 hours and more per week. Şahin et al. (2017) determined the students at İstanbul University Faculty of Sport Sciences had high physical activity levels and major, gender, sport history and smoking and drinking did not affect the physical activity level. Özkan (2018) studied the physical activity levels of teachers and candidates and found the intensive physical activity times and total physical activity times of male candidates were high and the walking and medium level physical activity times of female candidates were high. According to the results of Baydemir et al. (2018) physical activity, self physical description and self esteem levels in children aged 11-13 varied by gender and socioeconomic levels.

There is no significant difference between result expectation, self-regulation and personal obstacles subdimension scores of the female and male participants in terms of gender ($p > 0.05$). There is significant

difference between the female and male participants in terms of Personal Obstacles ($p < 0.05$). Females have 89.07 and males have 73.05 mean rank. Accordingly, females have higher Personal Obstacles. Considering cognitive behavioral physical activity by gender, there is significant difference between the female and male participants in terms of cognitive behavioral physical activity ($p < 0.05$). Females have 3.54 and males have 4.28 mean score. Accordingly, males have higher Cognitive Behavioral Physical Activity. Fat and overweight are more common in men than women in the study of Aksoyadan and Çakır (2011). There is a significant correlation between gender and the body mass index groups. 79% of adolescents are physically inactive and 6.6% are active. There is a significant correlation between the physical activity level and the body mass index groups. Kohn and Booth (2003) reported sitting still for a long time in front of the television or computer increased the risk of being overweight and chronic diseases.

Considering result expectation, self-regulation and personal obstacles subdimension scores by the majors of the participants enrolled at the sports high school, there is no significant difference between the participants with a different major enrolled at the sports high school ($p > 0.05$). Considering cognitive behavioral physical activity by the majors of the participants enrolled at the sports high school, there is no significant difference between the participants with a different major enrolled at the sports high school ($p > 0.05$). Considering result expectation, self-regulation and personal obstacles subdimension scores by the majors of the participants enrolled at the Anatolian high school, there is no significant difference between the participants with a major in math and equal weight ($p > 0.05$). Considering cognitive behavioral physical activity by the majors of the participants enrolled at the Anatolian high school, there is no significant difference between the participants with a major in math and equal weight enrolled at the Anatolian high school ($p > 0.05$). Savcı et al. (2006) questioned physical activity levels in university students. They found higher total, medium and intensive physical activity and walking scores in men than women. The validity and reliability study of Öztürk (2005) on 1097 university students in total, 721 women and 376 men, found higher total, medium and intensive physical activity and walking scores in men than women. Koçak et al. (2010) determined in their study on the elderly living in Ankara that women had low and men had medium physical activity level although they did not find a significant difference between UFAA total scores. Genç et al. (2011) found significant difference in the walking time between women and men. According to the results of the study of İri et al. (2016), parameters of physical activity level were higher in male students than female students.

According to the results of these studies it is seen that the physical activity level is not in the desired level. it was determined that women participated in less physical activity than men. Based on the length of time children and teens spend on computer, mainstreaming programs and advertisements on physical activity on these media tools is considered among the measures to support a healthy lifestyle.

References

- Aksoydan, E., & Çakır, N. (2011). Adölesanların beslenme alışkanlıkları, fiziksel aktivite düzeyleri ve vücut kitle indekslerinin değerlendirilmesi. *Gülhane Tıp Derg.*, 53, 264-270.
- Baydemir, B., Yurdakul, H. Ö., & Özer, K. (2018). İlköğretim II. kademe çocuklarda fiziksel aktivite düzeyi, kendini fiziksel tanımlama ve benlik saygısı. *Journal of Human Sciences*, 15(2), 1049-1057. <https://doi.org/10.14687/jhs.v15i2.4770>
- Büyüköztürk, Ş. (2012). *Sosyal bilimler için veri analizi el kitabı*. Ankara: Pegem A Yayıncılık.
- Eskiler, E., Küçükbiş, F., Gülle, M., & Soyer, F. (2016). Bilişsel davranışçı fiziksel aktivite ölçeği: Geçerlik ve güvenilirlik çalışması. *Journal of Human Sciences*, 13(2), 2577- 2587. <https://doi.org/10.14687/jhs.v13i2.3806>
- Garibağaoğlu, M., Budak, N., Öner, N., Sağlam, Ö., & Nişli, K. (2006). Üç farklı üniversitede eğitim gören kız öğrencilerin beslenme durumları ve vücut ağırlıklarının değerlendirilmesi. *Sağlıklı Bilimleri Dergisi*, 15, 173-180.
- Genç, A., Şener, Ü., Karabacak, H., & Üçok, K. (2011). Kadın ve erkek genç erişkinler arasında fiziksel aktivite ve yaşam kalitesi farklılıklarının araştırılması. *The Medical Journal of Kocatepe*, 12, 145-150.
- Günay, M., Şıktar, E., Şıktar, E., & Yazıcı, M. (2008). *Egzersiz ve kalp*. Ankara: Gazi Kitabevi.
- İri, R., İbiş, S., Aktuğ, Z. B. (2016). The Investigation of the relation between physical activity and academic success. *Journal of Education and Learning*, 6(1), 122-129. <https://doi.org/10.5539/jel.v6n1p122>
- Koçak, F. Ü., & Özkan, F. (2010). Yaşlılarda fiziksel aktivite düzeyi ve yaşam kalitesi. *Türkiye Klinikleri J Sports Sci*, 2, 46.

- Kohn, M., & Booth, M. (2003). The worldwide epidemic of obesity in adolescents. *Adolesc Med, 14*, 1-9.
- Mirzeoğlu, A. D., & Çoknaz, D. (2014). Fiziksel etkinlikten hoşlanma ölçeği-kısa formunun Türk çocuk ve gençleri için geçerlik ve güvenilirlik çalışması. *International Journal of Human Sciences, 11*(1), 672-687. <https://doi.org/10.14687/ijhs.v11i1.2794>
- Özkan, A. (2018). Sınıf öğretmenlerinin ve adaylarının enerji ve besin ögesi alımları (beslenme alışkanlıkları) ile sağlıklı yaşam biçimi davranışlarının ve fiziksel aktivite düzeylerinin belirlenmesi. Yüksek Lisans Tezi. Bartın Üniversitesi Eğitim Bilimleri Enstitüsü, Bartın.
- Öztora, S. (2005). İlköğretim çağındaki çocuklarda obezite prevalansının belirlenmesi ve risk faktörlerinin araştırılması. Yayınlanmamış Uzmanlık Tezi. Dr. Sami Hatipoğlu Çocuk Sağlığı ve Hastalıkları Kliniği, İstanbul.
- Öztürk, M. (2005). Üniversitede eğitim-öğretim gören öğrencilerde uluslararası fiziksel aktivite anketinin geçerliliği ve güvenilirliği ve fiziksel aktivite düzeylerinin belirlenmesi. Yüksek Lisans Tezi. Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.
- Plotnikoff, R. C., Costigan, S. A., Karunamuni, N., & Lubans, D. R. (2013). Social cognitive theories used to explain physical activity behavior in adolescents: a systematic review and metaanalysis. *Prev Med., 56*, 245-253. <https://doi.org/10.1016/j.ypmed.2013.01.013>
- Şahin, M., Kırandı, Ö., Atabaş, G., & Bayraktar, B. (2017). Spor Bilimleri Fakültesi öğrencilerinin fiziksel aktivite düzeyleri (İstanbul Üniversitesi örneği). *Spor Eğitim Dergisi, 1*(1), 26-33.
- Savcı, S., Öztürk, M., Arıkan, H. (2006). Üniversite öğrencilerinin fiziksel aktivite düzeyleri. *Türk Kardiyol Dern Arş., 34*, 166-172.
- Schembre, S. M., Durand, C. P., Blissmer, B. J., & Greene, G. W. (2015). Development and validation of the cognitive behavioral physical activity questionnaire. *American Journal of Health Promotion, 30*(1), 58-65. <https://doi.org/10.4278/ajhp.131021-QUAN-539>
- Selim, İ. (2007). Acemi askerlerde üç aylık eğitim dönemindeki beslenme ve askeri eğitimin kan lipid değerleri üzerine etkisi. Yüksek Lisans Tezi. Selçuk Üniversitesi, Konya.
- Yorulmaz, F., Aktürk, Z., Dağdeviren, N., & Dalkılıç, A. (2002). Smoking among adolescents: relation to school success, socioeconomic status, nutrition, and self-esteem. *Swiss Med Wkly, 132*, 449-454.

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