

INVESTIGATION THE PHYSICAL ACTIVITY LEVEL OF PHYSICAL EDUCATION STUDENTS

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ABSTRACT

The aim of this study was to investigate the physical activity level of the Physical Education and Sport Teacher Departments' Students. Totally 149 student who were study in Çanakkale Onsekiz Mart University Physical Education and Sport Teacher Department, joined to study voluntary. International Physical Activity Questionary (IPAQ) short form used to collect data. One Way Anova, T-Test and Pearson Correlation models used in SPSS 11,5 statistical program. Analysis showed that; participants' physical activity levels (PAL) of classes 1,2,3 and 4 were: $7341,9 \pm 3068,7$ MET-min/wk, $5817,1 \pm 3039,2$ MET min/wk, $5686,1 \pm 3605,3$ MET min/wk, $2780,1 \pm 1854,7$ MET-min/wk respectively. ANOVA showed that class 4 had significantly lower PAL than the other classes. T-test showed that females had significantly lower PAL than males. PAL had significant but negative correlation with class and body mass index. As a conclusion; there was significant differences between classes according to the PAL. It is possible to say that; students' PAL should examine regularly and make arrangements on curriculum to help them stay physically active may prevent such differences between classes.

Keywords: Sport, Physical activity, Physical education.

INTRODUCTION

Along with the ever-evolving technology as well as the increasing sedentary lifestyle. Because of the technological machines, people found more free time, but the quality of physical activity was decreased. This term describes the state of inactivity. The activity level of inactivity is defined as less than 150 minutes per week. The minimum activity level that might be useful to health every day for at least 30 minutes of moderate intensity activity or activity has been reported that severe (U.S. Department of Health and Human Services 1996). Lack of physical activity increases the risk of heart disease, obesity, type 2 diabetes, colon cancer, reported that the relationship between depression and illness such as breast cancer (Bull et al. 2004). The frequency of physical activity should be increased to avoid inactivity. Physical activity defined as body movement which increases energy expenditure above the basal level and produced by skeletal muscle work (Jassen et al 2006, American College of Sports Medicine 2001, Pate et al 1995). Type of physical activity, including violence and its purpose can be classified in many ways (Baranowski et al. 1992). Activity takes place in a person's or group's physical activity often are classified according to the environment. Common categories, business, home activities and home environment, people care, leisure, sports or include transportation (Vanhees et al. 2005). Leisure activity, racing sports, recreational activities (cycling, mountain climbing, etc.). And also can be divided into sub-categories, such as exercise training (Burton and Turrell 2000).

It is possible to say that persons who lead a lifelong active lifestyle become more advantageous situation than the sedentary according to meeting health problems. Especially people who work in physically active job, may reach a more advantageous. Profession of Physical Education Teacher may more preferable in terms of working in physically active job than other professions. In addition, high levels of physical activity of individuals is expected to be in this profession. Preparation for the profession is a very intensive and physically active period in Turkey, but the physical activity level of students decreased over time was observed. It may be cause of the number of applied courses is more than theoretical in the curriculum. From this situation the purpose of this study was to investigate the physical activity level of physical education students and to compare the physical activity level of students according to classes.

METHOD

Subjects

Totally 149 (77 male, 72 female) students ($21,3 \pm 1,9$ years mean age) who study in Çanakkale Onsekiz Mart University Department of Physical Education and Sport Teacher (PEST) participated in to the study voluntary. Although the target population was 200, 16 participants' survey were erroneous,

30 participants out of 200 weredidn't exist at the schooland 5 out of 200 weredidn't want tojoin the study, therefore, studywas completedby149participants. Studentsfilled outthe questionnairesat the breaks.

Procedure

Demographic survey sheet which was prepared by researcher, include questions such as gender, class, age, body height, body weight, used to find demographic variables. International Physical Activity Questionnaire Short Form (IPAQ-S) which was performed in different countries by Craig et al (2003) used to evaluate physical activity. IPAQ-S Turkish validity and reliability was made by Öztürk (2005). The IPAQ-S asks participants to report activities performed for at least 10 minutes during the last 7 days. Respondents are asked to report time spent in physical activity performed across leisure time, work, domestic activities, and transport at each of 3 intensities: walking, moderate, and vigorous. Examples of activities that represent each intensity are provided; for example, participants are asked about vigorous activities such as "heavy lifting, digging, aerobics, or fast bicycling." Using the instrument's scoring protocol,(IPAQ research committee 2005) total weekly physical activity was estimated by weighting time spent in each activity intensity with its estimated metabolic equivalent (MET) energy expenditure.(Craig et al 2003, *IPAQ research committee 2005*). The IPAQ scoring protocol assigns the following MET values to walking, moderate, and vigorous intensity activity: 3.3 METs, 4.0 METs, and 8.0 METs, respectively. Calculations and classifications were made according todirectivesin the IPAQ research committee (2005)

Data Analysis

SPSS11.5statisticalanalysisprogram used to analyze data. One Way ANOVA used to compare differences between classes. T-test for independent samples used to compare differences between genders. Pearson correlation used to analyze relation between variables. Findings accepted at $p < 0,05$ level.

RESULTS

Table 1. Comparison the descriptive variables of participants (ANOVA)

Variables	Class	N	X± Sd	F-value	P-value
Age (year)	1	40	18,8±0,7	222,271	0,001
	2	34	20,7±0,7		
	3	35	22,4±0,7		
	4	40	23,3±1		
	Total	149	21,3±1,9		
Body weight (Kg)	1	40	62,7±8,9	4,672	0,004
	2	34	65,2±8,3		
	3	35	69,3±8,3		
	4	40	68,3±8,3		
	Total	149	66,3±8,8		
Body height (cm)	1	40	170,8±7,1	0,361	0,782
	2	34	169,6±7,3		
	3	35	168,9±8,8		
	4	40	169,5±8,1		
	Total	149	169,7±7,8		
Body Mass Index(BMI) (kg/m ²)	1	40	21,4±2,1*	17,647	0,001
	2	34	22,6±1,9**		
	3	35	24,2±1,5		
	4	40	23,7±1,7		
	Total	149	22,9±2,1		
Total Physical Activity Score (FAP) (MET-dk/hf)	1	40	7341,9±3068,7***	16,811	0,001
	2	34	5817,1±3039,2		
	3	35	5686,1±3605,3		
	4	40	2780,1±1854,7****		
	Total	149	5380,3±3371,5		

*: Significant difference on favor of class1when compared with class 3 and4

**: Significant difference on favor of class 2. when compared with class 3

***: Significant difference on favor of class 1. when compared with the other classes

****: Significant difference against class 4. When compared with the other classes.

Comparison thedescriptivecharacteristicsandphysicalactivityscores (mean±standart deviation) of participants according to classeswere shownin Table 1. Descriptive findings showed that, totally 149 participants joined in to the study and their total average scores of BMI and PAL were $22,9 \pm 2,1$ kg/m²and $5380,3 \pm 3371,5$ MET-dk/hf respectively. Also average BMI scores of classes 1,2,3 and 4 were; $21,4 \pm 2,1$ kg/m², $22,6 \pm 1,9$ kg/m², $24,2 \pm 1,5$ kg/m², $23,7 \pm 1,7$ kg/m² respectively. Beside average PAL of classes 1,2,3 and 4 were $7341,9 \pm 3068,7$ MET-min/week, $5817,1 \pm 3039,2$ MET-min/week, $5686,1 \pm 3605,3$ MET-min/week, $2780,1 \pm 1854,7$ MET-min/week respectively. Average BMI scores of classes pointed that participants were normal in BMI classification (World Health Organisation 1995). In addition, PAL scores of classes showed that; class 1 was high, class 2, 3 and 4 were moderate in IPAQ classification (IPAQ research committee 2005).

ANOVA analysis proved that; there was statistically significant differences between classes according to BMI and PAL scores ($p > 0,05$). Class 1 had statistically significantlowerBMIscores than the class 3 and 4. Besides class 2 had statistically significantlowerBMIscores than the class 3. Analysis also showed that class 4 had statistically significanthigherPALscoresthan the other classes ($p > 0,05$).

Table 2.Correlation between PAL, BMI and CLASS

Variables		PAL	CLASS	BMI
PAL	r ²	1	-,479**	-,263**
	p	.	,000	,001
	N	149	149	149
CLASS	r ²	-,479**	1	,458**
	p	,000	.	,000
	N	149	149	149
BMI	r ²	-,263**	,458**	1
	p	,001	,000	.
	N	149	149	149

** Correlation is significant at $p = 0.01$ level

Correlation between PAL, CLASS and BMI was shown in Table 2. Pearson Correlation analysis proved that there was statistically significant correlation between variables. PAL had statistically negative correlation with CLASS and BMI found. This mean, while increasing PAL scores, CLASS and BMI scoreswere decreased. In addition there was statistically positive correlation between CLASS and BMI scores found. This mean while CLASS increasing, BMI scores were increased too.

Table 3. Comparison the BMI and PAL scores according to gender

	GENDER	N	X± Sd	t-value	p-value
BMI	Male	77	$23,3 \pm 1,6$	2,352	0,020
	Female	72	$22,5 \pm 2,4$		
PAL	Male	77	$6475,6 \pm 3427,3$	4,341	0,001
	Female	72	$4209,1 \pm 2903,1$		

T-test anlaysis results of comparison the BMI and PAL scores according to gender were shown in Table 3. Analysis proved that, there was statistically significant differences according to BMI and PAL scores between gender. Femaleshad statistically lower BMI scores than the males. Whereas other findings of analysis was that males had statistically higher PAL scores than the females.

DISCUSSION

The aim of this study was to investigate the Physical Activity Level of the Students who are study in the Department of the Physical Education and Sport Teacher. and to compare the PAL according to classes. At the end of the study it is found that there was statistically significant differences between classes according to PAL. According to total average PAL score it is found that PEST students were high in PAL classification ($5380,3 \pm 3371,5$ MET-dk/hf). However it is found that classes 1, 2 and 3 were high ($7341,9 \pm 3068,7$ MET-min/wk, $5817,1 \pm 3039,2$ MET-min/wk, $5686,1 \pm 3605,3$ MET-min/wk respectively), but class 4 was moderate ($2780,1 \pm 1854,7$ MET-min/wk) according to PAL classification. There wasn't any research in the literature which was compare the physical activity levels of PEST students according to classes. After the new research's findings, recent findings can discuss. On the other hand past studies investigated differences the PAL between PEST students and other students. They found that PEST students were physically more active than the other students (Tekkanat 2008, Tucel 2009). Although it was an expected result, more studies included comparisons between the classes is needed.

Recent study found that PAL scores of males were statistically higher than the females. Similar findings detected in the literature. Özdöl (2010) found that male PEST students had higher PAL scores than the female PEST students but there wasn't any statistically significant difference between gender. However Savcı (2006) found that males had statistically higher PAL scores than the females who were study in the Department of Health. In addition Cengiz et al. (2007) found that male students were statistically more physically active than female students. Beside Bloemhoff (2010) reported that male university students are highly significantly more physically active than female students. These findings support the recent findings but there is more findings about PEST student needed.

Another findings of this study was about the students' BMI scores. Analysis showed that according to average BMI scores ($22,9 \pm 2,1$ kg/m²), PEST students were normal in BMI classification (World Health Organisation 1995). Similar findings reported by Özdöl (2010) that PEST students were normal in BMI classification. These result may cause of PEST students had physically active educational program. On the other side Savcı (2006) found that total BMI scores of students who were study in different departments were higher than 25 kg/m². This finding may be prove that PEST students had more physically active curriculum. Total BMI scores when compared with gender, recent study showed that females had statistically lower BMI scores than the males. Similar findings reported by Savcı (2006) and Aslan (2007). These findings support the recent findings.

Recent study proved that there was statistically negative correlation with BMI and PAL (Table 2). It is possible to say that while increasing BMI scores, PAL scores were decreased or opposite. Similar results found by Hallal et al (2003), Andersen et al. (1998), Kimm et al. (2005). This findings may cause of the curriculum. But there was opposite findings in literature that there wasn't any correlation between BMI and PAL noticed by Aslan et al. (2007) and Raustorp et al. (2004). Beside recent study found that there was statistically positive correlation between CLASS and BMI. On this basis it is possible to say that while passing classes students became less physically active. This study was the first who compared such variables in literature. So that similar studies are needed to discuss the findings.

CONCLUSION

Study showed that by passing the classes students became more inactive. To finding the reason of this situation, new studies should perform. Nevertheless to keep PAL of students from the first class till the graduate, curriculum may revised or students encourage to do exercise regularly.

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