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# The Determination of Physical Activity Levels of Trainers in Kastamonu, Turkey

**Mehmet Günay**

Gazi University, School of Physical Education and Sports, Ankara, Turkey

**Pelin Aksen Cengizhan**

Kırıkkale University, School of Physical Education and Sports, Kırıkkale, Turkey

**Mehmet Özsari**

National Sport Academy, Sofia, Bulgaria

## ABSTRACT

*This study was carried out with the aim of determining the PA levels of the trainers working in Kastamonu in terms of gender and marital status variables. This study was applied to trainers from 15 different branches in the competitions organized by Kastamonu Directorate of Youth and Sports and Kastamonu Directorate of National Education. A total of 51 trainers participated in the study voluntarily; 19 of them were female; their mean age was  $26.53 \pm 9.08$  years, their mean height was  $167.37 \pm 5.37$  m and their mean weight was  $60.37 \pm 7.30$  kg. 32 of the trainers were male; their mean age was  $35.41 \pm 8.10$ , their mean height was  $179.69 \pm 6.25$  m and their mean weight was  $83.94 \pm 12.11$  kg. Since the PA levels of the trainers working in the city center of Kastamonu were studied, the number of subjects was 51. In this study, in order to determine the physical activity level of the trainers, Physical Activity Evaluation Survey (PAAQ) has been used. SPSS 15.0 was used to analyze the data in the dual comparisons, the nonparametric Mann-Whitney U Test has been applied. According to gender, there was no significant difference in met/week values of all indexes ( $p > 0.05$ ); also according to marital status, there was significant difference in met/week value of work index ( $p < 0.05$ ,  $U = 183,500$ ). As a result, according to gender, while it was found that PA levels of male trainers were higher in work ( $p > 0.05$ ,  $U = 230,500$ ) and sport indexes ( $p > 0.05$ ,  $U = 282,000$ ), PA levels of female trainers were found higher in home index. On the other hand, it was also determined that according to marital status, PA levels of single trainers were higher than married trainers in work index.*

**Key words:** Physical Activity, trainer, Physical Activity Assessment Questionnaire (PAAQ).

## Introduction

Human body constantly needs to move due to its innate nature. However, through the facilities and the opportunities provided by civilization, people are becoming less mobile each passing day (Zorba and Saygin, 2009). As a result, health problems related to less movement have begun to appear and immobility has become a factor which threatens people and puts life under risk (Zorba and Saygin, 2009). With these changes, people's physical activity levels are also constantly decreasing. Today, physical activity deficiency is commonly seen in adult and old population. There are many psychological, behavioral and physiological reasons as to why people do not perform physical activity or perform limitedly (Bulut, 2013).

Physical activity (PA), which has been produced as a result of flexing skeletal muscles, is corporal movements requiring energy consumption over basal level (Özer, 2006). PA involves activities which is a part of daily life. Regular PA has positive effect on the function of quite a few systems (F. Soyuer, and Soyuer, 2008). It is a well known fact that regular physical activity reduces the risk of developing cardiovascular diseases; helps control blood pressure in cases of hypertension; preserves ideal body weight; reduces the frequency of depression and stress and helps the formation of healthy bone and muscle ligament structure (Arikan, Metintaş, and Kalyoncu, 2008). Various sports, Cronbach alpha value was 0,926 by Karaca, Ergen,

and Koruç (2000) dance, exercise, game and daily activities, which involve all or a part of basic body movements, such as walking, running, jumping, cycling, arm-leg and head-neck movements are accepted as physical activity (Baltacı, Irmak, Kesici, Çelikcan, and Çakir, 2008).

PA of a person or a group is classified according to how it is performed. Common classifications are as follows: occupational activities, housework, spare time activities and transportation. Spare time activities might be sub-classified as recreational activities (walking, cycling) and exercise training (Özer, 2006).

It is an important problem that physical activity is not performed regularly and insufficiently in many countries. Therefore, increasing active life-style constitutes an important component of national and international public health suggestions (Savci, Öztürk, Arikan, Inal, and Tokgözoğlu, 2006). According to Driskell, Kim, and Goebel (2005), with reference to the guidebook of The American College of Sports Medicine (ACSM) and American Overseas Dietetic Association (AODA), it is necessary for adults to perform sub-maximal activity, which is a minimum of 30 minutes every day or several days a week.

Although people have more spare time now, they still do not allocate sufficient time for physical activity (Heyward, 2006). An immobile life-style and gaining weight are a common problem observed among trainers, as a result of terminating their active sports life. This condition brings along health

problems as well. Regular physical activity has a significant role in increasing the self-esteem, work productivity and performance of the trainer. In addition, psychological benefits of physical activity, such as positive thinking and dealing with stress, have the effect of coping with psychological stress the trainers are subject to, due to the expectation of winning and being successful.

This study was performed with the aim of determining the PA levels of the trainers working in Kastamonu with regards to gender and marital status variables.

## Methods

This study was applied to the trainers from 15 different branches in the competitions organized by Kastamonu Directorate of Youth and Sports and Kastamonu Directorate of National Education. A total of 51 trainers participated in the study voluntarily. 19 of them were female; their mean age was  $26.53 \pm 9.08$  years, their mean height was  $167.37 \pm 5.37$  m and their mean weight was  $60.37 \pm 7.30$  kg. 32 of them were male; their mean age was  $35.41 \pm 8.10$ , their mean height was  $179.69 \pm 6.25$  m and their mean weight was  $83.94 \pm 12.11$  kg. Since PA levels of the trainers working in the city center of Kastamonu were studied, the number of subjects was 51. Physical Activity Assessment Questionnaire (PAAQ) on the validity and reliability of the study was performed (Karaca et al., 2000) and was used in order to determine PA levels of the trainers. For each activity, MET value provided by Ainsworth et al. (2000) as Metabolic Equivalent (MET) was used. According to this, all activities are assigned an intensity level based on the rate of

energy expenditure expressed as METs.

Physical Activity Assessment Questionnaire (PAAQ) is composed of a total of 6 parts as descriptive information (age, height, weight etc.): activities related with work, activities related with transportation, stair climbing, activities related with housework and activities related with sports. Using this questionnaire, individuals' MET/week (kcal/kg/week), kcal/week, MET/hour values can be calculated. In calculating these data, (frequency x time x intensity) is used. Frequency refers to how many times the activity is done per week; time refers to how much time it takes to do the activity (hour or minute); intensity refers to the MET value spent for the activity in 1 hour. The formula below is used in order to calculate MET/week values.

MET/week (kcal/kg/week) = the frequency of activity x the time of activity x the intensity of the activity (Karaca et al., 2000).

MET Value: MET (Metabolic Equivalent) is predetermined for each activity and is referred to as kcal/kg (Ainsworth et al., 1993).

For the analysis given place to in the study, the SPSS 15.0 package program has been used and has been interpreted in 0.05 meaning level. In the dual comparisons, the nonparametric Mann-Whitney U Test has been applied.

## Results

According to gender, there was no significant difference in MET/week values of all indexes ( $p > 0.05$ ); however, according to marital status, there was significant difference in MET/week value of work index ( $p < 0.05$ ,  $U = 183,500$ ).

**Table 1.** The Comparison of Met/Week Values According to the Gender and Marital Status Variables

Variables	Indexes	N	Mean Rank	Sum of Ranks	U	p	
GENDER	Work	Female	19	22.13	420.50	230.500	0.152
	Index	Male	32	28.30	905.50		
	Transportation	Female	19	29.08	552.50	245.500	0.254
	Index	Male	32	24.17	773.50		
	Home	Female	19	30.82	585.50	212.500	0.075
	Index	Male	32	23.14	740.50		
	Hobby	Female	19	24.50	465.50	275.500	0.490
	Index	Male	32	26.89	860.50		
	Stair Climbing	Female	19	24.13	458.50	268.500	0.484
	Index	Male	32	27.11	867.50		
	Sport	Female	19	24.84	472.00	282.000	0.668
	Index	Male	32	26.69	854.00		
Total	Female	19	27.37	520.00	278.000	0.612	
Index	Male	32	25.19	806.00			
MARITAL STATUS	Work	Single	24	31.85	764.50	183.500	0.008
	Index	Married	27	20.80	561.50		
	Transportation	Single	24	24.63	591.00	291.000	0.533
	Index	Married	27	27.22	735.00		
	Home	Single	24	23.83	572.00	272.000	0.326
	Index	Married	27	27.93	754.00		
	Hobby	Single	24	25.50	612.00	312.000	0.779
	Index	Married	27	26.44	714.00		
	Stair Climbing	Single	24	29.02	696.50	251.500	0.166
	Index	Married	27	23.31	629.50		
	Sport	Single	24	21.79	523.00	223.000	0.057
	Index	Married	27	29.74	803.00		
Total	Single	24	25.38	609.00	309.000	0.777	
Index	Married	27	26.56	717.00			

Legend: U - Mann-Whitney U Test

In terms of gender, PA levels of male trainers were found to be higher in work index ( $p>0.05$ ,  $U=230,500$ ) and sport index ( $p>0.05$ ,  $U=282,000$ ), while PA levels of female trainers were found to be higher in home index. On the other hand, it was also determined that in terms of marital status, PA levels of single trainers were found to be higher than married trainers in work index.

## Discussion

In this study, which was carried out in order to determine physical activity levels of trainers serving in Kastamonu province in terms of their gender and marital status, there is no significant difference in the MET/week values of all the indexes of participating trainers' with reference to gender and marital status ( $p>0.05$ ). However, it was determined that in the case of home index, female trainers' physical activity levels are higher than males'. Thomas, Costa, Silva, and Hallal (2010) suggest as a result of their study that females are more active in housework. In addition, the study Bicalho et al. (2010) carried out in Brazil suggest that men are more active in their work and spare times, while women are more active in housework. Akandere et al. (2008) suggest in their study which they carried out on kick box trainers, that the time that is spend at work and at home differs according to gender and women spend less time at work. The reason behind this is considered to be primarily arising from the fact that women have to deal with house work (Arslan, Koz, Gür, and Mendes, 2003) or that women spend more time at home compared to men (Akandere, Arslan, and Taşkin, 2008).

In our research, we have found out that male trainers' physical activity levels are higher than women's in work and sports indexes in terms of the gender variable. Richardson, Ainsworth, Wu, Jacobs, and Leon (1995) carried out a study on men and women, whose ages range between 20 and 59 and found out that men's sports index averages are higher than women's. The results of our study are similar to those of Richardson et al.'s. (1995) Physical Activity Assessment Questionnaire (PAAQ) Reliability and Validity Study carried out by Karaca et al. (2000) indicates that that men are less active than women in terms of home index.

According to the marital status variable, a statistically significant difference was found in MET/week value in work index

( $p<0.05$ ). This study also shows parallelisms with the results of Burton and Turrell (2000) and Hallal's studies (Hallal, Victora, Wells, Lima, 2003). In the work index, it can be seen that single trainers have higher physical activity levels than married trainers. Nevertheless, Hull et al.(2010) in their study, where they examine the effect of marriage and having children on physical activity, stated that marriage does not have any effect on physical activity for young adults. Likewise, the difference on total index between married and single trainers determined in our study shows similarity with the study carried out by Hull et al. (2010).

## Conclusion

In conclusion, it can be seen that female trainers are more active in home index, while male trainers are more active in work index. Moreover, we have found out that PA levels of single trainers in work index are higher than those of married trainers. The time that women spend on sports activities are less than men's. Therefore, the awareness of male coaches in terms of encouraging their spouses to do sports activities and informing them about the benefits of physical activities should be raised. In addition, male coaches can hire help for their spouses for house work or help them themselves and thus allow female coaches to allocate time for physical activities. By reducing the usage of technological devices which facilitate life but steer people towards inactivity, people can be allowed to be physically more active. Married couples who are both coaches choosing sports activities which they can do together may help them to acquire the habit of doing sports regularly. Therefore, it is considered that acquiring the habit of regular physical activity and adopting exercises as a part of daily life will be quite efficient in protecting human health and reducing health risks to be faced in future life.

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*Pelin Aksen Cengizhan*

*Kırıkkale University, School of Physical Education and Sports, Kırıkkale, Turkey*

*e-mail: pelinaksen@hotmail.com*