ORIGINAL ARTICLE

Physical Activity Level in Teachers and Examination of Respect for Self

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ABSTRACT

The purpose of this research was to study the effect of teaching level of teachers and examination of physical activity and self-esteem of teachers. One hundred sixty-seven female and 197 male teachers totally 364 participated voluntarily in the study. International Physical Activity Questionnaire (IPAQ)-Short Form and Rosenberg's Self-Esteem Scale was administrated to the participants by self-report. Because the parametric assumptions is not satisfied, Mann-Whitney U test was used for comparison of physical activity levels and on self-respect scores according to gender factor, and Kruskal-Wallis H test was performed for branch and teaching level factors. When the results of Kruskal-Wallis H test were found significant, pair-wise comparisons was performed by means of Mann-Whitney U test. The Spearman's Rank Correlation Coefficient is used to discover the relations between physical activity level of teachers and on self-respect. It was observed in this study that a few teachers (n=5) were intermediate the scores of self-respects and that the others were high level of self-respect scores. When the physical activity level of teachers and self-respect scores were compared to gender, the physical activity level male teachers were significantly higher than female teachers (z score=3,035, p=0,002), while self-respect scores were similar to each other in gender (p>0,05). When the physical activity level of teachers and self-respect scores were compared to branch, while the physical activity level of the physical education teachers was significantly higher class and branch teachers (x^2 =8,476, p=0,037), a significant difference was not found between branches in terms of self-respect (x^2 =6,116, p=0,106). When the physical activity level of teachers and self-respect scores were compared to age, no significant differences were found in the physical activity level of teachers and self-respect scores, respectively (x^2=6,710, p=0,460; x^2=1,889, p=0,966). While no correlation was found between total, intermediate, and walking physical activity levels and self-respect of teachers, a significant correlation was found between physical activity levels and self-respect of teachers (r=0,207, p<0,05). In conclusion, the study revealed that male teachers had higher physical activity level. While the physical activity level of the physical education teachers was higher than the other teachers, self-respect was similar to each other in branches. It was determined that self-reported enhanced when the physical activity level increased.

Key Words: Personality; Sport; Health

INTRODUCTION

In today's world, too much inclusion of technology in our lives causes physical activity (PA) and performance loss both in our daily work and in job environments[1,2]. Caspersen 1997). To prevent time theft of technological developments in our work life, it was proposed the moderate-intensity physical activities (PA)s for adult individuals in the physical activity (PA) program developed in Canada in 1998.[3] Both it is aimed to increase the labor productivity and to spend less on health with these activities that performed to increase the performance of people.[4] One of the most important and essential elements of education is teachers. Teacher has important duties both in society and in school. Physical self-concepts of teachers affect their attitudes and behaviors related to the profession and these attitudes and behaviors affect student outcomes differently.[5]

Physical Activity: Most of our people think that physical activity is synonymous with exercise and sport. However, physical activity is defined as activities that produce energy consumption by using muscles and joints in our daily lives, that are applied at different intensities, and accordingly that causes increased heart and respiratory rate and results in fatigue. Exercise and physical activity have been interchangeable until very recently, but in recent years exercise has been defined as a subcategory of physical activity. Exercise is planned and repetitive physical activities that ensure the protection of body fitness.[6,7] In Turkey's physical activity guidelines, sports are activities performed by licensed amateur and professional athletes in order to defeat the opponent within the framework of certain rules. According to Aracı (2006),[8] sports is a competitive, cultural concept that develops the soul and physics which socializes the person, that is performed as a leisure or as an occupation on an individual basis or in group with or without instruments within the framework of certain rules.

Physical İnactivities: According to a report published by the World Health Organization in 2002, it is stated that sedentary life causes death of 1.9 million people per year. Physical inactivity is considered as a general health problem. It ranks fourth among the events leading to death in the world.[9]

This study is enough to explain how important factor is physical activity for human life. People should evaluate the time left from their working life with physical activities, not with technological tools.

Sedentary life is one of the important health problems of the modern era. Inactivity causes cardiovascular diseases, especially obesity, musculoskeletal disorders,

embolism, paralysis, body fat, cholesterol, orthopaedic disorders, diabetes and many other disorders.[10, 11]

Types of Physical Activity: In our daily life, our work performed by using our muscles and joints results in energy consumption. This activity performed increases breathing and heart rate more than normal and causes fatigue. These activities resulting in fatigue of people are considered as physical activity. Within this context, sports activities, exercises, games and different activities performed during the day are considered as physical activities.[12]

Diversification of physical activity may differ depending on the environment in which the activity occurs. The known types of physical activity are divided into categories such as work activities, home activities and activities performed around the home, racing sports, and activities requiring reaction (riding and climbing.[13]

Various activities, dances, games, exercises during the day using all or some of the basic body organs are also considered as physical activity types such as:

• Arm and leg movements,
• Sumo Squat
• Walking
• Running,
• Jumping
• Swimming,
• Cycling

Health and physical fitness are concepts that complement and affect each other. According to the results obtained from scientific researches, regular and continuous physical activities have proved to provide positive advantages to the person throughout life.

We can list the effects of regular physical activities on human health as follows:

- contributes to healthy and regular formation of weight.
- reduces and prevents osteoporosis that may occur in later ages.
- provides a person to be more socialized.
- reduces the likelihood of having cardiovascular diseases.
- reduces the risk of sudden heart attack
- helps to avoid from smoking, alcohol and drug addiction, and enables to overcome existing addiction.
- reduces the risk of diabetes.
- delays menopause in women, reduces the negative effects occurring when going through the menopause and helps to overcome this period comfortably.
- makes one feel good and happy.
- helps the formation of regular muscles, bones and skeletal system and to grow as individuals with high self-confidence.
- İncreases one’s self-confidence.
- leads to ability of positive thinking and overcoming the stress
- Reduces cancer risk and provides protection against cancer.
- Increases body immunity and provides resistance to infections.
- increases the ability to cope with depression and enjoy life
- Reduces the risk of early death.[15]

Assessment of Physical Activity and Measurement Methods: Measurements carried out to determine the level of physical activity and the objective evaluation of these measurements are very important in order to obtain an accurate result. Generally, two types of measurement methods are used for the measurement of physical activities: experimental and questionnaire. When selecting the method, the characteristics of the respondents, their suitability for the purpose, the study plan and the abundance of resources are considered.[14] These measurements are of great importance in terms of directing people with low physical activity levels to physical activities.[15] Physical activities are evaluated using different methods.[16]

Direct Methods

- Observation
- Room calorimetry (body's heat production),
- Double labelled water technique,
- Acceleration Vectors (Accelerometer),
- Motion sensing (Pedometer),
- Physical activity recording or daily recall method

Indirect Methods

- Indirect Calorimeter (oxygen uptake, carbon dioxide production),
- Food sources,
- Physiological measurements,
- Physical activity questionnaires.[17]

Self and Self Esteem Concepts: According to Rosenberg (1965), self-esteem includes concepts related to feeling valuable and important, self-loving, rewarding and appreciating oneself. According to this thesis, people are constantly endeavouring to protect and increase their self-esteem [18]

In the formation of self-esteem, it was found that the family structure, educational level, profession and gender of the person were also related to self-esteem. Appearance constitutes a major part of a person's self-respect and mental health throughout his life. It is stated that there are four sources of approval and support that affect self-esteem in children and adolescents. These are parents, teachers, classmates and close friends.[19] The development of self-esteem is affected by several factors involved in its physical development during the early adolescence (15-17 years) period. Self-esteem in children is shaped by the family elders.

MATERİAL AND METHODS

Populatıon and Sample: The aim of this study is to investigate the effect of gender, professional branch, teaching level on teachers' physical activity level and teachers' physical activity level and self-esteem.

A total of 364 teachers, 167 females and 197 males, participated in the study voluntarily. Teachers were applied a short form of International Physical Activity Questionnaire (IPAQ) and Rosenberg Self-Esteem Questionnaire.

Research Design: In the study, a short form of the international physical activity questionnaire, that can be applied by itself and that includes the last seven days assessment of physical activity level, was used. Our questionnaire form consists of two sections. There is a

personal information form in the first section and nine questions are included in this section which are gender, school, branch, job status, age, height, body weight, educational status and marital status. The second part consists of seven questions, and in this part, it is reached the result of information from situations such as the moderate level of severe activities and the time spent during these activities, walking, sitting etc. The calculation of the total score of the short form has included the total of walking, moderate severe activity and duration (minutes) and frequency (days) of severe activity. Sitting score (sedentary behavior level) was calculated separately. In the assessment of all activities, it was considered as criterion that each activity should be performed for at least 10 minutes at one time. Minutes, days and MET (multiples of resting oxygen consumption) were multiplied and a score of" MET-minutes/week was obtained. Walking score was calculated by multiplying the walking time (minutes) by 3.3 MET. In the calculation, 4 MET for moderate severe activity and 8 MET for severe activity were taken. Physical activity levels were classified as physically inactive (<600 MET-min/week), low physical activity level (600-3000 MET-min/week) and adequate physical activity level (healthy) (> 3000 MET- min / week)

Data Collection Tools

Rosenberg Self-Esteem Scale: In this study, the subcategory of the Rosenberg self-esteem scale consisting of ten questions was used. The answers to each question were digitized and, according to the total score obtained from all question, grouped as high self-esteem (0-2 points), moderate self-esteem (2.1-4 points) and low self-esteem (4.1-6 points).

Statistical Analysis: The parametric assumptions is not satisfied, Mann-Whitney U test was used for comparison of physical activity levels and on self-respect scores according to gender factor, and Kruskal-Wallis H test was performed for branch and teaching level factors. When the results of Kruskal-Wallis H test were found significant, pair-wise comparisons was performed by means of Mann-Whitney U test. The Spearman's Rank Correlation Coefficient is used to discover the relations between physical activity level of teachers and on self-respect

Findings

- Physical characteristics of all teachers who participated in the study given in Table in 3.1.
- **Table 1.** Physical characteristics of the teachers who participated in the study (X ± SS).

Physical characteristics	Female (n=167)	Male (n=197)	General (n=364)
Age (years)	37,51±6,89	42,59±7,67	40,25±7,74
Height (cm)	163,86±5,60	174,67±6,68	169,71±8,22
Body Weight (kg)	64,06±11,08	81,53±11,25	73,52±14,15
Body mass index (kg/m^2)	23,86±3,96	26,69±3,16	25,39±3,82

Table 1: it was found that mean age was 37.51 ± 6.89 years old for the female teachers and 42.59 ± 7.67 years old for the male teachers, that mean height was 163.86 ± 5.60 cm for female teaches and 174.67 ± 6, 68 cm for male teacher, that body weight was 64.06 ± 11.08 kg for female teachers and 81.53 ± 11.25 kg for male teachers and that body mass index was 23.86 ± 3.96 kg/m2 for female teachers and 26.69 ± 3 16 kg/m2 for male teachers who participated in the study.

Table 2. Normal distribution analysis of teachers' physical activity levels and self-esteem scores (X ± SD).

Physical activity and self-esteem analysis	Sub-dimension	Number of Items	X±SS	Z score	P value
Physical activity score	4	7	1728,08±2258,99	4,238	0,000
Self-esteem scores	-	10	0,68±0,46	4,209	0,000

Table 2. Physical activity level and self-esteem scores were tested by the Kolmogorov-Smirnov test for normal distribution and it was determined that both data did not show normal distribution.

Table 3. International Physical Activity Levels of Teachers (X ± SS).

Physical activity levels of teachers	n	X±SS	Min.	Max.
Total physical activity (MET-min/week)	364	1728,08±2258,99	0	16506
Severe physical activity (MET-min/week)	125	3909,40±2689,95	1572	16506
Moderate severe physical activity (MET- min/week)	103	1020,85±304,13	610	2548
Walking (MET- min/week)	106	332,09±176,61	48,5	990
Sitting (min)	30	180,18±145,61	30	600

Table 3. Physical activity levels of teachers were categorized as MET, total, severe, moderately severe and walking, and teachers who did not perform any physical activity were calculated as sitting group (min). 125 of 364 teachers who participated in the study were found in high physical activity, 103 in moderate physical activity, 106 in walking and 30 in sitting.

Table 4. Self-esteem scores of Teachers (X ± SD).

Self-esteem score	n	X±SS	Min.	Max.
Total	364	0,68±0,46	0	2,91
High	359	0,66±0,42	0	2,00
Moderate	5	2,39±0,29	2,17	2,91
Low	-	-	-	-

Table 4. It was observed that the self-esteem scores of the few teachers (n = 5) were moderate and all other teachers' self-esteem levels were high. It was found that 359 of 364 teachers who participated in our study had high self-esteem and 5 of them had moderate self-esteem.

Table 5. Comparison of teachers' physical activity levels and self-esteem scores according to gender (X ± SD).

Comparison according to gender	Female (n=167)	Male (n=197)	z score
Physical activity (MET-min/week)	1438,8±2129,6	1973,3±2340,6	3,035*
Self-esteem score	0,67±0,43	0,69±0,49	0,012

*p<0,05

Table 5. When physical activity levels and self-esteem scores of teachers were compared according to gender, it was seen that physical activity level of male teachers was higher than female teachers (z score = 3,035, p = 0.002), and self-esteem scores were similar between genders.

Table 6. Comparison of teachers' physical activity levels and self-esteem scores according to field (X ± SD).

Comparison according to field	Class (n=120)	Field (n=178)	Workshop and vocation (n=40)	Physical Education (n=26)	x^2 value
Physical Activity (MET-min/week)	1592,5 ±194,7	1566,7 ±1952,2	1927,4 ±3142,9	3152,1 ±3436,2[b]	8,476*
Self-esteem score	0,77±0,49	0,61±0,40	0,68±0,52	0,72±0,61	6,116

*p<0.05, [b] Significantly higher than classroom and in-field teachers.

Table 6. When physical activity levels and self-esteem scores of teachers were compared according to field, it was found that physical activity level of physical education teachers was higher than classroom and in-field teachers (x^2 = 8,476, p = 0.037), but no significant difference was found between self-esteem scores (x^2 = 6,116, p = 0.156) according to field.

Table 7. Comparison of teachers' physical activity levels and self-esteem scores according to age (X ± SD).

Table 7. When physical activity levels and self-esteem scores of teachers were compared according to age, any significant differences were not found in physical activity levels and self-esteem scores of teachers according to age (x2 = 6,710, p =

	Age (Year)								
Comparison according to Age	20-25 (n=1)	26-30 (n=2)	31-35 (n=55)	36-40 (n=10)	41-45 (n=80)	46-50 (n=5)	51-55 (n=1)	56-60 (n=12)	x^2 value
Physical Activity (MET-min/week)	2130,5 ±2155,1	1965,1 ±3202,7	1514,8 ±1970,2	1599,7 ±1667,6	1905,9 ±2496,1	1927,9 ±2621,1	747,0 ±740,4	2097,1 ±3354,6	6,710
Self-esteem score	0,76 ±0,44	0,62 ±0,36	0,68 ±0,45	0,70 ±0,46	0,71 ±0,56	0,64 ±0,41	0,61 ±0,49	0,68 ±0,40	1,889

0,460; x^2 = 1,889, p = 0,966, respectively).

Table 8. Correlation coefficients showing the relationship between physical activity levels and self-esteem of teachers.

Relationship Between Physical Activity and Self Esteem	Self Esteem	
	r	P
Total physical activity	0,038	0,464
Severe physical activity	0,207*	0,021
Moderate severe physical activity	0,034	0,733
Walking	0,126	0,197

*p<0,05

Table 3.8. When the relationships between physical activity levels and self-esteem scores of teachers were examined, no significant relationship was observed between teachers' total physical activity level, moderate severe physical activity level and walking and self-esteem scores, however, it was seen a significant positive relationship between severe physical activity level and self-esteem score. (r=0,207, p<0,05).

DISCUSSION AND CONCLUSION

This study was performed to find out the answer of the question to what extent the physical activities (PA) of our teachers, who constitute the most important element of our education and training system, affect their self-esteem.

Positive effects of physical activity in human life, its mental and psychological advantages, socialization and its relationship with health are the common knowledge. In our study on physical activity and self-esteem concepts, it was assessed according to ender, field and age and as a result of this assessment, it was concluded that male teachers 'participation in physical activities was higher than female teachers, that there was no significant difference between self-esteem scores, and teachers' self-esteem scores were higher in general.

As a conclusion, in this study carried out about teachers, it can be said that all teachers' self-esteem scores are high and education level has a positive effect on self-esteem. It is also concluded that there is a positive relationship between high severe physical activity and self-esteem scores.

- Effects of physical activity on self-esteem can be done by different methods and its contribution can be provided to this field.
- Study is carried out with different groups of teaching and non-teaching and it is considered that the results will be better understood by comparing the results.

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