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The Relationship Between Physical Activity Level of Teachers, Obesity Prevalence and Life Satisfaction

Murat AKBAL[®], Zekeriya GÖKTAŞ[®]

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ORİJİNAL ARTICLE

Abstract

Balıkesir University, Faculty of Sport Science, Balıkesir/Türkiye

The present study aims to determine the relationship between teachers' physical activity (PA) levels, obesity prevalence, and life satisfaction (LS). The study has a descriptive nature, and it was conducted following the relational screening method, which is a general screening model. A total of 401 volunteer teachers were included in the study. Descriptive statistics, t-tests, and ANOVA tests were used for data analysis. When the PA levels and LS of the teachers were examined, it was found that 28.7% were inactive, 44.6% were moderately active, and 26.7% were active; It was determined that 17.2% had very little LS, 40.6% had medium LS, 34.4% high LS, 7.0% full LS. When the body mass index (BMI) was examined, it was determined that 1.2% of the teachers were underweight, 54.1% were healthy weight, 35.7% were overweight, and 9.0% were obese. The study's findings showed a weak and positive relationship between teachers' LS and PA pacipation levels. The results indicated that PA levels differed significantly according to gender, marital status, and active sports, and LS levels differed significantly according to gender, marital status, income, age, BMI according to gender, marital status, income, and age

Keywords: Physical Activity, Body Mass Index, Life Satisfaction

Corresponding Author: Zekeriya GÖKTAŞ zgoktas@balikesir.edu.tr

Öğretmenlerde Fiziksel Aktivite Düzeyleri ile Obezite Sıklığı ve Yaşam Doyumu Arasındaki İlişki

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Öz Çalışmanın hedefi, öğretmenlerin fiziksel aktivite (FA) seviyeleri ile obezite prevalansı ve yaşam doyumu (YD) arasındaki ilişkiyi belirlemektir. Çalışma betimsel nitelikte olup genel tarama modellerinden ilişkisel tarama yöntemine göre yapılmıştır. Araştırmaya 401 öğretmen gönüllü olarak katılmıştır. Veriler betimsel istatistik kullanılarak çözümlenmiştir, t-testi, anova testi kullanılmıştır. Öğretmenlerin FA düzeyleri ve (YD) incelendiğinde %28,7'sinin aktif olmadığı, %44,6'sının orta derecede aktif ve %26,7'sinin aktif olduğu; %17,2'sinin çok az yaşam doyumuna, %40,6'sının orta yaşam doyumuna, %34,4'ünün yüksek yaşam doyumuna, %7,0'inin tam yaşam doyumuna sahip olduğu belirlendi. Beden kitle indeksi (VKİ) incelendiğinde öğretmenlerin %1,2 sinin zayıf, %54,1 inin sağlıklı kilolu, %35,7 sinin fazla kilolu, %9,0'ının da obez olduğu saptanmıştır. Araştırmanın bulgularına göre öğretmenlerde YD ile FA katılım düzeyleri arasında zayıf düzeyde ve pozitif doğrultuda ilişki olduğu görülmektedir. YD ile VKİ arasında, VKİ ile FA arasında anlamlı ilişki tespit edilmemiştir. FA düzeylerinin cinsiyete, medeni duruma, aktif spor yapılmasına göre, yaşam doyumu düzeylerinin cinsiyete, medeni duruma, gelire, yaşa göre, VKİ 'nin cinsiyete, medeni duruma, gelire, yaşa göre anlamlı şekilde farklılaştığı bulunmuştur.

Anahtar Kelimeler: Fiziksel Aktivite, Beden Kitle İndeksi, Yaşam Doyumu

Introduction

In ancient societies, physical activity had to be a part of daily life much more than in today's world. In this respect, all of the processes of sustaining a person's life expressed physical activity. "Hippocrates' statement If we could give each individual the right amount of food and exercise (sports), neither too little nor too much, we would find the safest way for health and Avicenna's Adequate movement, food and sleep are the principles of maintaining health. shows the importance of physical activity that was considered centuries ago."

It has been stated that physical activity (Ayhan, 2014), which is accepted as an activity state that can be performed in all areas of daily life without being limited to sports only, prevents various diseases and offers a quality, healthy and long life when done regularly (Bilici, 2019). In addition, physical activity is thought to be effective in the fight against obesity, defined as a "global public health problem."

Life satisfaction is one of the essential elements for people to feel at ease and content as well as gain meaning in their lives by having a quality and healthy life. In this aspect, it has been one of the main subjects that have attracted the attention of people for centuries.

Life satisfaction is one of the basic elements that individuals should have for a positive evaluation of their whole life by the criteria they have determined and for comprehensive happiness (Diener et al. 1985). It is suggested that the higher the LS is, the better the quality of work and life will be (Rice et al. 1985). The fact that teachers, who have functions far beyond being a teacher, are role models and have an influence on shaping society is a situation that should be taken into consideration. When viewed from this aspect, teachers' life satisfaction is a significant factor for the whole society.

A sedentary lifestyle with irregular or insufficient physical activity caused by today's conditions and the technological age we live in results in physical, psychological, and social deterioration. For this the reason, interest, and importance are shown for the necessity of research on physical activity has been increasing. Similarly, with the developments in positive psychology, it is observed that understanding the importance of life satisfaction in human life increases scientific studies in this field since being happier in life provides individual and social benefits. However, when the literature is examined, it has been observed that no study has been conducted on the relationship between teachers' PA participation level, obesity incidence, and LS levels in our country. However, studies on similar subjects were found (Gök, 2022; Taştan, 2022).

In light of this information, the research plays an important role in terms of revealing whether or not some variables are a factor in the association between teachers' physical activity participation level, obesity prevalence, and life satisfaction levels.

Physical Activity

While PA has been a condition for sustaining human life throughout history, the place of PA in our daily lives has begun to decrease gradually in parallel with today's technological development and rapid change.

PA is important for every individual in society. It is thought to be the most effective way of being able to live a healthy life and has a lot of benefits for the body, such as weight control, reduced blood pressure, muscular endurance, cardiovascular development, resistance to diseases, and prevention of adverse conditions related to old age (Batoulia and Saba, 2017).

Stele expressed PA as the sum of optional movements produced by skeletal muscles in daily life (Act. Edwards and Tsouros, 2006). Baranowski et al. (1992) defined it as any applied force to the muscles more than the resting level, causing energy expenditure. The expression of PA as a lifestyle includes all regular or irregular movements that take place in our lives with different intensities (Aslan et al. 2010).

Obesity

Throughout the history of humanity, the pursuit of doing more work with less effort has gained great momentum with the industrialization process, and mental processes have come to the fore by minimizing the need for human body power throughout this process. Besides, smart factories and artificial intelligence have become much faster to perform production in a coordinated manner. These processes cause the physical activity level has decreased greatly due to the decrease in the effect of the human body in production and the formation of a large mass working at a desk, with the mechanization and developing technological tools taking place in our daily lives. With the sedentary life created in society, this change causes serious health problems such as obesity by negatively affecting public health (Erdoğan et al. 2011).

Obesity, popularly known as "fatness," is a complex, multifactorial disease from chronic changes resulting from excessive fat accumulation inside the body (Demiralp, 2006). According to the World Health Organization (WHO) reports, since 1975, worldwide obesity has almost increased three times. A report in 2016 revealed that 650 million are obese and 1.9 billion people are overweight (WHO, 2021).

Life Satisfaction

In the understanding of positive psychology, which adopted a very close perspective with the humanistic approach alongside the scientific developments of psychology in the last century and found its place in modern psychology in the 1990s, positive emotions were brought to the fore and various concepts aimed at the mental well-being of the individual were emphasized. Life satisfaction is one of those concepts. The life satisfaction concept used by Neugarten et al. in 1961 has been the subject of many studies afterwards (Özer and Karabulut, 2003).

The main factor for people to be satisfied with their life and feel meaningful about them is life satisfaction (Barut and Kalkan, 2002). In addition, life satisfaction is the amount of a person's positive evaluation of his/her life (Akcan, 2018; Özer and Karabulut, 2003). Therefore, it is affected by many variables. It is also thought that physical activity affects life satisfaction.

"Based on all this information, this research aims to investigate the association between teachers' PA levels, obesity prevalence, and LS."

Materials And Methods

During the current research, it has been acted within the framework of "Higher Education Institutions Scientific Research and Publication Ethics Directive".

Study Model

This research examines the association between teachers' physical activity levels, obesity prevalence, and life satisfaction in a descriptive nature, and it was conducted following the relational screening method, which is one of the general screening models. This model is used for two or more variables to investigate the existence or degree of co-variance between them (Karasar, 2014).

Study Group

The study group includes 401 volunteer teachers in the 22-65 age range (female 44.9%; male 55.1%) in different branches and educational levels in public schools in different provinces in Turkey in the 2022-2023 academic year. The mean age of the participants was calculated as 36.89. The random sampling method was used to select volunteer teachers. According to the 2021-2022 formal education statistics published by "The Ministry of National Education" on September 9, 2022, 1 million 139 thousand 673 teachers work in Turkey (MEB, 2022). However, the sample was chosen due to the difficulty in reaching the entire teacher population. Based on the formula of Bal (2001), the sample number to represent the population in the study was calculated as at least 384 for the 95% confidence level.

Data Collection Tools

Scales were used to collect the data of the study. "This scale form has three parts: Personal Information Form, including the height-weight information required for BMI to calculate the frequency of obesity and participants' socio-demographic characteristics; the International Life Satisfaction Scale to determine teachers' LS; and the International Physical Activity Questionnaire (Short Form) to calculate PA participation level of the teachers."

BMI value was calculated via dividing the weight (in kg) of a person by the square of height (in meters) from the anthropometric measurements used in relation to obesity is the most commonly used method today and is classified according to the table below. This classification was used to determine the obesity prevalence in the study.

Table 1 BMI (WHO, 2008).

| Classification | BMI (kg/m2) |
|----------------|-------------|
| Weak | <18.5 |
| Healthy weight | ≥18.5-<25 |
| Overweight | ≥25-<30 |
| Obese | ≥30 |

"The Life Satisfaction Scale (SWLS) developed by Diener et al. (1985) and adopted into Turkish was verified by Dağlı and Baysal (2016) as a reliable tool to determine the perceptions regarding the life satisfaction of teachers officers in schools connected with the Ministry of National Education in Turkey." Additionally, the "Exploratory Factor Analysis" conducted by us showed that the LS scale consisted of a one-dimensional structure and showed a valid feature. The scale's reliability was a=0.893 in the Cronbach Alpha reliability analysis performed to state the reliability of the LS scale. Therefore, because of a Cronbach Alpha value of 0.70 and above is considered as reliable, the reliability of measurement tool was accepted (Büyüköztürk, 2011).

In the study, the "International Physical Activity Assessment Questionnaire (IPAQ) Short Form", originally called the International Physical Activity Questionnaire (Craig et al. 2003), was used to determine the physical activity levels of teachers. Translated into Turkish by Melda Öztürk, it has been proven to be a valid and reliable scale (Öztürk, 2005).

With the questionnaire, vigorous PA (basketball, weight lifting, football, fast cycling, aerobics, etc.), moderate PA (cycling at normal speed, lightweight carrying, table tennis, folk dances, etc.), sitting and walking time for a day were discussed in a way it covers last 7 days. The conversion of

vigorous, moderate activity, and walking time into the MET value corresponding to the basic metabolic rate was done to calculate the total PA score (MET-min/week) (Öztürk, 2005).

The sum of the duration (minutes) and frequency (days) of walking, moderate activity, and vigorous activity was calculated for the total score of the short form (Öztürk, 2005).

The following score ranges will be used in classifying the participants according to their PA levels (Craig et al. 2003):

• Inactive: <600 MET minutes/week

Intermediate: 600-3000 MET minutes/week

• Active: >3000 MET minutes/week

Statistical analysis

SPSS 25.0 was used for data analysis. "The PA, BMI, and LS values of teachers with the variables of marital status, gender, and active sports were examined using the t-test. The ANOVA test was used for age group variables. The source of the difference and the significance of the findings were examined via the LSD test as a post-hoc test. The relationship between teachers' PA, BMI, and LS levels was examined via the Pearson Correlation analysis."

Findings

Table 2
Demographic Variables

| Variables | Groups | f | % |
|----------------------|------------------|-----|-------|
| | 22-29 | 65 | 16.2 |
| | 30-39 | 193 | 48.1 |
| Age | 40-49 | 107 | 26.7 |
| | 50-65 | 36 | 9.0 |
| | Total | 401 | 100.0 |
| | Male | 221 | 55.1 |
| Gender | Female | 180 | 44.9 |
| | Total | 401 | 100.0 |
| | Doing Sports | 84 | 20.9 |
| Active Sports Status | Not Doing Sports | 317 | 79.1 |
| | Total | 401 | 100.0 |
| | Single | 129 | 32.2 |
| Marital status | Married | 272 | 67.8 |
| | Total | 401 | 100.0 |

Table 2 contains the personal information form of the research sample data.

Table 3
LS Scale and PA Scale Mean Scores

| Scale | Skewness | Kurtosis |
|-------------------|----------|----------|
| Life Satisfaction | 010 | 701 |
| Physical Activity | .536 | .679 |

The data analysis from the research was conducted in a computer environment using the IBM SPSS Statistics 25 package program. The Skewness, Kurtosis values were investigated by performing the normality test to determine the normal distribution of groups (Table 3). If Kurtosis and Skewness values are between +-2.00, it is considered to be a normal distribution (George and Mallery, 2019).

Table 4
The Relationship between Teachers' Levels of PA, BMI, and LS

| | | Life Satisfaction | Physical Activity | Body Mass Index |
|-------------------|---|-------------------|-------------------|-----------------|
| Life Satisfaction | r | 1 | | |
| Physical Activity | r | .100* | 1 | _ |
| Body Mass Index | r | 008 | 049 | 1 |

According to the Pearson correlation analysis given in Table 4, there is a weak and positive (r= .100*; p<.05) relationship between teachers' LS and PA participation levels. There was no significant relationship between teachers' LS and BMI (r=-.008; p>.05) and between teachers' PA participation levels and BMI (r=-.049; p>.05). Although there are different classifications in the literature, it is generally interpreted as (.00-.30) weak, (.31-.49) moderate, (.50-.69) strong, (.70-.100) very strong relationship (Tavṣancıl, 2006).

Table 5
T-test Results of PA Participation Level, BMI and LS Scale by Gender:

| Variables | Groups | n | Ñ | SD | t | p |
|-------------------|--------|-----|---------|---------|--------|--------|
| Dhysical Activity | Male | 221 | 2564.20 | 2174.62 | - 3.07 | .002* |
| Physical Activity | Female | 180 | 1911.87 | 2035.85 | 3.07 | .002** |
| D. J. M I. J | Male | 221 | 26.08 | 3.05 | 9.40 | 000* |
| Body Mass Index | Female | 180 | 23.38 | 3.36 | - 8.40 | .000* |
| I :f- C-4:-f4: | Male | 221 | 14.04 | 4.19 | 2.61 | 000* |
| Life Satisfaction | Female | 180 | 15.13 | 4.13 | 2.61 | .009* |

n: Number of people, **X**: Average, **SD**: Standard Deviation, **t**: T Value, **p**: P Value, * p<0.05

According to Table 5, the PA levels of teachers show a meaningful difference according to gender. (t[399]=3.07; p<0.05). The PA participation level of male teachers (\bar{X} =2564.20) is higher than female teachers' level of PA participation (\bar{X} =1911.87).

BMI of teachers show a significant difference regarding gender (t[399]=8.40; p<0.05). The BMI of male teachers (\bar{X} =26.08) are higher than female teachers' BMI (\bar{X} =23.38).

Teachers' level of LS shows a significant difference according to their gender. (t[399]=-2.61; p<0.05). The LS of female teachers (\bar{X} =15.13) is higher than male teachers LS (\bar{X} =14.04).

Table 6
Teachers' LS, PA, and BMI Values According to Marital Status:

| Variables | Groups | n | Ñ | SD | t | p |
|-------------------|---------|-----|---------|---------|-------|--------|
| I :f- C-4:-f4: | Single | 129 | 13.54 | 4.03 | 2.20 | .001* |
| Life Satisfaction | Married | 272 | 15.00 | 4.19 | -3.30 | .001** |
| Dbi1 A -4ii4 | Single | 129 | 2647.81 | 2335.85 | 2.22 | 021* |
| Physical Activity | Married | 272 | 2092.85 | 2013.92 | 2.32 | .021* |
| D. J. M I. J | Single | 129 | 23.28 | 2.80 | 7.10 | 000* |
| Body Mass Index | Married | 272 | 25.62 | 3.49 | -7.18 | .000* |

n: Number of people, $\bar{\mathbf{X}}$: Average, SD: Standard Deviation, t: T Value, p: P Value, * p<0.05

Table 6 indicated that the level of LS of teachers shows a meaningful difference according to marital status. (t[399]=-3.30; p<0.05). The LS level of married teachers (\bar{X} =15.00) is higher than the LS level of single teachers (\bar{X} =13.54).

Teachers' PA levels show a meaningful difference according to marital status. (t[399]=2.32; p<0.05). The PA level of single teachers (\bar{X} =2647.81) is higher than the PA grade of married teachers (\bar{X} =2092.85).

BMI of teachers show a meaningful difference according to marital status. (t[399]=-5.60; p<0.05). BMI of married teachers (\bar{X} =25.62) are higher than those of single teachers (\bar{X} =23.28).

Table 7

PA Participation Level and BMI and LS Scale According to Whether or Not They are Actively Engaged in a Sport or Not:

| Variables | Groups | n | X | SD | t | p | |
|---------------------|------------------|-----|---------|---------|------|-------|--|
| Life Satisfaction - | Doing Sports | 84 | 15.23 | 4.46 | 1.72 | 005 | |
| Life Satisfaction - | Not Doing Sports | 317 | 14.35 | 4.11 | 1./2 | .085 | |
| DI 1 1 4 41 14 | Doing Sports | 84 | 2850.02 | 2249.06 | 2.01 | 005* | |
| Physical Activity | Not Doing Sports | 317 | 2118.05 | 2081.46 | 2.81 | .005* | |
| Body Mass Index | Doing Sports | 84 | 24.57 | 3.20 | 89 | .371 | |

| - | | | | | | | | | | | |
|---|------|------|-----|-------------|---|------|---|---|-------|------|--|
| | | | Not | Doing Sport | s | 317 | | | 24.95 | 3.52 | |
| | | | _ | | | | _ | - | | | |

n: Number of people, $\bar{\mathbf{X}}$: Average, SD: Standard Deviation, t: T Value, p: P Value, * p<0.05

When Table 7 is examined, PA levels of teachers show a meaningful difference according to whether they do sports actively or not (t[108.07]=2.81; p<0.05). The PA participation level of the teachers who actively do sports (\bar{X} =2850.02) is higher than PA participation level (\bar{X} =2118.05) of the teachers who do not actively do sports.

Teachers' BMI do not show a meaningful difference according to whether they do sports actively or not (t[399]=-.89; p>0.05).

Teachers' LS level does not show a meaningful difference according to whether they do sports actively or not (t[399]=1.72; p>0.05).

Table 8
Teachers' LS, PA, and BMI Values by Age Groups:

| Variables | Age | n | Ñ | SD | F | P | Difference (LCD) |
|------------------------|----------|-----|-------|-------|--------------|-------|---------------------|
| | 22-29(a) | 65 | 2.75 | .80 | | | |
| | 30-39(b) | 193 | 2.82 | .83 | _ | | d>a, |
| Life Satisfaction | 40-49(c) | 107 | 3.01 | .82 | - - 4.47 | .004* | d>b, |
| | 50-65(d) | 36 | 3.28 | .86 | - 4.47 | .004 | c>a |
| | Total | 401 | 2.90 | .83 | _ | | |
| | 22-29(a) | 65 | 62.25 | 20.84 | | .942 | |
| | 30-39(b) | 193 | 60.67 | 17.96 | _ | | |
| Physical Activity | 40-49(c) | 107 | 60.97 | 16.68 | .13 | | |
| | 50-65(d) | 36 | 60.58 | 18.32 | 13 | | |
| | Total | 401 | 61.0 | 18.11 | = | | |
| | 22-29(a) | 65 | 22.95 | 2.62 | | | |
| | 30-39(b) | 193 | 24.62 | 3.28 | - | | d>a, d>b, |
| Body Mass Index | 40-49(c) | 107 | 25.85 | 3.46 | - - 14.95 | .000* | c>a, |
| | 50-65(d) | 36 | 26.80 | 3.87 | - 17.93 | .000 | c>b, b>a |
| | Total | 401 | 24.87 | 3.46 | - | | o>a |

n: Number of people, **X**: Average, **SD**: Standard Deviation, **F**: Anova F Value, **p**: P Value, * p<0.05,

Table 8 indicates that the LS values of teachers show a meaningful difference according to age (F=4.47; p<.05). According to the LSD test results between age groups, there are the LS values of the teachers in the 50-65 age group (\bar{X} =3.28), the LS values of the teachers in the 22-29 age group (\bar{X} =2.75), the 30-39 age group teachers' LS values (\bar{X} =2.75). group of teachers' LS values (\bar{X} =2.82); It has been determined that the LS values of the teachers in the 40-49 age group (\bar{X} =3.01) are higher than the LS values of the teachers in the 22-29 age group (\bar{X} =2.75).

No meaningful difference was seen in teachers' levels of PA participation according to their household income (F=.13; p>.05).

There was a meaningful difference in the BMI values of the teachers regarding age (F=14.95; p<.05). According to the results of the LSD test, the BMI values of the teachers in the 50-65 age group (\bar{X} =26.80) are higher than the values of the teachers in the 22-29 (\bar{X} =22.95), and 30-39 age group (\bar{X} =24.62). 40-49 age group teachers' BMI values (\bar{X} =25.85) are higher than the teachers in the 22-29 (\bar{X} =22.95) and 30-39 (\bar{X} =24.62) age groups. Lastly, the BMI values of the teachers in the 30-39 age group (\bar{X} =24.62) are higher than the teachers in the 22-29 age group (\bar{X} =22.95).

Conclusion and Discussion

The present study was conducted to determine the association between PA participation levels, obesity frequency, and LS of teachers;

According to the pearson correlation analysis given in Table 4, there is a weak and positive association between teachers' LS and PA participation levels. Moreover, no meaningful association was found between teachers' LS and BMI, and between teachers' PA participation levels and BMI. An et al. (2020); Fişne (2009); Gür and Küçükoğlu (1992); Genç et al. (2011) found a positive and significant association between PA and LS in their studies, which is consistent with our research result (Table 4). Ağca (2019)'s study on teachers, Öztürk (2005)'s study on university students, Hallal et al. (2003)'s study on the Brazilian population, which shows no statistically significant difference between PA and BMI, is also in line with our research result. In addition, there was no meaningful association between LS and BMI.

It is thought that the degree to which LS is a positive evaluation of the overall quality of life may be the reason for the poor level of relationship between LS and PA of teachers.

Teachers' PA levels show a meaningful difference according to gender (Table 5). The PA participation level of male teachers is higher than the PA participation level of female teachers. This finding is consistent with other studies (Ağca, 2019; Vural et al. 2010; Yıldırım, 2019). Although women have taken part in business life more recently, Turkey is generally a male-dominated society. In addition, men find opportunities to activity more than women in daily life. Men prefer activities that require more physical activity, even in the family. As a requirement of the social roles undertaken in our country, the fact that men are more physically active than women can also explain this situation.

PA levels of teachers show a meaningful difference according to marital status (Table 6). PA level of single teachers is higher than PA level of married teachers. This finding is consistent with other studies (Kalkavan et al. 2016; Özüdoğru, 2013; Ağca, 2019). Singles have fewer family

responsibilities, which makes them freer and therefore more social. This provides opportunities for them to be more physically active, such as doing sports. This is thought to be the reason for the difference.

PA levels of teachers show a meaningful difference according to whether they do sports actively or not (Table 7). The PA participation level of the teachers who actively do sports is higher than PA participation level of the teachers who do not actively do sports. It is thought that the fact that physical activity includes physical education and sports activities can explain the present finding.

No statistically significant difference was found between the age groups of teachers and PA (Table 12). Ağca (2019); Şanlı and Güzel (2008); Vural et al. (2010)'s studies support our findings. In addition, Kalkavan et al. (2016) stated in his study on academics that the time for being PA decreases significantly as the working age increases. The difference in physical activities in various occupational groups is a situation that can be considered normal. It is important to carry out studies in different occupational groups in terms of obtaining various results.

Research findings found that %0,7 of the teachers have no LS, 17.2% have very little LS, 40.6% have moderate LS, 34.4% have high LS, and 7.0% of them have complete LS. In parallel with our study, Tunç (2019); In the studies conducted by Özkul and Cömert (2018), the finding that teachers' LS is moderate supports our research.

According to the research findings, teachers' LS levels differ significantly according to gender (Table 5). In female teachers, LS is reported to be higher than that of male teachers. Yılmaz and Aslan (2013), Aysan and Bozkurt's (2004) studies on teachers, Ünal et al. (2001)'s study on physicians and the findings obtained from Yıldız (2016)'s study on university students are similar to the results of the research. In addition, the findings were found in the literature that there is no significant difference in LS in different genders (Özkul and Cömert, 2018; Özkara et al. 2015; Hintikka et al. 2001; Hampton and Marshal, 2000; Yıldırım, 2019; Elçi et al. 2019; Walker and Kono, 2018), and also there were also studies in favor of it (Bai et al., 2018; Oerbeck, 2019). According to the results obtained from the findings of the related studies, it is stated that the different social roles imposed on them regarding the gender variable, especially in terms of culture, affect LS (Kara et al. 2018; Öztürk and Koca, 2019). It is thought that many factors may affect the differentiation in the literature and from those factors, distinction between working and non-working may be determinative. Erbay (2015)'s finding that working women have a higher LS score than non-working women, and Uysal (2019)'s finding that states working women's LS is statistically significantly higher than that of nonworking women is in line with our findings. It is thought that the fact that working women are not economically dependent on others makes them feel stronger, which may increase their LS.

Teachers' LS level shows a significant difference according to marital status (Table 6). The married teachers' LS level is higher than that of single teachers. This finding is consistent other studies (Yılmaz and Aslan, 2013; Ünal et al. 2001; Linn et al. 1985). These results support the research results. On the other hand, Elçi et al. (2019) found no significant difference in LS regarding the marital status variable.

Teachers' level of LS does not show a significant difference according to whether they do sports actively or not (Table 7). It is possible to find different results in the literature. Karaaslan et al. (2020) found a significant difference between life satisfaction and active sports.

A statistically significant difference was found between the teachers' age groups and LS (Table 12). Regarding the relationship between the teachers' LS and their ages, it was shown that the LS of the teachers of the older age group was higher than the lower age group. Ağca (2019); Şahin and Sarıdemir (2017)'s studies are also consistent with our findings. In addition, the finding of high life satisfaction below and above middle age in Önmen (2021)'s study partially supports our findings. In addition, it is possible to come across different findings in the literature. Aksu (2018); Aydıner (2011); In the research results of Recepoğlu (2013), it was determined that life satisfaction did not differ according to age group. It is thought that the source of the difference in the literature is age and temporal. Since life satisfaction is a complex situation and is affected by many variables, more studies are needed in this area.

This study showed that 44.7% of the teachers were overweight and obese. According to the data announced by the Turkish Statistical Institute (TUIK) in 2019, the rate of 15 years age and older obese individuals was 19.6% in 2016 and 21.1% in 2019. In 2019, regarding gender, 30.4% of women were pre-obese, and 24.8% were obese, while 39.7% of men were pre-obese, and 17.3% were obese (TUIK, 2019). Based on our findings, it can be said that the obesity prevalence of teachers is close to "The Turkish Statistical Institute (TUIK)" data.

BMI of teachers show a meaningful difference according to gender (Table 5). BMI of male teachers are higher than those of female teachers. Sevimli (2008); Kalkavan et al. (2016) also supports our findings. The fact that women, especially working women, are more careful about their body image supports our findings.

BMI of teachers show a meaningful difference according to marital status (Table 6). BMI of married teachers are higher than those of single teachers. Kalkavan et al. (2016)'s findings support our results. Singles are more sensitive to body image. In addition, it is thought that the older age of married people and the increase in BMI with age can explain this situation.

The BMI of the teachers do not show a meaningful difference according to whether they are actively involved in any sport or not. In the study of Gün (2018) on BESYO (physical education) students, the lack of a significant relationship between BMI and physical activity levels supports our results.

A statistically meaningful difference was found between teachers' age groups and BMI (Table 12). In general, BMI values increase with increasing age. Hatemi et al. (2002); Kalkavan et al. (2016); Satman et al. (2002)'s findings are in line with our results.

In line with these findings, the following suggestions can be made to researchers and practitioners;

- 1. This research is limited to teachers, so more precise results can be obtained by conducting similar research on other professional groups and wider audiences.
- 2. It can be recommended to add content in central and provincial in-service training programs of the Ministry of National Education to increase teachers' physical activity participation.

Ethical considerations

Ethics review board: Balıkesir University Ethics Committee

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Researchers' Contribution

Both authors contributed equally at all stages of the research.

Conflict of Interest

The authors do not have a statement of conflict regarding the research.

References

- Ağca, G. (2019). Ortaöğretim kurumlarında çalışan öğretmenlerin fiziksel aktivite düzeylerinin yaşam kalitesine olası etkileri. Yüksek Lisans Tezi, Amasya Üniversitesi, Sosyal Bilimler Enstitüsü, Beden Eğitimi ve Spor Anabilim Dalı, Amasya.
- Akcan, E. (2018). *Lise öğrencilerinde benlik saygısı ve yaşam doyumu ilişkisi. Y*üksek Lisans Tezi, İstanbul Gelişim Üniversitesi, Sosyal Bilimler Enstitüsü, Psikoloji Anabilim Dalı, İstanbul.
- Aksu, E. O. (2018). Beden eğitimi ve spor öğretmen adaylarının fiziksel aktivite düzeylerinin akademik başarıları ve çeşitli değişkenler açısından incelenmesi. Yüksek Lisans Tezi, Karadeniz Teknik Üniversitesi, Eğitim Bilimleri Enstitüsü, Beden Eğitimi ve Spor Anabilim Dalı, Trabzon.
- An, H. Y., Chen, W., Wang, C. W., Yang, H. F., Huang, W. T., & Fan, S. Y. (2020). The relationships between physical activity and life satisfaction and happiness among young, middle-aged, and older adults.

- International Journal of Environmental Research and Public Health, 17(13), 4817. https://doi.org/10.3390/ijerph17134817
- Aslan, C. S., İnan T., & Akalan C. (2010). Profesyonel bir futbol takımı ile beden eğitimi ve spor yüksekokulu öğrencilerinin bazı fiziksel ve fizyolojik özelliklerinin karşılaştırılması. E-Journal of New World Sciences Academy, 5(1), 47-58.
- Aydıner, B. B. (2011). Üniversite öğrencilerinin yaşam amaçlarının alt boyutlarının genel öz yeterlik yaşam doyumu ve çeşitli değişkenlere göre incelenmesi. Yüksek Lisans Tezi, Sakarya Üniversitesi, Eğitim Bilimleri Enstitüsü, Eğitimde Psikolojik Hizmetler Anabilim Dalı, Sakarya.
- Ayhan, Y. F. (2014). Çocukluk ve ergenlik dönemindeki fiziksel aktivite deneyimleri ile yetişkinlikteki fiziksel aktivite düzeyleri ve beden kompozisyonlarının incelenmesi. Yüksek Lisans Tezi, Muğla Sıtkı Koçman Üniversitesi, Sağlık Bilimleri Enstitüsü, Beden Eğitimi ve Spor Anabilim Dalı, Muğla.
- Aysan, F., & Bozkurt, N. (2004). Okul psikolojik danışmanlarının yaşam doyumu, stresle başa çıkma stratejileri ile olumsuz otomatik düşünceleri: İzmir ili örneklemi. XIII. Ulusal eğitim bilimleri kurultayı, İnönü Üniversitesi, Eğitim Fakültesi, Malatya, Türkiye.
- Bai, X., Guo, Y., & Fu, Y. (2018). Self-image and intergenerational relationships as correlates of life satisfaction in Chinese older adults: will gender make a difference? Ageing & Society, 38(7), 1502-1519. Doi:10.1017/S0144686X17000113
- Bal, H. (2001). Bilimsel araştırma yöntem ve teknikleri (SDÜ Yayın no. 20). Süleyman Demirel Üniversitesi Basımevi.
- Baranowski, T., Bouchard, C., Bricker, T., Heath, G., Strong, W. B., Truman, B., & Washington, R. (1992).

 Assessment, prevalance and cardiovascular benefits of physical activity and fitnessin youth. *Medicine Science and Sports Exercise*. 24(6), 237–247.
- Barut, Y., & Kalkan, M. (2002). Ondokuz Mayıs Üniversitesi öğretim elemanlarının tükenmişlik düzeylerinin incelenmesi. Samsun: Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi, 14, 66-77.
- Batoulia, S. A. H., & Saba V. (2017). At least eighty percent of brain grey matter is modifiable by physical activity: A review study. Behavioural Brain Research, 332(4), 217. https://doi.org/10.1016/j.bbr.2017.06.002
- Bilici, M. F. (2019). Beslenme ve obezite. İçinde Ç. Yaman (Ed.) Adolesan dönemde physical activity, spor ve beslenmenin sportif performans ve fiziksel gelişime etkisi (1. Baskı., ss. 166-177), Güven Plus Grup A.Ş. Yayınları
- Büyüköztürk, Ş. (2011). Sosyal bilimler için veri analizi el kitabı (15. Baskı). Pegem Akademi.
- Craig, C. L., Marshall, A. L., Sjöstörm, M., Bauman, A. E., Booth, M. L., & Ainsworth, B. E., (2003). Pratt M, Ekelund U ve Yngve A. International physical activity questionnaire: 12-Country reliability and validity. Medicine & Science În Sports & Exercise, 35(8), 381-1395.
- Dağlı, A., & Baysal, N. (2016). Yaşam doyumu ölçeğinin Türkçe 'ye uyarlanması: Geçerlik ve güvenirlik çalışması. Elektronik Sosyal Bilimler Dergisi, 15(59). https://doi.org/10.17755/esosder.263229
- Demiralp, F. D. Ö. (2006). Pediatrik obezitede melanokortin 4 reseptör geni, plazminojen aktivatör inhibitör 1 geni (-675 4g/5g), tümör nekrozis faktör alpha (-308 G/A), yağ asiti bağlama proteini -87 T/C ve interlökin -6 (-174 G/C) gen değişimlerinin önemi ve siRNA yaklaşım ile fonksiyon tayini. *Selçuk İletişim*, 2014, 8(2), 149-176.
- Diener, E., Emmons, R. A., Larsen, R. J. & Griffin, S. (1985). The satisfaction with life scale. Journal of Personality Assessment, 49(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
- Edwards, P., & Tsouros, A. D. (2006). Promoting physical activity and active living in urban environments: the role of local governments. WHO Regional Office Europe. 16. https://www.euro.who.int/_data/assets/pdf_file/0009/98424/E89498.pdf adresinden 12 Aralık 2022 tarihinde alınmıştır.
- Elçi, G., Doğan, M., & Gürbüz, B. (2019). Bireylerin rekreasyonda algılanan sağlık çıktıları ve yaşam doyumu düzeylerinin incelenmesi. International Journal of Sport Exercise and Training Sciences-IJSETS, 5(3), 93-106. https://doi.org/10.18826/useeabd.536833
- Erbay, L. (2015). Çalışmanın evli kadınlarda depresyon, anksiyete ve yaşam doyumu üzerindeki etkilerinin incelenmesi. Yüksek Lisans Tezi, Beykent Üniversitesi, Sosyal Bilimler Enstitüsü, Psikoloji Anabilim Dalı, İstanbul

- Erdoğan, M., Certel, Z., & Güvenç, A. (2011). Masa başı çalışanlarda fiziksel aktivite düzeyi: Obezite ve diğer özelliklere göre incelenmesi (Akdeniz Üniversitesi Tıp Fakültesi Hastanesi Örneği). Spor Hekimliği Dergisi, 46(3), 097-107.
- Fişne, M. (2009). Fiziksel aktivitelere katılım düzeyinin üniversite öğrencilerinin akademik başarıları iletişim becerileri ve yaşam tatminleri üzerine etkilerinin incelenmesi. Yüksek Lisans Tezi, Erciyes Üniversitesi, Sosyal Bilimleri Enstitüsü, Spor Yöneticiliği Anabilim Dalı, Kayseri.
- Genç, A., Şener, Ü., Karabacak H., & Üçok, K. (2011). Kadın ve erkek genç erişkinler arasında fiziksel aktivite ve yaşam kalitesi farklılıklarının araştırılması. *Kocatepe Tıp Dergisi*, 12(3), 145-150.
- George, D., & Mallery, P. (2019). IBM SPSS Statistics 26 step by step: A simple guide and reference (16. Baskı). Routledge. https://doi.org/10.4324/9780429056765
- Gök, O. (2022). Farklı meslek gruplarında yer alan bireylerin fiziksel aktivite yapma durumlarının yaşam doyumları ile ilişkisinin incelenmesi. Akdeniz Spor Bilimleri Dergisi, 5(Özel Sayı 2), 1125-1138. Doi: https://doi.org/10.38021asbid.1193041
- Gün, A. (2018). Beden eğitimi ve spor yüksekokulu öğrencilerinin egzersiz bağımlılık durumlarına göre fiziksel aktivite ve vücut kitle indekslerinin karşılaştırılması. Yüksek Lisans Tezi, Erzincan Binali Yıldırım Üniversitesi, Sağlık Bilimleri Enstitüsü, Beden Eğitimi ve Spor Anabilim Dalı, Erzincan.
- Gür, H., & Küçükoğlu, S. (1992). Yaşlılık ve fiziksel aktivite (9. Baskı). Roche Yayınları.
- Hallal, P. C., Victora, C. G., Wells, J. C. K., & Lima, R. D. C. (2003). Physical inactivity: Prevalence and associated variables in Brazilian adults. *Medicine and Science in Sports and Exercise*, 35(11), 1894-1900.
- Hampton, N. Z., & Marshall, A. (2000). Culture, gender, self-efficacy, and life satisfaction: A comparison between Americans and Chinese people with spinal cord injuries. *Journal of Rehabilitation*, 66(3), 21.
- Hatemi, H., Turan, N., Arık, N., & Yumuk, V. (2002). Türkiye'de obezite ve hipertansiyon taraması sonuçları (TOHTA). Endokrinolojide Yönelişler Dergisi, 11(1), 1-16.
- Hintikka, J., Koskela, T., Kontula, O., Koskela, K., Koivumaa-Honkanen, H. T., & Viinamäki, H. (2001). Religious attendance and life satisfaction in the finnish general population. *Journal of Psychology and Theology*, 29(2), 158-164. https://doi.org/10.1177/009164710102900207
- Kalkavan, A., Özkara, A. B., Alemdağ, C., & Çavdar, S. (2016). Akademisyenlerin fiziksel aktiviteye katılım düzeyleri ve obezite durumlarının incelenmesi. *International Journal of Sport Culture and Science*, 4(1), 329-339. Doi: 10.14486/IntJSCS561
- Kara, F. M., Gürbüz, B., & Sarol, H. (2018). Yetişkinlerde serbest zamanda sıkılma algısı, algılanan sosyal yetkinlik ve benlik saygısı düzeyinin incelenmesi. *Uluslararası Spor, Egzersiz ve Antrenman Bilimi Dergisi- USEABD*, 4(4), 113-121. Doi:10.18826/Useeabd.473994
- Karaaslan, İ., Tuna, U., & Serkan, E. (2020). Beden eğitimi öğretmenlerinin mesleki tükenmişlik, iş doyumu ve yaşam doyumlarının incelenmesi. *Journal of Health and Sport Sciences*, 3(1), 7-18.
- Karasar, N. (2014). Bilimsel araştırma yöntemi (26. Baskı). Nobel Yayın Dağıtım.
- Linn, L. S., Yager, J., & Cope, D. (1985). Health status, job sat-isfaction, job stress and life satisfaction among academic and clinical faculty. JAMA, 254(19), 2775-2782. Doi:10.1001/jama.1985.03360190081029
- Millî Eğitim Bakanlığı. (2022). Https://Www.Meb.Gov.Tr/2021-2022-Orgun-Egitim İstatistikleriAciklandi/Haber/27552/Tr adresinden 03 Ekim 2022 tarihinde alınmıştır.
- Oerbeck, B., Overgaard, K., Pripp, A. H., Aase, H., Reichborn-Kjennerud, T., & Zeiner, P. (2019). Adult ADHD symptoms and satisfaction with life: Does age and sex matter? *Journal of Attention Disorders*, 23(1), 3–11. Https://Doi.Org/10.1177/1087054715612257
- Önmen, H. (2021). Rekreasyonel amaçlı egzersiz yapan bireylerin mutluluk düzeyleri ile yaşam doyumlarının incelenmesi. Yüksek Lisans Tezi, Necmettin Erbakan Üniversitesi, Sosyal Bilimler Enstitüsü, Rekreasyon Yönetimi Anabilim Dalı, Konya.
- Özer, M., & Karabulut, Ö. Ö. (2003). Yaşlılarda yaşam doyumu. *Geriatri*, 6(2), 72–74.

- Özkara, A. B., Kalkavan, A., & Çavdar, S. (2015). Spor bilimleri alanında eğitim alan üniversite öğrencilerinin yaşam doyum düzeylerinin araştırılması. *International Journal of Science Culture and Sport*, 3, 336-346. Doi: 10.14486/IJSCS293
- Özkul, R., & Cömert, M. (2018). Ortaokul öğretmenlerinde yaşam doyum düzeyi. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 20(3), 707–724. Https://Doi.Org/10.17556/Erziefd.418640
- Öztürk, M. (2005). Üniversitede eğitim-öğretim gören öğrencilerde uluslararası fiziksel aktivite anketinin geçerliliği ve güvenirliği ve fiziksel aktivite düzeylerinin belirlenmesi. Yüksek Lisans Tezi, Hacettepe Üniversitesi, Sağlık Bilimleri Enstitüsü, İstanbul.
- Öztürk, P., & Koca, C. (2019). Generational analysis of leisure time physical activity participation of women in Turkey, leisure studies, 38(2), 232-244, Doi:10.1080/02614367.2019.1569112
- Özüdoğru, E. (2013). Üniversite personelinin fiziksel aktivite düzeyi ile yaşam kalitesi arasındaki ilişkinin incelenmesi. Yayınlanmamış Yüksek Lisans Tezi, Mehmet Akif Ersoy Üniversitesi, Eğitim Bilimleri Enstitüsü, Beden Eğitimi ve Spor Öğretimi Ana Bilim Dalı, Burdur.
- Recepoğlu, E. (2013). Öğretmen adaylarının yaşam doyumları ile öğretmenlik mesleğine ilişkin tutumları arasındaki ilişkinin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 1, 311-326.
- Rice, R. W., Mcfarlin, D. B., Hunt, R. G. V., & Near, J. P. (1985). Job importance as a moderator of the relationship between job satisfaction and life satisfaction. *Basic and Applied Social Psychology*, 6(4), 297-316. https://doi.org/10.1207/s15324834basp0604_2
- Satman, İ., Yılmaz, T., Şengül. A., Salman, S., & Salman, F. (2002). Population-based study of diabetes and risk characteritics in Turkey. *Diabetes Care* 2002; 25(9), 1551-6. https://doi.org/10.2337/diacare.25.9.1551
- Sevimli, D. (2008). Erişkinlerde fiziksel aktivite-beden kitle indeksi ilişkisinin araştırılması. TSK Koruyucu Hekimlik Bülteni, 7(6), 523-528.
- Şahin, F. Y., & Sarıdemir, T. (2017). Okul müdürlerinin liderlik stillerine göre öğretmenlerin yaşam doyumlarının ve evlilik doyumlarının incelenmesi. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi*, 37(1), 391-425.
- Şanlı, E., & Güzel, N. A., (2008). Öğretmenlerde fiziksel aktivite düzeyi-yaş, cinsiyet ve beden kitle indeksi ilişkisi. Gazi Beden Eğitimi ve Spor Bilimleri Dergisi, 14(3), 23-32.
- Taştan, Y. (2022). Spor merkezlerinde düzenli egzersiz yapan bireylerin fiziksel aktivite ve yaşam doyumu arasındaki ilişki. Yayımlanmamış Yüksek Lisans Tezi, Aydın Adnan Menderes Üniversitesi, Sağlık Bilimleri Enstitüsü, Beden Eğitimi ve Spor Eğitimi, Aydın.
- Tavşancıl, E. (2006). Tutumların ölçülmesi ve SPSS ile veri analizi (3. Basım). Nobel Yayın Dağıtım.
- Tunç, S. (2019). İş doyumunun yaşam memnuniyetine etkisi: Öğretmenler üzerine bir araştırma. Yayınlanmamış yüksek lisans tezi. İstanbul Sabahattin Zaim Üniversitesi, Sosyal Bilimler Enstitüsü, Eğitim Bilimleri Anabilim Dalı, İstanbul.
- Türkiye İstatistik Kurumu. (2019). Türkiye sağlık araştırması (Yayın No. 33661).

 Https://Data.Tuik.Gov.Tr/Bulten/IndeX?P=Turkiye-Saglik-Arastirmasi-2019-33661 adresinden 10 Aralık 2022 tarihinde alınmıştır.
- Uysal, E. (2019). Kuzey Kıbrıs Türk Cumhuriyeti'nde çalışan ve çalışmayan kadınların duygusal yeme durumunun vücut ağırlığı ve yaşam doyumu üzerine etkileri. Yüksek Lisans Tezi, Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ). Gazimağusa.
- Ünal, S., Karlıdağ, R., & Yoloğlu, S. (2001). Hekimlerde tükenmişlik ve iş doyumu düzeylerinin yaşam doyumu düzeyleri ile ilişkisi. Klinik Psikiyatri, 4(2), 113-118.
- Vural, Ö., Eler, S., & Güzel, N. A., (2010). Masa başı çalışanlarda fiziksel aktivite düzeyi ve yaşam kalitesi ilişkisi. Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi, 2, 69-75. https://doi.org/10.1501/Sporm_0000000178.
- Walker, G. J., & Kono, S. (2018). The effects of basic psychological need satisfaction during leisure and paid work on global life satisfaction, *The Journal of Positive Psychology*, 13(1), 36-47, DOI: 10.1080/17439760.2017.1374439.
- World Health Organization. (2008). Waist circumference and waist–hip ratio: report of a who expert consultation.

 Geneva: World Health Organization. 20

 Https://Www.Who.lnt/Publications/l/Item/9789241501491 adresinden 09 Aralık 2022 tarihinde alınmıştır.

Akbal, M., & Göktas, Z. (2023). The relationship between physical activity level of teachers, obesity prevalence and life satisfaction. Mediterranean Journal of Sport Science, 6(2), 419-435. DOI: https://doi.org/10.38021asbid.1239024

World Health Organization. (2021). Https://Www.Who.İnt/News-Room/Fact-Sheets/Detail/Obesity-And-Overweight adresinden 04 Aralık 2022 tarihinde alınmıştır.

Yıldırım, Y. (2019). Egzersiz yapan ve yapmayan üniversite öğrencilerinin fiziksel aktivite ile yaşam doyum düzeyleri arasındaki ilişki. Yüksek Lisans Tezi, Sakarya Uygulamalı Bilimler Üniversitesi, Lisansüstü Eğitim Enstitüsü, Rekreasyon Anabilim Dalı, Sakarya.

Yıldız, M. (2016). Üniversite öğrencilerinde duygusal zekâ yaşam doyumu ve depresyonun cinsiyet ve sınıf seviyelerine göre etkileri. *Opus Uluslararası Toplum Araştırmaları Dergisi*, 6(11), 451-474.

Yılmaz, E., & Aslan, H. (2013). Öğretmenlerin iş yerinde yalnızlıkları ve yaşam doyumları arasındaki ilişkinin incelenmesi. Pegem Eğitim ve Öğretim Dergisi, 3(3), 59-69.

Açıklamalı [A1]: Kaynakçanın tamamı yukarıda önerilen düzeltmelere göre revize edilmelidir.



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