

# THE EFFECT OF INDIVIDUALS PHYSICAL ACTIVITY LEVEL ON HEALTHY LIFESTYLE AND PERCEPTION HEALTH IN THE COVID-19 PANDEMIC PROCESS

Tolgahan Demirbaş<sup>1</sup>, Sefa Lök\*<sup>1</sup>

**Abstract:** This research was planned in a descriptive relational type in order to evaluate the effect of physical activity level of individuals in the Covid-19 pandemic process on healthy lifestyle behaviors and health perception. The research was carried out with 1577 people between the ages of 18-65. Data from individuals were collected by online survey method. Data from individuals were collected by online survey method. Personal information form, Health Perception Scale and Healthy Lifestyle Behaviors Scale II were used to collect data. The One Way Anova test was used in more than two groups to evaluate the relationship between physical activity characteristics and the scale of healthy lifestyle behaviors and health perception scale, and the Tukey test was used for comparison between groups.. When the physical activity status of the individuals was evaluated, it was found that 61,4% sometimes, 16,2% frequently, 11,7% never and 10,7% regularly exercised. When individuals' healthy lifestyle behaviors and physical activity levels are evaluated; Health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and scale total scores were found to be higher in those who do physical activity. When individuals' perception of health and their level of physical activity are evaluated; Self-awareness, importance of health and scale total scores were found to be higher in those who do physical activity. In line with the results of this study, women, married, primary school graduates and those with low economic status were included in the risk group in terms of physical activity. The conclusion that individuals who do not engage in physical activity have a negative impact on the sub-dimensions of healthy lifestyle behaviors, health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships and stress management, and health perception total score, control center, self-awareness, precision, and the importance of health sub-dimensions.

**Keywords:** Individuals; Covid-19, Physical Activity, Healthy Living Behaviors, Perception of Health

## COVID-19 PANDEMİ SÜRECİNDE BİREYLERİN FİZİKSEL AKİVİTE DÜZEYİNİN SAĞLIKLI YAŞAM BİÇİMİ VE SAĞLIK ALGISI ÜZERİNE ETKİSİ

**Özet:** Bu araştırma, Covid-19 pandemi sürecindeki bireylerin fiziksel aktivite düzeyinin sağlıklı yaşam biçimi davranışları ve sağlık algısı üzerine etkisini değerlendirmek amacıyla tanımlayıcı ilişkisel türde planlanmıştır. Araştırma 18-65 yaş arası 1577 kişi ile yürütülmüştür. Bireylerden veriler online anket metodu ile toplanmıştır. Verilerin toplanmasında Kişisel bilgi formu, Sağlık Algısı Ölçeği ve Sağlıklı Yaşam Biçimi Davranışları Ölçeği II kullanılmıştır. Fiziksel aktivite özellikleri ile sağlıklı yaşam davranışları biçimi ölçeği ve sağlık algısı ölçeği puan ortalamaları arasındaki ilişkiyi değerlendirmek için ikiden fazla gruplarda kullanılan One Way Anova testi, gruplar arası karşılaştırmada ise Tukey testi kullanılmıştır. Bireylerin fiziksel aktivite yapma durumları değerlendirildiğinde, %61,4'ünün bazen, %16,2'sinin sıklıkla, %11,7'sinin hiç ve %10,7'sinin ise düzenli spor yaptığı bulunmuştur. Bireylerin sağlıklı yaşam davranışları ile fiziksel aktivite düzeyleri değerlendirildiğinde; sağlık sorumluluğu, fiziksel aktivite, beslenme, manevi

gelişim, kişilerarası ilişkiler, stres yönetimi ve ölçek toplam puanları fiziksel aktivite yapanların daha yüksek saptanmıştır. Bireylerin sağlık algısı ile fiziksel aktivite düzeyleri değerlendirildiğinde; öz farkındalık, sağlığın önemi ve ölçek toplam puanları fiziksel aktivite yapanların daha yüksek saptanmıştır. Bu çalışma sonuçları doğrultusunda, fiziksel aktivite yönünden kadınlar, evliler, ilköğretim mezunu olanlar ve ekonomik durumu düşük olanlar risk grubunda yer almıştır. Fiziksel aktivite yapmayan bireylerin, sağlıklı yaşam davranışları toplam puan, sağlık sorumluluğu, fiziksel aktivite, beslenme, manevi gelişim, kişilerarası ilişkiler ve stres yönetimi alt boyutları ile sağlık algısı toplam puan, kontrol merkezi, öz farkındalık, kesinlik ve sağlığın önemi alt boyutlarının olumsuz yönde etkilendiği sonucuna varılmıştır.

**Anahtar Kelimeler:** Yetişkin bireyler; Covid-19, Fiziksel Aktivite, Sağlıklı Yaşam Davranışları, Sağlık Algısı.

<sup>1</sup>**Adress:** Konya Selçuk University, Konya, Türkiye.

**\*Corresponding Author:** sefalok@selcuk.edu.tr

**Citation:** Demirbaş, T., Lök, S. (2022). The Effect of Individuals Physical Activity Level on Healthy Lifestyle and Perception Health in The Covid-19 Pandemic Process. *Bilge Uluslararası Sosyal Araştırmalar Dergisi*, 6(2): 90-98.

## 1. INTRODUCTION

Epidemics that affect the whole world are called pandemics (Kiecolt-Glaser 2009). In order to prevent and control epidemics, it is important to follow up and isolate the sick. For these reasons, the World Health Organization (WHO) declared the Covid-19 disease as a pandemic in the current time period (Cihan and Piriñçi 2020). Curfew restrictions have been imposed all over the world, and calls have been made to people to spend more time at home (Tural 2020). Therefore, epidemics affect both physical and mental health in many ways. The bodily effects of epidemics are vital. However, the resulting psychological effects also persist for a very long time (Kiecolt-Glaser 2009). The restrictions caused by the pandemic have caused physical inactivity in individuals (Kanik 2020), which has affected people both biologically and spiritually. Physical inactivity is at the forefront of the factors that cause these effects on people. The importance of physical activity is emphasized for the protection and development of current health in the time period we live in. Because physical inactivity ranks fourth among the causes of death all over the world. Approximately 3.2 million deaths occur in a year due to unhealthy living behaviors (Ercan et al 2020). Physical activity is an indispensable factor for prolonging life expectancy and quality of life. It also plays a major role in the prevention of diseases. It is currently unclear how long the pandemic process will continue. For this reason, it is estimated that low physical activity will worsen with the prolongation of the pandemic (Öztürk and Bayraktar 2020). Increasing inactivity during the pandemic period is an important factor in the emergence of new diseases. Depending on the increasing inactivity of the people, healthy lifestyles and health perceptions have changed negatively. Although women are the most affected in this process, the young population is also affected. Individuals should be supported to engage in physical activity with information and incentives. If individuals cannot be physically active during the pandemic period, there will be an increase in psychological and physiological diseases (Meyer et al 2020).

As a result, physical activity is among the factors needed to regulate general life and to protect physical and mental health. At the same time, physical activity is among the life behaviors that must be fulfilled in order to lead a healthy life and age healthy, to ensure the quality of life at all ages. This research was conducted to evaluate the effect of the physical activity level of individuals in the Covid-19 pandemic process on healthy lifestyle behaviors and health perception.

### 1.1. Research Questions

1. What is the distribution of socio-demographic characteristics of individuals in the Covid-19 pandemic process?
2. What are the characteristics of individuals in the Covid-19 pandemic process regarding the Covid-19 process?
3. What is the level of physical activity of individuals in the Covid-19 pandemic process?
4. Does the physical activity status of individuals in the Covid-19 pandemic process change according to their sociodemographic characteristics?
5. What is the average score of healthy lifestyle behaviors and health perception of individuals in the Covid-19 pandemic process?
6. Is there a relationship between the physical activity status of individuals in the Covid-19 pandemic process, healthy lifestyle behaviors, and health perception?

## 2. MATERIAL AND METHOD

### 2.1. Type, Population, and Sample of the Study

The research was planned in a descriptive relational type. The population of the study consisted of individuals between the ages of 18-65 residing in the Çankaya district of Ankara. In determining the sample of the research, a sampling method with a known universe was used. Since the prevalence is not known, the incidence of the event was calculated as 50%, with a standard deviation of 5% and a confidence interval of 95%, and the sample was calculated as at least 1480 individuals. The study was completed with 1577 individuals. Data from individuals were collected

by the online survey method. A questionnaire form was created in the computer program and the individuals were asked to fill in the questionnaire by sharing the link.

## 2.2. Data Collection Technique and Tools

Personal information form (age, gender, marital status, education level, social security status, regular income, and people living at home, height, weight), Healthy Lifestyle Behaviors Scale-II (HLBS II), and Health Perception Scale were used to collect data. (HPS) was used.

### *Healthy Lifestyle Behaviors Scale-II (HLBS-II)*

It was developed by Walker, Sechrist, and Pender to measure the health promotion behaviors of individuals. The scale was revised in 1996 and named HLBS II. The validity and reliability of the HLBS II in Turkey were conducted by Bahar et al. in 2008. As a result of the validity and reliability study carried out in the Turkish form of the scale; The Cronbach's Alpha coefficient is 0.92 for the whole scale, 0.77 for the health responsibility subgroup, 0.79 for the physical activity subgroup, 0.68 for the nutrition-related subgroup, and 0 for the spiritual development subgroup. 79, 0.80 for the subgroup related to interpersonal relations and 0.64 for the subgroup related to stress management. Health responsibility (3,9,15,21,27,33,39,45,51), physical activity (4,10,16,22,28,34,40,46), nutrition (2,8,14,20,26,32,38,44,50), spiritual development (6,12,18,24,30,36,42,48,52), interpersonal relations (1,7,13,19,25,31, 37,43,49) and stress management (5,11,17,23,29,35,41,47). It was found to be 0.89 by test-retesting with an interval of three weeks. The scale was scored as never (1), regularly (4). The lowest score for the entire scale is 52, and the highest score is 208 (Bahar et al. 2008).

### *Health Perception Scale (HPS)*

In the Health Perception Scale developed by Diamond et al. to evaluate the perception of health, there are 15 items and 4 sub-dimensions. These sub-dimensions are; The control center is the importance of self-awareness, certainty, and health. Cronbach Alpha values according to the subgroups of the scale: control center 0.90; self-awareness 0.91; precision 0.91; the importance of health is 0.82. The adaptation of the scale to Turkish was done by Kadioğlu and Yıldız (2012). In the validity and reliability study, the Cronbach Alpha coefficient was 0.77 in nursing students and 0.70 in the families of the students, and it was found that both groups had a good level of reliability. The health perception scale is a five-point Likert-type scale. Items 1, 5, 9, 10, 11 and 14 are positive statements, items 2, 3, 4, 6, 7, 8, 12, 13 and 15 are negative statements. . Positive statements were scored as "strongly agree= 5", "agree= 4", "undecided= 3", "disagree= 2", "strongly disagree=1". Negative statements were scored inversely. The minimum score that can be obtained from the scale is 15 and the maximum score is 75 (Kadioğlu and Yıldız 2012).

## 2.3. Analysis of Data

The data of the study were evaluated using the SPSS 22.0 (Statistical Package for Social Science) statistical package program. After the data were collected, the option specified by each individual for each item in the scales was transferred to the SPSS program by the researcher and the total scores of the individuals from the scales were calculated. Whether all the data conformed to the normal distribution was evaluated by Kolmogorov Smirnov analysis of normality. As a result of the analysis, it was seen that the data conformed to the normal distribution. In the evaluation of personal data, number and percentage distributions and mean and standard deviations are given. Physical activity status was evaluated with the chi-square test according to sociodemographic characteristics. One Way Anova test, which is used in more than two groups, was used to evaluate the relationship between physical activity characteristics and healthy lifestyle behaviors scale and health perception scale means scores, and Tukey test was used for comparison between groups. The results were evaluated at a 95% confidence interval and  $p < 0.05$  significance level.

## 2.4. Ethical and Legal Aspects of Research

Ethical approval was obtained from the Ethics Committee of the Faculty of Sport Sciences of Selçuk University (Date: 11.08.2020, Decision no: 58) to conduct the research. "Scientific Research Platform Study Approval was obtained from the Ministry of Health. The purpose of the research, its duration and the procedures to be carried out during the research were briefly explained in a language they could understand, the principle of "Informed Consent", the principle of "Autonomy" by stating that the athletes could withdraw from the study at any time, and the principle of "Confidentiality and Confidentiality" by stating that individual information would be protected after it was shared with the researcher. Before the forms to be used in the research, necessary explanations were made in writing online.

## 3. RESULTS

When the socio-demographic characteristics of the individuals are evaluated, the mean age is  $25.85 \pm 8.20$  years, 79.6% are male, 72.7% are single, 47.6% are undergraduate graduates. It was determined that 59.3% of the individuals perceived their economic status as moderate, 51.3% did not work, 58.2% smoked and 88.7% did not drink alcohol. When the characteristics of the individuals regarding the Covid-19 pandemic process are examined, it is seen that 70.1% of them do not have a positive/suspicious condition of Covid-19, 98.8% of them are not hospitalized due to Covid-19, 65.6% of them have Covid-19 in their immediate surroundings. It was determined that 81.8% of them did not remain in compulsory quarantine as a result of being in contact with Covid-19 / being sick, and 51.6% of them did not have a family member at risk for Covid-19. When the level of knowledge of the individuals regarding the Covid-19 process was evaluated, it was seen that 77.2% of them felt sufficiently knowledgeable and 52.9% of them were affected by the general lifestyle of Covid-19.

When the physical activity status of the individuals was evaluated, it was found that 61.4% did not do sports sometimes, 16.2% often, 11.7% did not do sports at all, and 10.7% did sports regularly. (Table 3).

**Table 1.** Physical activity status of individuals

The state of doing physical activity	(Number of people)	Percent (%)
I never do	184	11.7
Sometimes	969	61.4
Often	255	16.2
Regularly	169	10.7

When individuals' healthy lifestyle behaviors and health perception levels are evaluated; healthy lifestyle behaviors scale health responsibility sub-dimension mean score is  $24.13 \pm 5.98$ , physical activity sub-dimension mean score is  $19.68 \pm 6.29$ , nutrition sub-dimension mean score is  $22.68 \pm 5.19$ , spiritual development sub-dimension mean score of  $29.66 \pm 4.44$ , mean score of interpersonal relations sub-dimension is  $28.87 \pm 4.35$ , mean score of stress management sub-dimension is  $21.45 \pm 4.92$ , and mean total score of healthy lifestyle behaviors scale is 146.51 It was found to be  $\pm 25.26$ . Individuals' health perception scale control center sub-dimension mean score is  $17.23 \pm 3.17$ , self-awareness sub-dimension mean score is  $8.88 \pm 2.32$ , precision sub-dimension mean score is  $12.80 \pm 3.05$ , the importance of health sub-dimension score mean score of  $10.34 \pm 1.91$  and health perception scale total score was found to be  $49.25 \pm 7.40$ .

When the sociodemographic characteristics of the individuals and their physical activity status were examined, it was observed that men were more physically active than women, and the difference was statistically significant ( $p < 0.05$ ). The physical activity level of unmarried people was found to be higher than the married ones, and the difference was statistically significant ( $p < 0.05$ ). When the educational status and physical activity status were evaluated, it was found that the undergraduates did physical activity more than the other groups and the difference was statistically significant ( $p < 0.05$ ). It was observed that those who perceived their economic situation at a moderate level did more physical activity than the other groups, and the difference was found to be statistically significant ( $p < 0.05$ ). There was no significant difference between individuals working in any job, smoking and alcohol use, and physical activity characteristics ( $p > 0.05$ ).

The relationship between the physical activity status of individuals and the total score of the healthy lifestyle behaviors scale and the mean scores of its sub-dimensions is evaluated in Table 2. Regarding the sub-dimension of health responsibility, the mean score of those who never do physical activity is  $21.79 \pm 6.09$ , those who sometimes do it  $23.91 \pm 5.76$ , those who do it often  $25.43 \pm 6.14$ , and those who do it regularly  $25.95 \pm 5.86$  is. It was observed that there was a very significant difference between the mean scores of the individuals in the Health responsibility sub-dimension according to their physical activity characteristics, and in the Tukey further analysis, it was determined that the difference was caused by those who did the regular physical activity ( $p < 0.05$ ). Regarding the

physical activity sub-dimension, the mean score of those who never do physical activity is  $13.97 \pm 5.79$ , those who do it sometimes,  $18.66 \pm 5.39$ , those who do it often,  $23.43 \pm 5.14$ , and those who do it regularly, and  $25.92 \pm 5.07$  is. It was observed that there was a very significant difference between the mean scores of the physical activity sub-dimension according to the physical activity characteristics of the individuals, and in the Tukey further analysis, it was determined that the difference was caused by those who did the regular physical activity ( $p < 0.05$ ). Regarding the nutrition sub-dimension, the mean score of those who do not do any physical activity is  $20.66 \pm 5.51$ , those who do it sometimes are  $22.24 \pm 4.91$ , those who do it frequently are  $24.11 \pm 5.14$ , and those who do it regularly are  $25.34 \pm 4.86$  is. It was observed that there was a very significant difference between the average scores of the individuals in the nutrition sub-dimension according to their physical activity characteristics, and in the Tukey further analysis, it was determined that the difference was caused by those who did the regular physical activity ( $p < 0.05$ ). Regarding the spiritual development sub-dimension, the mean score of those who never do physical activity is  $27.80 \pm 5.43$ , those who do it sometimes are  $29.47 \pm 4.21$ , those who do it frequently are  $30.56 \pm 4.23$  and those who do it regularly are  $31.35 \pm 4.01$  is. It was observed that there was a very significant difference between the mean scores of the individuals in the spiritual development sub-dimension according to their physical activity characteristics, and in the Tukey further analysis, it was determined that the difference was caused by those who did the regular physical activity ( $p < 0.05$ ). Regarding the interpersonal relations sub-dimension, the mean score of those who never do physical activity is  $27.11 \pm 4.65$ , those who do it sometimes are  $28.85 \pm 4.31$ , those who do it often are  $29.50 \pm 4.26$ , and those who do it regularly are  $29.73 \pm 3.85$ . It was observed that there was a very significant difference between the mean scores of the individuals in the interpersonal relations sub-dimension according to their physical activity characteristics, and in the Tukey further analysis, it was determined that the difference was caused by those who did the regular physical activity ( $p < 0.05$ ). Regarding the stress management sub-dimension, the mean score of those who never do physical activity is  $19.33 \pm 4.98$ , those who do it sometimes,  $21.08 \pm 4.69$ , those who do it often,  $22.95 \pm 4.99$ , and those who do it regularly, and  $23.50 \pm 4.73$  type. It was observed that there was a very significant difference between the mean scores of the stress management sub-dimension according to the physical activity characteristics of the individuals. When the relationship between the healthy lifestyle behaviors scale total score average and the characteristics of doing physical activity is evaluated, the mean score of those who never do physical activity is  $130.69 \pm 24.83$ , those who do it sometimes  $144.24 \pm 23.41$ , those who do it often  $156.01 \pm 25.04$  and those who do it regularly are  $161.83 \pm 23.11$ . It was observed that there was a very significant difference between the mean total scores of the individuals according to their physical activity characteristics from the SYDB scale, and in the Tukey further analysis, it was determined that the difference was caused by those who did the regular physical activity ( $p < 0.05$ ).

**Table 2.** Comparison of individuals' physical activity characteristics and the sub-dimensions of the healthy lifestyle behaviors scale and total average scores

HP Scale	Physical Activity Status				Test value, p
	I never do	I do sometimes	I do it often	I do it regularly	
Health Responsibility	21.79±6.09	23.91±5.76	25.43±6.14	<b>25.95±5.86</b>	F:19,08 p:0.00*
Physical Activity	13.97±5.79	18.66±5.39	23.43±5.14	<b>25.92±5.07</b>	F:19,98 p:0.00*
Nutrition	20.66±5.51	22.24±4.91	24.11±5.14	<b>25.34±4.86</b>	F:34,50 p:0.00*
spiritual development	27.80±5.43	29.47±4.21	30.56±4.23	<b>31.35±4.01</b>	F:23,22 p:0.00*
Interpersonal Relations	27.11±4.65	28.85±4.31	29.50±4.26	<b>29.73±3.85</b>	F:13,61 p:0.00*
Stress Management	19.33±4.98	21.08±4.69	22.95±4.99	<b>23.50±4.73</b>	F:31,80 p:0.00*
<b>HLBS Total Score</b>	130.69±24.83	144.24±23.41	156.01±25.04	<b>161.83±23.11</b>	F:64,92 p:0.00*

F:One Way ANOVA/Tukey , \*p<0.05

The relationship between the total and sub-dimension mean scores of the health perception scale according to the physical activity status of individuals is evaluated in Table 3. The mean score of the control center sub-dimension of the health perception scale of those who never do physical activity is 17.18±3.44, the mean score of those who do it sometimes is 17.15±3.05, the mean score of those who do it frequently is 17.25±3.33, and the mean score of those who do a regular physical activity the mean is 17.67±3.27. As a result of the analysis made between physical activity status and health perception control center sub-dimension, it was seen that there was no significant difference (p>0.05). The mean score of the self-awareness sub-dimension of the health perception scale of those who never do physical activity is 8.84±2.52, the mean score of those who do it sometimes is 8.76±2.27, the mean score of those who do it often is 9.00±2.38, and the mean score of those who do a regular physical activity the mean is 9.36±2.21. A very significant difference was found between physical activity status and health perception control center sub-dimension, and in Tukey's advanced analysis, it was determined that the difference was caused by those who did the regular physical activity (p<0.05). The mean score of the precision sub-dimension of the health perception scale of those who never do physical activity is 13.64±3.03, the mean score of those who do it sometimes is 12.91±2.94, the mean score of

those who do it often is 12.41±3.14, and the mean score of those who do regular physical activity and 11.89±3.25. As a result of the analysis made between physical activity status and health perception precision sub-dimension, it was seen that there was no significant difference (p>0.05). The mean of health perception scale sub-dimension of the importance of the health of those who never do physical activity, the average score of those who do it sometimes is 10.28±1.82, the mean score of those who do it often is 10.40±2.01 and those who do a regular physical activity the mean is 10.58±1.96. A very significant difference was found between the state of doing physical activity and the sub-dimension of the perception of health and the importance of health, and in Tukey's further analysis, it was determined that the difference was caused by those who regularly engaged in physical activity (p<0.05). The mean score of the health perception scale of those who never do physical activity is 49.98±7.83, the mean score of those who do it sometimes is 49.12±7.10, the mean score of those who do it frequently is 49.08±7.97, and the mean score of those who do regular physical activity is 51.25±7.36. As a result of the analysis made between physical activity status and the total mean score of the health perception scale, it was observed that there was a very significant difference (p<0.05).

**Table 3.** Comparison of individuals' physical activity characteristics and health perception scale sub-dimensions and total scores

Health Perception Scale	Physical Activity Status				Test value, p
	none I'm not doing	I do sometimes	I do it often	I do it regularly	
Control Center	17.18±3.44	17.15±3.05	17.25±3.33	17.67±3.27	F:1,291 p:0,276
Self awareness	8.84±2.52	8.76±2.27	9.00±2.38	<b>9.36±2.21</b>	F:11,379 p:0,000*
Precision	13.64±3.03	12.91±2.94	12.41±3.14	11.89±3.25	F:1,330 p:0,263
Importance of Health	10.29±2.12	10.28±1.82	10.40±2.01	<b>10.58±1.96</b>	F:3,438 p:0,016*
<b>Health Perception Scale Total Score</b>	49.98±7.83	49.12±7.10	49.08±7.97	<b>51.25±7.36</b>	F:0,772 p:0,001*

F:One Way ANOVA/Tukey , \*p<0.05

#### 4. DISCUSSION AND CONCLUSIONS

When the physical activity status of individuals was evaluated, it was determined that men did more physical activity than women. In a study by Korkmaz and Deniz (2013) in which they evaluated the relationship between the physical level of adult individuals and sociodemographic variables, it was reported that women do more physical activity than men. The study finding of Korkmaz and Deniz (2013) is not similar to the current study finding in this respect. This may be due to the different sample characteristics. In the study of Aktaş et al (2015), in which they evaluated the relationship between the level of physical activity in adults and sleep, they found that men do the more physical activity than women. In the study of Arabacı and Çankaya (2007) in which they examined the physical activity level of physical education teachers, it was determined that the physical activity levels of men were higher than women.

In the study of Seefeldt et al. (2002), it was concluded that the marital status of individuals is determinant in terms of physical activity, and the physical activity level of singles in particular is higher than that of married people. When the physical activity levels of the individuals were evaluated in the current study, the physical activity level of the unmarried individuals was found to be higher than the married ones. The study findings of Seefeldt et al. (2002), in this respect, are similar to the findings of the current study.

In the current study, when the physical activity levels of the individuals were evaluated, it was determined that the physical activity level of the undergraduates was higher than the other groups. In the study of Luzak et al (2017), in which the relationship between physical activity levels in adults and sociodemographic characteristics and body mass index of adults was evaluated, it was reported that the level of physical activity increased as the education level increased. In the study of Gomez et al. (2005) examining the factors affecting the physical activity level in adults, it was concluded that as the education level of the individuals increased, their physical activity level also increased and the difference was statistically significant. The study findings of Luzak et al. (2017) and Gomez et al. (2005) are similar to the findings of the current study in this respect.

In the study of Kwon et al. (2020) in which they examined the relationship between physical activity level and sociodemographic variables in physical education teachers, it was reported that as the perception of economic status increases, the rate of doing physical activity increases. In another study evaluating physical activity and sociodemographic factors, it was reported that the physical activity status of individuals varies with the increase in income level, and those who perceive their economic situation well are more physically active (Moniruzzaman et al. 2017). The study findings of Kwon et al (2020) and Moniruzzaman et al (2017) are similar to the present study finding in this respect.

The healthy lifestyle behaviors scale was used in the evaluation of the health life behaviors of the individuals, and the health perception scale was used in the evaluation of the health perceptions. First of all, the physical activity status of individuals was evaluated, then the relationship

between physical activity levels, healthy lifestyle behaviors, and health perception was evaluated. It has been determined that the majority of individuals sometimes do physical activity. Accordingly, it was observed that the levels of healthy living behaviors and health perception were above the average.

It has been determined that the mean score of taking health responsibility of those who do physical activity is higher than those who do not do physical activity. Therefore, based on this finding, it can be interpreted that individuals are more active in providing their well-being with physical activity. Individuals can take care of their health by taking responsibility for health, following health information, and applying for professional help when necessary. In the current study, it was determined that the physical activity of individuals is an important factor in having all these responsibilities. In the study of Knai et al. (2018), the characteristics of adult individuals to take health responsibility with physical activity were evaluated, and it was reported that the level of health responsibility of those who do physical activity is higher (Knai et al 2018).

In the current study, a significant relationship was found between regular physical activity and nutrition sub-dimension. It is thought that those who do physical activity have values such as choosing and arranging their meals and being careful in choosing food. In a study evaluating the relationship between university students' physical activity level and nutritional awareness, it was reported that nutritional awareness increases with increasing physical activity level (Hardan-Khalil et al 2020). In a systematic review evaluating the relationship between smoking, alcohol, and nutrition levels and physical activity in young adults, a significant relationship was determined between the physical activity level of individuals and obesity. It has been reported that as the level of physical activity increases, nutritional habits are positively affected (Oosterven et al 2017). The findings of this study are similar to the findings of the current study.

In the present study, a relationship was found between the physical activity level of individuals and their spiritual development, and it was found that as the level of physical activity increased, their spiritual development also increased. Spiritual development focuses on the development of an individual's inner resources. As spiritual development and the ability to build relationships improve, individuals are more likely to find opportunities for experiences other than who they are and what they do, by providing inner peace. In the study of Anna et al (2020), it was concluded that the level of spiritual development and well-being is related to the level of physical activity, and the spiritual development of individuals who engage in physical activity is better. In the study examining the levels of anxiety, psychological resilience, and spiritual development of those who regularly do sports, it was determined that the spiritual development levels of the individuals were significantly higher (Lawton et al. 2017). The findings of this study are similar to the findings of the current study. It can be said that physical activity is an important factor in increasing the spiritual development of individuals.

In the current study, a significant relationship was found between the healthy lifestyle behaviors and interpersonal relations sub-dimension and the level of physical activity. Interpersonal relationships are the relationships individuals have with others. Therefore, based on this finding, it can be said that the interpersonal relationship and communication skills of individuals who engage in physical activity also increase. In the studies of Sattler et al. (2018), it was reported that the interpersonal relationship skills of the experimental group increased after the intensified physical activity program was applied to the individuals. Similarly, in a study examining the relationship between physical activity and exercise levels and communication skills in adults, it was observed that as physical activity levels increase, interpersonal relationship skills increase (Ntoumanis et al 2018). The findings of this study are similar to the findings of the current study.

In the current study, a significant relationship was found between the sub-dimensions of the health perception scale and the importance of the health of the individuals who do physical activity and the general levels of the health perception scale. It has been observed that the self-awareness of those who do physical activity regularly is higher than those who do not do physical activity regularly. In the study of Eurenus et al. (2005), in which the effects of physical activity on stress and health perception were examined, a significant relationship was found between regular physical activity and the level of health perception self-awareness. The study finding of Eurenus et al (2005) supports the current study finding.

Moral-Garcia et al (2020) evaluated the relationship between physical activity and obesity, drug abuse, and health perception, and found a strong relationship between physical activity and health perception. It has been reported that as the level of physical activity of individuals increases, the mean score of the perception of health and the importance of health sub-dimension increases. In the current study, similar to the study finding of Moral-Garcia et al (2020), it was seen that the average score of the health perception scale sub-dimension of the importance of health was higher than the others for those who do physical activity regularly.

In the studies of Zhai et al. (2020), the effect of regular physical activity on health perception and sleep quality was evaluated. In the study, it was reported that the perception of health and physical activity were related, and the overall health perception average score of those who did regular physical activity was higher than those who did not do regular physical activity (Zhai et al. 2020). In the study of Lai et al. (2020), in which they examined the effects of community-based physical activity programs on positive mental health, coping with stress, obesity, and health perception, it was found that individuals who were included in the physical activity program and adapted to the whole program had a significant level of health perception average score at the end of the program. has been reported to be high (Lai et al. 2020). In the study of Kim (2020), the relationship between physical activity and health management, health perception, and psychological resilience levels in middle-aged adults was evaluated. As a result of the study, a relationship was found between physical activity and health perception, and it was determined that with the increase in the physical activity

level of the individuals, the mean health perception score also increased. In the current study, similar to the findings of the studies of Zhai et al (2020) and Lai et al (2020), it was observed that the general score average of the health perception scale of those who regularly perform physical activity was higher than the others.

The majority of individuals; There were no positive/suspicious cases of Covid-19 and therefore he was not hospitalized, he did not stay in compulsory quarantine as a result of being in contact with Covid-19/being sick, there were individuals with a diagnosis of Covid-19 in his close circle and his family had relatives at risk for Covid-19. The majority of individuals about Covid-19 felt adequately informed. For the majority of individuals, Covid-19 has greatly affected their general life. It was observed that the physical activity levels of the individuals were not at the desired level. It is thought that individuals' physical activity status is affected due to the pandemic process. In terms of physical activity, women, married, primary school graduates, and those with low economic status were included in the risk group. It was concluded that the healthy living behaviours total score, health responsibility, physical activity, nutrition, spiritual development, interpersonal relations, and stress management sub-dimensions of individuals who do not do physical activity are negatively affected. It has been observed that there is a relationship between physical activity and the total and all other sub-dimensions of healthy living behaviors of individuals in the Covid-19 pandemic process. In line with these findings, healthy living behaviors of individuals, especially during the pandemic process; It is important for them to do physical activity for the positive development of health responsibility, physical activity, nutrition, spiritual development, interpersonal relations, and stress management. It was concluded that the sub-dimensions of health perception total score, control center, self-awareness, certainty, and importance of health were negatively affected by individuals who do not engage in physical activity. It has been observed that there is a relationship between physical activity and the total and all other sub-dimensions of health perception of individuals in the Covid-19 pandemic process. In line with these findings, the health perception of individuals, especially during the pandemic process; is important for them to do physical activity for the positive development of the control center, self-awareness, certainty, and importance of health.

## REFERENCES

AKTAŞ, H., ŞAŞMAZ, C.T., KILINÇER, A., MERT, E., GÜLBOL, S., KÜLEKÇİOĞLU, D., DEMİRTAŞ, A., (2015). Yetişkinlerde fiziksel aktivite düzeyi ve uyku kalitesi ile ilişkili faktörlerin araştırılması. Mersin Üniversitesi Sağlık Bilimleri Dergisi, 8(2), 60-70.

ANNA, H., OLENA, A., HALYNA, B., NATALIA, M., VIKTORIA, T., TETIANA, O., SERGIİ, S., VOLODYMYR, K., YAROSLAV,, F., (2020). Dynamics of the physical fitness and circumference sizes of body parts as a motivation for self-improvement and self-

control in students. *Journal of Physical Education and Sports*. 15,116-122.

ARABACI, R., ÇANKAYA, C., (2007). Beden eğitimi öğretmenlerinin fiziksel aktivite düzeylerinin araştırılması. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi*, 20(1), 1-15.

BAHAR, Z., BEŞER, A., GÖRDES, N., ERSİN, F., KISSAL, A., (2008). Sağlıklı Yaşam Biçimi Davranışları Ölçeği II'nin Geçerlik ve Güvenirlik Çalışması. *Cumhuriyet Üniversitesi Hemşirelik Yüksekokulu Dergisi*, 12(1), 1-13.

CİHAN, E., ŞAHBAZ PİRİNÇÇİ, C., (2020). Covid-19 pandemi sürecinde genç popülasyonu yaşam kalitesinin fiziksel aktivite seviyesi ve depresyon düzeyi ile ilişkisi. *Selçuk sağlık dergisi*, 1 (Covid 19 özel sayı), 41-53.

ERCAN, S., BAŞKURT, Z., BAŞKURT, F., ÇETİN, C., (2020). Fiziksel İnaktivite ve Covid-19: İki Büyük Pandemi. *Türk Spor Bilimleri Dergisi*, 3(2), 51-2.

EURENIUS, E., STENSTRÖM, C.H., THE PARA STUDY GROUP, (2005). Physical activity, physical fitness, and general health perception among individuals with rheumatoid arthritis. *Arthritis Care & Research*, 53(1), 48-55.

GÓMEZ, L.F., DUPERLY, J., LUCUMÍ, D.I., GÁMEZ, R., VENEGAS, A.S., (2005). Physical activity levels in adults living in Bogota (Colombia): prevalence and associated factors. *Gaceta sanitaria*, 19(3), 206-13.

HARDAN-KHALİL, K., COSTA, C.B., FİŞHER, D.G., (2020). Daily motivational text messages impact on college students' nutritional awareness and physical activity levels. *Journal of American College Health*, 25, 1-8.

KADIOĞLU, H., YILDIZ, A., (2012). Sağlık Algısı Ölçeği'nin Türkçe Çevriminin Geçerlilik ve Güvenilirliği, *Türkiye Klinikleri J Med Sci*, 32(1), 47-53.  
KANIK, Z.H., (2020). Covid-19 pandemisinde ev tabanlı fiziksel aktivite. *Gazi Sağlık Bilimleri Dergisi, Özel Sayı*, 46-51.

KİECOLT-GLASER, J.K., (2009). Psychoneuroimmunology: Psychology's gateway to the biomedical future. *Perspectives on Psychological Science*, 4, 367-9.

KİM, Y., (2020). The effects of a physical inactivity-related health risk message intervention on changes in risk perceptions and physical activity in middle-aged women. *Journal of women & aging*, 32(5), 546-62.

KNAİ, C., PETTICREW, M., DOUGLAS, N., DURAND, M.A., EASTMURE, E., NOLTE, E., MAYES, N., (2018). The public health responsibility deal: Using a systems-level analysis to understand the lack of impact on alcohol, food, physical activity, and workplace health sub-systems. *Int J of Environ Res Public Health*, 15(12): 2895-906.

KORKMAZ, N.H., DENİZ, M., (2013). Yetişkinlerin fiziksel aktivite düzeyleri ile sosyo-ekonomik

düzeyleri arasındaki ilişkinin incelenmesi. *Sport Sciences*, 8(3), 46-56.

KWON, S., WELCH, S., MASON, M., (2020). Physical education environment and student physical activity levels in low-income communities. *BMC public health*, 20, 147-56.

LAİ, A.Y.K., LAM, E.Y.W., FABRİZO, C., LEE, D.P.K., WAN, T., TSANG, Y., HO, L., STEWART, S.M., LAM, T., (2020). A Community-Based Lifestyle-Integrated Physical Activity Intervention to Enhance Physical Activity, Positive Family Communication, and Perceived Health in Deprived Families: A Cluster Randomized Controlled Trial. *Frontiers in public health*, 8, 434-41.

LAWTON, E., BRYMER, E., CLOUGH, P., DENOVA, A., (2017). The relationship between the physical activity environment, nature relatedness, anxiety, and the psychological well-being benefits of regular exercisers. *Frontiers in psychology*, 8, 1058-65.

LUZAK, A., HEİER, M., THORAND, B., LAXY, M., NOWAK, D., PETERS, A., SCHULZ, H., KORA-Study Group, (2017). Physical activity levels, duration pattern and adherence to WHO recommendations in German adults. *PLoS one*, 12(2), 145-54.

MEYER, J., HERRİNG, M., MCDOWELL, C., LANSİNG, J., BROWER, C., SCHUCH, F., SMİTH, L., TULLY, M., MARTİN, J., CASWELL, S., COSTES, N., BOOLANİ, A., (2020). Joint prevalence of physical activity and sitting time during COVID-19 among US adults in April 2020. *Prev Med Rep*, 20, 101256.

MONİRUZSAMAN, M., AHMED, M., ZAMAN, M.M., (2017). Physical activity levels and associated socio-demographic factors in Bangladeshi adults: a cross-sectional study. *BMC public health*, 17(1), 1-8.

MORAL-GARCÍA, J.E., AGRASO-LÓPEZ, A.D., RAMOS-MORCİLLO, A.J., JİMÉNEZ, A., JİMÉNEZ-EGUÍZÁBAL, A., (2020). The influence of physical activity, diet, weight status and substance abuse on students' self-perceived health. *Int J Environ Res Public Health*, 17(4), 1387-93.

NTOUMANİS, N., QUESTED, E., REEVE, J., CHEON, S.H., (2017). Need-supportive communication: Implications for motivation in sport, exercise, and physical activity. In *Persuasion and communication in sport, exercise, and physical activity*, 155-69, Routledge.

OOSTERVEEN, E., TZELEPİS, F., ASHTON, L., HUTCHESON, M.J., (2017). A systematic review of eHealth behavioral interventions targeting smoking, nutrition, alcohol, physical activity and/or obesity for young adults. *Preventive medicine*, 99, 197-206.

ÖZTÜRK, O., BAYRAKTAR, D., (2020). Pandemielerin şafağında: covid 19 ve fiziksel inaktivite. *İKÇÜSBFD*, 5(2), 143-6.

SATTLER, K.M., DEANE, F.P., TAPSELL, L., KELLY, P.J., (2018). Gender differences in the relationship of weight-based stigmatisation with motivation to exercise and physical activity in overweight individuals. *Health Psychology Open*, 5(1), 2055-61.



SEEFELDT, V., MALINA, R.M., CLARK, M.A., (2002). Factors affecting levels of physical activity in adults. *Sports medicine*, 32(3), 143-168.

TURAL, E., (2020). Covid 19 pandemi dönemi ev karantinasında fiziksel aktivite düzeyinin yaşam kalitesine etkisi. *Van Sağlık Bilimleri Dergisi*, 13, 10-7.

ZHAI, X., YE, M., WANG, C., GU, Q., HUANG, T., WANG, K., GHEN, Z., FAN, X., (2020). Associations among physical activity and smartphone use with perceived stress and sleep quality of Chinese college students. *Mental Health and Physical Activity*, 18, 100323.