

Examination of Physical Activity and Quality of Life of University Students in the COVID-19 Pandemic Period

Ali Osman Kıvrak

Faculty of Sports Sciences, Selçuk University, Konya, Turkey

Abstract. *Study Objectives:* With this study, it was aimed to examine the physical activity and quality of life of university students during the COVID-19 pandemic period. *Methods:* A total of 495 university students, 192 female, and 303 males, participated in the study. While the personal information form created by the researcher was used for socio-demographic data, the short form of the “International Physical Activity Questionnaire” was used to determine the physical activity level, and the “SF-36” scale was used to determine the quality of life. The homogeneity and variances of the data were tested, the independent samples t test was used for pairwise comparisons, the One-Way ANOVA was used for multiple comparisons, and the Tukey HSD test was used to determine the source of difference. *Results:* While no statistical change was observed in the quality-of-life dimensions depending on the gender factor, it was determined that the value for females was statistically higher than the value for males in physical activity walking and total MET values ($p<0.05$). No statistical change was observed in physical activity and quality of life values depending on the accommodation factor. While no change was observed in the quality-of-life dimensions depending on the age factor, it was determined that the values of the 23-27 age group students were statistically higher than the other age groups in walking and Total MET values ($p<0.05$). *Conclusion:* In the light of these findings, it can be thought that females’ higher MET values are related to their hormonal tendency to gain weight compared to males, increased leisure time at home, and aesthetic concerns such as looking good. For the high MET value of the 23-27 age group, it can be suggested that the age group has specific characteristics and an age-related active lifestyle.

Key words: Physical Activity, University Student, Quality of Life, COVID-19

Introduction

Designated by the World Health Organization (WHO) as a public health emergency of international concern, COVID-19 is one of the most terrifying diseases in recent history. The virus can affect all age groups and may have negative consequences, especially in individuals with advanced age or chronic disease. Among the measures taken by governments to reduce the spread of the virus and prevent the collapse of health systems, the isolation of all individuals suspected of COVID-19 and the imposition of “social distance”

rules come first. In line with the measures taken, people locked themselves in their homes and distanced themselves from social activities, and accordingly, their movement areas were limited. Therefore, the limitations experienced in physical activities have brought many disorders such as rapid weight gain, joint and muscle disorders, and the lifestyles of individuals (for example, physical activity levels, sleep/wake behaviors, diet) have also been negatively affected (1,2).

Among all these negativities, mind (3,4) and mental health come first. Mental well-being is a meaningful structure with many dimensions such as positive

emotions, participation in meaningful activities, life purpose, sense of achievement, and interpersonal relationships (5). Mental health is one of the most important factors affecting the quality of life. The World Health Organization defines health not only as being free of disease but also as a state of physical, mental, spiritual, and social integration. From this perspective, it was aimed to examine the physical activity and quality of life of university students during the COVID-19 pandemic period.

Physical activity is bodily movements that are produced because of the contraction of skeletal muscles and require energy expenditure above the basal level (6). Physical activity is a complex phenomenon defined by intensity, duration, and frequency. Many researcher authors have focused on the intensity of the activity. Thanks to the reference tables, such information can be converted into a metabolic equivalent (MET) in terms of approximate energy expenditure (kJ/min), oxygen consumption (l/min per kg or ml/min), and resting states (7). Criterion methods (direct observation and calorimetry), objective methods (heart rate monitoring, accelerometer, pedometer), and subjective methods (diary, record, questionnaire, retrospective historical data) are used to determine the level of physical activity.

In the study, the questionnaire method, which is a subjective measurement, was used to determine the physical activity levels of the students forming the population. Subjective Methods are a method commonly used in epidemiological studies, among the measurements made by asking questions to individuals in determining the levels of physical activity. In subjective methods, information is obtained directly from the person him/herself, and the techniques made include diaries, records, surveys, retrospective story studies, and general reports. In this way, individuals are asked to record and monitor the time they spend on various types of physical activity and to remember their participation for days, weeks, and even months (8).

The World Health Organization (WHO) recommends paying special attention to social participation, especially for the elderly, adults, and adolescents (9). Social participation plays a significant role in personal well-being (e.g. quality of life) (10). On the other hand, participating in personal leisure activities (a kind of social participation) is very important for improving physical health, mental health, and quality of life (11). This

link between the quality of life and social participation is negatively affected by staying at home, which is one of the most effective ways to slow down or prevent the spread of infectious diseases. The spread of COVID-19 and consequent lock-down can be associated with loneliness, pessimism, and dissatisfaction with the quality of life in individuals (12). Indeed, a multicenter study on people's social participation and life satisfaction during COVID-19 house confinement showed that "incarceration" life satisfaction scores decreased by 16% compared to the previous period (3). Related to similar pandemic crises (2002–2004 SARS outbreak), other studies have found similar negative effects of quarantine measures on social participation and have been associated with reduced quality of life (13,14). It was thought that this study, which aimed to examine the physical activity and quality of life of university students during the COVID-19 pandemic period, will shed light on studies that can be done in different scopes and dimensions.

Materials and Methods

Participants

A total of 495 university students, 192 female, and 303 males, participated in this study, which aims to examine the physical activity and quality of life of university students during the COVID-19 pandemic period. For this study, an ethics committee report was obtained from the non-interventional clinical research ethics committee of Selcuk University, Faculty of Sport Sciences, with the decision dated 20.05.2021 and numbered 72. While the personal information form created by the researcher was used for socio-demographic data, the short form of the "International Physical Activity Questionnaire" was used to determine the physical activity level, and the "SF-36" scale was used to determine the quality of life.

Data Collection Tools

International Physical Activity Questionnaire

This questionnaire, consisting of 9 questions, used to measure the level of physical activity was developed by Craig et al. (15). It was adapted to Turkish culture

by Öztürk (7). The questionnaire form determines the participant's time in the activities in the last week and a score is obtained as "MET min/week". The score is obtained by multiplying the time in minutes, the number of days, and the MET value corresponding to the basal metabolic rate.

The MET minute/week values of the students forming the sample in the study were calculated according to the formula below (16):

$$\text{MET/week} = \text{frequency of activity} \times \text{duration of activity} \times \text{intensity of activity}$$

The following score ranges were used to classify students according to their physical activity levels (15):

- √ Inactive: < 600 MET minutes/week
- √ Intermediate: 600-3000 MET minutes/week
- √ Active: > 3000 MET minutes/week

SF-36 Quality of Life Scale

The Scale, which was developed by Ware and Sherbourne (17) and adapted to Turkish by Koçyiğit et al. (18) that determines the health life quality of individuals consists of 36 items. SF-36 quality of life scale is consisting of 8 sub-dimensions in total; Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH). Four of the dimensions are physical component scores and four are mental component scores. Each sub-dimension is scored between 0-100 within itself. The higher the scores in the sub-dimension, the higher the quality-of-life value. Item response types vary according to the characteristics of the sub-dimensions.

Statistical analysis

SPSS 22.0 IBM statistical package program was used to evaluate the data obtained. The homogeneity and variances of the data were tested, the independent samples t test was used for pairwise comparisons, the One-Way ANOVA was used for multiple comparisons, and the Tukey HSD test was used to determine the source of difference. To evaluate the internal consistency of the scale and its sub-dimensions used in the study, reliability analysis was performed with the Cronbach's Alpha (α) method. First, the missing values were examined, then the outliers were examined, and the significance level was determined as 0.05.

Results

As can be seen from Table 1; While no statistical change was observed in sitting, moderate, and vigorous exercise dimensions depending on gender, the mean value for females was found to be statistically higher than the value for males in walking and general MET values ($p < 0.05$).

As can be seen in Table 2, no statistical change was observed in the dimensions of quality of life depending on gender.

As can be seen from Table 3; While no statistical change was observed in sitting, moderate, and vigorous exercise dimensions depending on age, the average value of the 23-27 age group was found to be statistically higher than the value of the other age groups in walking and general MET values ($p < 0.05$).

As can be seen in Table 4, no statistical change was observed in the quality-of-life dimensions depending on age groups.

Table 1. Changes in physical activity dimension scores related to gender factor

Gender	n	Sitting		Moderate Intensity		Vigorous		Walking		General MET	
		\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE
Female	192	196.88	10.14	251.25	33.92	267.50	37.96	427.97	23.44	1143.59	59.76
Male	303	174.65	8.20	209.90	22.51	291.49	36.54	360.06	15.91	1036.10	45.61
Total	495	183.27	6.39	225.94	19.05	282.18	26.76	386.40	13.39	1077.79	36.32
t		1.699		1.016		-.436		2.397		1.430	
p		.089		.291		.649		.013*		.015*	

*Significant difference between groups ($p < 0.05$); SE: Standart Error

Table 2. Changes in quality-of-life dimension scores related to gender factor

Gender	n	PF		RP		BP		GH		VT		SF		RE		MH		General	
		\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE
Female	192	20.34	0.18	5.07	0.07	6.88	0.11	17.82	0.18	14.20	0.19	5.91	0.12	3.74	0.05	17.64	0.20	94.58	0.40
Male	303	20.59	0.13	5.10	0.05	6.82	0.09	17.87	0.13	13.82	0.13	5.92	0.10	3.76	0.04	17.34	0.15	94.60	0.30
Total	495	20.49	0.10	5.09	0.04	6.84	0.07	17.85	0.11	13.97	0.11	5.92	0.08	3.75	0.03	17.45	0.12	94.59	0.24
t		-1.135		-.359		.422		-.222		1.603		-.081		-.335		1.201		-.034	
p		.244		.716		.673		.821		.098		.935		.736		.226		.972	

Table 3. Changes in physical activity dimension scores related to age factor

Age (years)	n	Sitting		Moderate Intensity		Vigorous		Walking		General MET	
		\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE
18-22	247	190.57	8.97	205.02	23.90	268.18	39.47	352.71	17.16 ^c	1016.48	50.09 ^b
23-27	179	175.98	10.74	264.13	34.39	340.56	46.65	430.29	25.19 ^a	1210.96	65.96 ^a
28 and older	69	176.09	17.17	201.74	58.34	180.87	45.52	393.13	33.08 ^b	951.83	74.98 ^c
F		.649		1.140		1.935		3.575		4.028	
p		.523		.321		.145		.029 [*]		.018 [*]	

^{*} = significant difference between groups (p<0.05) ^{a,b,c} = a>b>c; SE: Standart Error

Table 4. Changes in quality-of-life dimension scores related to age

Age (years)	n	PF		RP		BP		GH		VT		SF		RE		MH		General	
		\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE
18-22	247	20.38	0.15	5.09	0.06	6.80	0.10	17.80	0.15	14.20	0.16	5.83	0.10	3.74	0.05	17.42	0.17	94.45	0.35
23-27	179	20.50	0.17	5.10	0.06	6.92	0.12	17.77	0.19	13.64	0.18	6.06	0.13	3.75	0.05	17.54	0.20	94.51	0.38
28 and older	69	20.87	0.24	5.09	0.11	6.80	0.19	18.25	0.30	14.00	0.28	5.88	0.22	3.81	0.10	17.36	0.34	95.30	0.73
t		1.204		.003		.303		1.112		2.715		1.026		.277		.155		.700	
p		.301		.997		.739		.330		.067		.359		.758		.856		.497	

Table 5. Changes in physical activity dimension scores related to accommodation factor

Accommodation	n	Sitting		Moderate Intensity		Vigorous		Walking		General MET	
		\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE
Family/Relatives	245	182.94	9.03	209.63	26.32	274.29	31.78	397.62	18.82	1064.47	47.82
Dormitory	66	177.27	17.05	283.64	70.08	356.36	91.71	324.00	33.56	1141.27	124.52
Student house	184	185.87	10.69	226.96	27.79	266.09	48.19	393.85	22.84	1072.76	59.48
F		.090		.792		.600		1.683		.240	
p		.914		.453		.549		.187		.787	

As can be seen in Table 5, no statistical change was observed in physical activity dimensions depending on the accommodation factor.

As can be seen in Table 6, no statistical change was observed in the dimensions of quality of life depending on the accommodation factor.

Discussion and Conclusion

The measures taken to protect public health during the COVID-19 epidemic have brought many restrictions that will affect daily life. Although these measures aim to reduce the spread of COVID-19, some

Table 6. Changes in quality-of-life dimension scores related to accommodation factor

Accommodation	n	PF		RP		BP		GH		VT		SF		RE		MH		General	
		\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE	\bar{x}	SE
Family/Relatives	245	20.59	0.15	5.08	0.06	6.92	0.10	17.93	0.16	13.93	0.17	5.80	0.11	3.72	0.05	17.33	0.18	94.53	0.35
Dormitory	66	20.52	0.27	5.15	0.10	6.83	0.18	17.52	0.29	14.02	0.28	6.36	0.20	3.77	0.09	17.18	0.30	94.64	0.65
Student house	184	20.35	0.17	5.08	0.07	6.74	0.11	17.86	0.17	14.00	0.17	5.91	0.13	3.79	0.06	17.72	0.20	94.66	0.39
F		.586		.183		.632		.781		.055		2.874		.571		1.504		.029	
p		.557		.833		.532		.458		.946		.057		.565		.223		.971	

negative effects such as physical, mental, spiritual, and emotional health have not yet made sense. Therefore, an international online survey (ECLB-COVID19) in seven languages was launched on April 6, 2020, to explain the impact of COVID-19 restrictions on mental health and emotional well-being (19). According to the research results, COVID-19 house confinement harmed both mental health and mood and emotions. While 12.89% of people reported lower mental well-being during the restrictions compared to before the pandemic, 44.9% of them reported depressive symptoms in total (12). In this study, it was determined that females' walking and total MET values were higher than males in physical activity scores ($p < 0.05$; Table 1). When the relevant literature is examined, there are many studies and that show males have higher physical activity values than females (20-22). These results are not similar to the findings of our study. The reason for this situation can be considered as the convergence in social status and roles due to technological changes and innovations, as well as the temporal differentiation of studies. In addition, it is seen that the general average MET values for this study are moderately active. In a study conducted by Savcı et al. (23) on determining the physical activity levels of university students, they reported the results that students were in the active category, and in this respect, they are similar to the findings of our study. In our study, while 23-27 age group students had a statistically higher value than 18-22 age group students and 18-22 age group students had a statistically higher value than 28 years and older students ($p < 0.05$; Table 3), no statistical change was observed depending on the accommodation factor (Table 5). King et al (24) reported that after young adulthood, the level of physical activity decreases with age. The low MET value of students aged 28 and over observed in this study is similar to the study of King

et al. (24). It is believed that the reason for this differentiation between age groups is due to the unique characteristics of age groups, as well as the negative effect of technological changes and innovations on low age groups.

When the quality-of-life values was examined for this study, no statistical change was observed depending on gender, age, and accommodation factors (Table 2; Table 4; Table 6). Akyüz (25), Ölçücü et al. (26), Ergen et al. (27) did not report any changes related to gender in their studies, these results are important in terms of supporting the findings of our study. It is possible to come across different studies on the positive effect of the age factor on the quality of life (28,29). Aydın Boylu and Paçacıoğlu (30) reported that since studies on quality of life are conducted in different regions, different age groups, and different socio-economic environments, different results can be seen. It is thought that the findings of Aydın Boylu and Paçacıoğlu (30) are important in terms of supporting the results of our study. It is possible to come across studies in the literature that improving the quality of accommodation has a positive effect on the welfare and quality of life of individuals (31-34). In this study, no statistical change was observed in the quality-of-life values depending on the accommodation factor. The fact that the studies are carried out in different scopes and dimensions can be seen as the reason for this situation that has occurred in time-related changes.

The consequences that the pandemic process, which has not yet come to an end, may bring with it in the future are a mystery. Therefore, the research findings available in the literature support various psychological disorders and mood disorders such as stress, depression, nervousness, insomnia, fear, confusion, anger, frustration, boredom, and stigma during quarantine periods (35,36). It is possible to come

across studies showing that the COVID-19 epidemic causes anxiety, depression, sleep problems, and other psychological problems (37,38). Quality of life interacts with many factors such as physical and material well-being, participation in social life, participation in leisure activities, psychological state, emotional state, and relations between family and friends (39). Based on this definition, the quality of life of individuals should be questioned again with the normalization in the following periods. Tunç et al. (40) reported that individuals who do enough physical activity during the COVID-19 pandemic have a higher quality of life than those who do not. Future research should investigate the long-term impact of the COVID-19 pandemic on mental health and quality-of-life and determine which components of physical and social weakness that may persist after the quarantine period may affect human life in what way.

Acknowledgement: We would like to thank all students who participated in our study.

Conflicts of interest: The author declares no conflict of interest.

References

1. Ammar A, Brach M, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, Bouaziz B, Bentlage E, How D, Ahmed M, et al. Effects of COVID-19 Home Confinement on Eating Behaviour and Physical Activity: Results of the ECLB-COVID19 International Online Survey. *Nutrients* 2020; 12(6): 1-13.
2. Trabelsi K, Ammar A, Masmoudi L, Boukhris O, Chtourou H, Bouaziz B, Brach M, Bentlage E, How D, Ahmed M, et al. Globally altered sleep patterns and physical activity levels by confinement in 5056 individuals: ECLB COVID-19 international online survey. *Biology of Sport* 2021; 38(4): 495-506.
3. Ammar A, Trabelsi K, Brach M, Chtourou H, Boukhris O, Masmoudi L, Bouaziz B, Bentlage E, How D, Ahmed M, et al. Effects of home confinement on mental health and lifestyle behaviours during the COVID-19 outbreak: insights from the ECLB-COVID19 multicentere study. *Biology of Sport* 2021; 38(1): 9-21.
4. Chtourou H, Trabelsi K, H'mida C, Boukhris O, Glenn JM, Brach M, Bentlage E, Bott N, Shephard RJ, Ammar A, Bragazzi NL. Staying physically active during the quarantine and self-isolation period for controlling and mitigating the COVID-19 pandemics: An overview of the literature. *Frontiers in Psychology* 2020; 11: 1-11.
5. Seligman ME. Flourish: A visionary new understanding of happiness and well-being. *Policy* 2011; 27(3): 60-61.
6. Özer K. Physical fitness. Ankara: Nobel Publications 2010.
7. Öztürk M. A research on reliability and validity of international physical activity questionnaire and determination of physical activity level in university students. Hacettepe University, Institute of Health Sciences, Master's Thesis, Ankara, 2005.
8. Vanhees L, Lefevre J, Philippaerts R, Martens M, Huygens W, Trooster T, Beunen G. How to Assess Physical Activity? How to Assess Physical Fitness? *European Journal of Cardiovascular Prevention and Rehabilitation*. 2005; 12(2): 102-114.
9. WHO. Active ageing: A policy framework. Madrid, Spain 2002.
10. Chipuer HM, Bramston P, Pretty G. Determinants of subjective quality of life among rural adolescents: A developmental perspective. *Social Indicators Research* 2003; 61: 79-95.
11. Litwin H, Shiovitz-Ezra S. The association between activity and wellbeing in later life: What really matters? *Ageing & Society* 2006; 26(2): 225-243.
12. Ammar A, Mueller P, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, Bouaziz B, Brach M, Schmicker M, Bentlage E, et al. Psychological consequences of COVID-19 home confinement: The ECLB-COVID19 multicenter study. *PLOS ONE* 2020; 15(11): 1-13.
13. Hawryluck L, Gold WL, Robinson S, Pogorski S, Galea S, Styra R. SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases* 2004; 10(7): 1206-1212.
14. Reynolds DL, Garay JR, Deamond SL, Moran MK, Gold W, Styra R. Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiol Infect.* 2008; 136: 997-1007.
15. Craig CL, Marshall AL, Sjström M, Bauman AE, Booth ML, Ainsworth BE, Pratt M, Ekelund U, Yngve A, Sallis JF, Oja P. International Physical Activity Questionnaire: 12-Country Reliability and Validity. *Medicine & Science in Sports & Exercise* 2003; 35(8): 1381-1395.
16. Karaca A, Turnagöl HH. Reliability and validity of three different questionnaires in employees. *Hacettepe Journal of Sport Sciences* 2007; 18(2): 68-84.
17. Ware JE, Sherbourne CD. The MOS 36 item short form healty survey (SF-36). I conceptual framework & item selection. *Medical Care* 1992; 30(6): 473-483.
18. Koçyiğit H, Aydemir Ö, Fişek G, Ölmez N, Memiş A. Reliability and validity of the Turkish version of short form-36 (SF-36). *Journal of Medicine and Treatment* 1999; 12(2): 102-106.
19. Ammar A, Mueller P, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, Bouaziz B, Brach M, Schmicker M, Bentlage E, How D, Ahmed M, et al. Emotional consequences

- of COVID-19 home confinement: The ECLB-COVID19 multicenter study. *MedRxiv* 2020.
20. Vural Ö, Eler S, Güzel NA. The relation of physical activity level and life quality at sedentary profession. *SPORT-METRE Journal of Physical Education and Sport Sciences* 2010; 8(2): 69-75.
 21. Molanorouzi K, Khoo S, Morris T. Motives for adult participation in physical activity: Type of activity, age, and gender. *BMC Public Health* 2015; 15: 1-12.
 22. Badicu G. Physical activity and sleep quality in students of the faculty of physical education and sport of Braşov, Romania. *Sustainability*. 2018; 10(7): 1-10.
 23. Savcı S, Öztürk M, Arıkan H, İnce DE, Tokgözoğlu L. Physical activity levels of university students. *Arch Turk Soc Cardiol* 2006; 34(3): 166-172.
 24. King AC, Blair SN, Bild DE, Dishman RK, Dubbert PM, Marcus BH, Oldridge NB, Paffenbarger RS, Powell KE, Yeager KK. Determinants of physical activity and interventions in adults. *Medicine and Science in Sports and Exercise*, 1992; 24(6): 221-236.
 25. Akyüz H. The investigation of the relationship between leisure time consumers' levels of life quality and happiness: Olympic winter festival example. Ankara, Gazi University, Institute of Health Sciences, Department of Physical Education and Sports, 2018; 126.
 26. Ölçücü B, Vatanserver Ş, Özcan G, Çelik A. The relationship between physical activity level and life quality among middle aged individuals. *International Journal of Educational Sciences* 2015; 2: 63-73.
 27. Ergen A, Tanrıverdi O, Kumbasar A, Arslan E, Atmaca D. A cross-sectional study on the quality of life of healthcare professionals. *Haseki Medical Bulletin*, 2011; 49(1): 14-19.
 28. Öztop H, Şener A, Güven S, Doğan N. Influences of Inter-generational Support on Life Satisfaction of the Elderly: The Turkish Sample. *Social Behavior and Personality* 2009; 37(7): 957-970.
 29. Memik NÇ, Ağaoğlu B, Coşkun A, Üneri ÖŞ, Karakaya I. The validity and reliability of the Turkish pediatric quality of life Inventory for children 13-18 years old. *Turkish Journal of Psychiatry* 2007; 18(4): 353-363.
 30. Aydiner Boylu A, Paçacıoğlu B. Quality of life and indicators. *Journal of Academic Researches and Studies* 2016; 8(15): 137-150.
 31. Bıçkı A, Ak D. Housing Quality as an Urban Quality of Life Indicator: An Evaluation for Turkey. *İdealKent Dergisi* 2019; 730-746.
 32. Tuna B. Aging Elegant Buildings of Söke. *Journal of Architecture* 2014; 379.
 33. Yaşar MR. Housing the Poor: Rethinking Urban Poverty in Housing Poverty (Ed. Ö. Aytaç & S. İlhan), Ankara: Birleşik Bookstore 2013; 277-338.
 34. Elbi N. The Investigation Of Reasons For Losing Historical Environment Of Original Fabric In Konya Sample. Selcuk University, Institute of Science and Technology, Konya, Master's Thesis, 2009.
 35. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet* 2020; 395: 912-920.
 36. Pursell E, Gould D, Chudleigh J. Impact of isolation on hospitalised patients who are infectious: systematic review with meta-analysis. *BMJ Open* 2020; 10(2): 1-8.
 37. Qiu J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General Psychiatry* 2020; 33: 1-2.
 38. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho RC. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *International Journal of Environmental Research and Public Health* 2020; 17(5): 1-25.
 39. Altuğ F, Yağcı N, Kitiş, A, Büker N, Cavlak U. Analyzing of factors affecting the quality of life in elderly at home. *Journal of Research on Elderly Problems* 2009; 2(1): 48-60.
 40. Tunç AÇ, Zorba E, Çingöz YE. The Effect of Exercise on Quality of Life in the Period of Pandemic (COVID 19). *International Journal of Contemporary Educational Studies* 2020; 6(1): 127-135.

Correspondence:

Ali Osman Kıvrak
 Faculty of Sports Sciences, Selçuk University, Konya, Turkey
 E-mail: aokivrak@selcuk.edu.tr