



Inactividad y estrés provocados por la pandemia COVID-19: ¿Cuál es la situación de los estudiantes universitarios?

Inactivity and stress brought about by the covid-19 pandemic: What is the situation with university students?

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RESUMEN.

El propósito de este estudio es examinar los niveles de actividad física del antes y durante la pandemia, y los estilos de afrontamiento del estrés según sus niveles de actividad física, y los estilos de afrontamiento del estrés durante el proceso pandémico según el género de los estudiantes. Facultad de Ciencias del Deporte. El grupo de investigación del estudio está formado por 401 estudiantes voluntarios (175 mujeres; 206 hombres). Los datos fueron recolectados utilizando el "Cuestionario Internacional de Actividad Física-Formulario Corto" y el "Cuestionario de Maneras de Afrontamiento". En el análisis de datos; La prueba t se utilizó en comparaciones por pares y la prueba ANOVA se utilizó en comparaciones múltiples. Según los resultados del análisis; Durante la pandemia de Covid-19, la tasa de actividad física disminuyó tanto en estudiantes femeninos como masculinos en comparación con el período pre-pandémico, y el nivel de actividad física mostró una diferencia significativa a favor de los estudiantes masculinos según la puntuación MET total durante el período pandémico. . Todos los estudiantes usaron el estilo de "enfoque seguro" el más alto y el "enfoque sumiso" el menos en sus estilos de afrontamiento. Se encontró una diferencia significativa en las subdimensiones de enfoque seguro, indefenso y optimista según los niveles de actividad física. Como resultado, se puede decir que la forma de afrontar el estrés de los alumnos con un alto nivel de actividad física también incide positivamente. En este contexto, se puede recomendar a los estudiantes la actividad física y el ejercicio para hacer frente al estrés.

PALABRAS CLAVE.

Covid-19, actividad física, estrés, estudiante.



Fecha de recepción: 01-06-2021 Fecha de aceptación: 08-07-2021

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International Journal of Educational Research and Innovation (IJERI), 16, 200-222

ISSN: 2386-4303 DOI <https://doi.org/10.46661/ijeri.6018>



**ABSTRACT.**

The purpose of this study is to examine the physical activity levels of the before and during the pandemic, and the styles of coping with stress according to their physical activity levels, and the styles of coping with stress during the pandemic process according to gender of students Faculty of Sports Sciences. The research group of the study consists of 401 volunteer students (175 female; 206 male). The data were collected used the "International Physical Activity Questionnaire-Short Form (IPAQ-SF)", and the "Ways of Coping Questionnaire" and personal information form. In the analysis of data; t test was used in pairwise comparisons and ANOVA test was used in multiple comparisons. According to the analysis results; During the Covid-19 pandemic, the physical activity rate decreased in both female and male students compared to the pre-pandemic period, and the physical activity level showed a significant difference in favor of male students according to the total MET score during the pandemic period. All students used the "confident approach" style the highest and the "submissive approach" the least in their coping styles; It was determined that girls used the submissive approach more than boys. A significant difference was found in the sub-dimensions of self-confident, helpless and optimistic approach according to physical activity levels. As a result, it can be said that the way of coping with stress of students with a high level of physical activity also affects positively. In this context, physical activity and exercise can be recommended to students in coping with stress.

KEY WORDS.

Covid-19, physical activity, stress, student.

1. Introduction.

The new coronavirus (COVID-2019) spread very rapidly and caused an acute infectious pneumonia outbreak throughout China and other countries (Bao et al., 2020; Khachfe-Hussein et al., 2020). The World Health Organization (WHO) officially declared COVID-19 an international public health emergency on January 30, 2020 (Wang et al., 2020). More than 200 countries worldwide have been affected by COVID-19; the total number of confirmed patients was 59.219.229, and there were more than 1.397.176 deaths by November 24, 2020. COVID-19 has significantly affected the daily lives of people across the world. In Turkey, extensive measures have been taken regarding the use of businesses and activity areas (e.g., public and private sports halls, etc.) to decrease the spread of COVID-19. However, these measures result in undesired consequences on social behaviors. The pandemic has brought about not only the risk of death from the viral infection but also both physical and psychological pressure on people (Xiao, 2020; Duan, 2020). The continuous spread of the outbreak, strict isolation measures, and the delay in the initiation of education in schools and universities across the country have both restricted the physical activities of university students and made us think that they have caused adverse effects on students' mental health. Even in the pandemic process, it has been reported that not only university students but also academics have negatively affected their mental health in the distance education process brought about by the pandemic (Fernández-Batanero et al. 2021). Reports on the outbreak's physical and



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psychological effect on the general public, patients, healthcare professionals, children, adults, and the elderly have been presented (Chen et al., 2020; Yang et al., 2020; Li et al., 2020). Physical activity (PA) is any body movement that is produced by skeletal muscles and results in energy expenditure above the resting (basal) levels (USDHHS, 1999) (Caspersen et al., 1985). In general, "it includes exercise, sports, and physical activities performed as a part of daily life, job, free time, and active transportation" (Garber et al., 2011). Regular physical activity is one of the significant factors in the prevention and treatment of chronic diseases. Physical activity is known to have maley benefits, including mental health and well-being (Mcmahon et al., 2017). The contributions of physical activity to reducing the risk of infectious diseases (e.g., bacterial and viral infections) and supporting the immune system are among the ongoing research topics. The consensus in the literature on exercise immunology is that the immune system responds to exercise, but the adaptation of exercise to the immune system depends on the intensity, duration, and type of exercise (Niemale & Wentz, 2019; Bermon et al., 2017). Moreover, it has been revealed that having an active lifestyle has positive effects on mental health (Chekroud et al., 2018; Stubbs et al., 2018). On the other hand, physical inactivity also brings about negative mental health outcomes (Vancampfort et al., 2020; Stubbs et al., 2018). When the causes of death in the world are reviewed, not doing physical activity is stated as the fourth risk factor (WHO, 2020).

The concept of stressis expressed as situations that occur under the influence of the individual or his/her environment, lead to mental or physical tension, and cause pressure, anxiety, or negative concerns (Aytaç, 2009). Living conditions, which are becoming more difficult every day, changing humale relations and experienced uncertainties have been demonstrated as factors increasing stress (Barutçugil, 2004). Studies have revealed that physical activity and exercise help eliminate negative emotions brought about by chronic stress (Can, 2019; Edenfield et al., 2011). Exercise neutralizes the effects of psychological stressors on cardiac reactivity (Hamer et al., 2006). It also reduces the increases leading to stress in stress hormones (Greenwood et al., 2003) and serotonin (Greenwood & Fleshner, 2011) and prevents immunosuppression caused by stress (Fleshner, 2005). Studies have shown that people doing exercise have a low level of depression and optimal anxiety, physical activity and exercise positively contribute to the individual's mental health and ability to cope with stressful situations and improve the individual's depression status (Salmon, 2001; Dunn et al., 2001; Rethorst et al., 2009; Wipfli et al., 2008; Babyak et al., 2000). Thus, it has been concluded that physical activity and exercise suppress stress-related effects on health (Gerber & Puhse, 2009). Concerning the positive effects of exercise on stress, it can be stated that it is used as a precaution against the distress of a stressful experience (Dienstbier, 1991).

It is known that the inactivity brought by the era causes maley fatal diseases such as heart diseases and diabetes. Likewise, anxiety and depression decrease our quality of life as much as inactivity does. In our current lives, stress-related problems may arise, resulting in an adverse effect on our quality of life. Physical activity is known to have positive effects on eliminating stress-related problems that affect maley factors. In this context, the COVID-19 pandemic is thought to cause changes in university students' physical activity levels and affect their stress status, as in every individual. In light of all this information, the aim of this study is to determine university students' physical activity levels, their styles of coping with stress, and





their styles of coping with stress according to their physical activity levels during the COVID-19 pandemic. In this context, the study aims to examine the physical activity levels of FSS students before and during the pandemic and their styles of coping with stress during the pandemic and to reveal them by gender. Secondly, it aims to determine students' styles of coping with stress according to their physical activity levels.

2. Method.

2.1. Research Design.

This study, which aims to determine university students' physical activity levels and styles of coping with stress during the pandemic, has a "descriptive (survey)" design.

2.2. Study Group.

For the representation of the population by the sample, 401 students studying at the Faculties of Sports Sciences in seven different regions of Turkey voluntarily participated in the study. Students' mean age is ($\bar{X}=21.58\pm 3.37$) years, and their mean sports experience is ($\bar{X}=5.72\pm 4.17$) years. Demographic information about students is given in Table 1.

Table 1. Demographic information about students.

Variable		N	%
Gender	Female	175	43.6
	Male	226	56.4
Department	Physical Education Teacher	76	19.0
	Coaching Training	159	39.7
	Sports Management	73	18.2
	Recreation	93	23.2
Sports branch	Individual	179	44.6
	Team	170	42.4
	No branches	52	13.0
BMI	Weak	60	15.0
	Normal	294	73.3
	Overweight	43	10.7
	Obese	2	0.5
Total		401	100

When Table 1 is examined, students' descriptive statistical data such as gender, department, sports branch, and BMI are observed.





2.3. Data Collection Tools.

The data were collected using the International Physical Activity Questionnaire-Short Form (IPAQ-SF), the Ways of Coping Questionnaire, and the personal information form prepared by the researcher in a virtual environment (Google-form).

International Physical Activity Questionnaire-Short Form (IPAQ-SF): The questionnaire was designed by Booth (1996), and its validity and reliability studies in Turkey were performed by Öztürk (2005). In the study, the short form of the IPAQ was used to identify the physical activity and sedentary lifestyle of adults. The short form consists of seven questions, providing information about the time spent by the participant on walking, moderate-vigorous and vigorous activities in the last seven days. The time spent sitting is evaluated in a separate question. As a result of the calculations, the "MET-minute" score is reached. A MET-minute is calculated by multiplying the minutes of the activity performed by the MET score (Öztürk, 2005). In the questionnaire, it is determined how many days in the last week the individual did a vigorous physical activity and moderate physical activity and walked, and how long he did them per day. In the last question, the time spent daily without movement (sitting, lying, etc.) is determined. As a result of these calculations, the "MET-minute" score is reached. A MET-minute is calculated by multiplying the minutes of the activity performed by the MET score.

The person at rest consumes 3.5 ml of oxygen per kg in a minute. In the IPAQ, it is considered that VPA = 8.0 MET, MPA = 4.0 MET, and W = 3.3 MET (Bozkuş et al., 2013).

Met calculation criteria:

- Walking MET-min/week = 3.3 X walking minutes X number of walking days,
- Moderate MET-min/week = 4.0 X moderate activity minutes X number of moderate activity days,
- Vigorous MET-min/week = 8.0 X vigorous activity minutes X number of vigorous activity days,
- In total, MET-min/week = (walking + moderate + vigorous + sitting) MET-min/week (Makaracı et al., 2020).

Ways of Coping Questionnaire: The questionnaire was developed by Folkman and Lazarus (1980) and adapted to Turkish by Şahin and Durak (1995). The questionnaire was prepared for university students. It is a 4-point Likert-type, 30-item, shorter questionnaire with various stress validities. The questionnaire measures styles of coping with two main types of stress. These are "Problem-oriented/active" and "Emotion-oriented/passive" styles. Active styles point at the subscales of "Seeking of social support," "Optimistic approach," and "Self-confident approach", while passive styles indicate the subscales of "Helpless approach" and "Submissive approach." It has been revealed that those who can effectively cope with stress use the "Self-confident approach" and "Optimistic approach," and those who cannot cope with stress use the "Submissive approach" and "Helpless approach" more. Higher scores show that the person uses that style more (Şahin and Durak, 1995). Cronbach's alpha reliability



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coefficients of the subscales obtained based on the factor analyses of the questionnaire in three studies, regarding the factors of the original questionnaire, were found to be ($\alpha=.68$) for the optimistic approach, ($\alpha=.80$) for the self-confident approach, ($\alpha=.73$) for the helpless approach, ($-\alpha=.70$) for the submissive approach, and ($\alpha=.47$) for the seeking of social support approach (Şahin and Durak, 1995). In this study, the reliability coefficients were obtained as ($\alpha=.76$) for the optimistic approach, ($\alpha=.83$) for the self-confident approach, ($\alpha=.73$) for the helpless approach, ($\alpha=.64$) for the submissive approach, and ($\alpha=.58$) for the seeking of social support approach.

Research Ethics: Permission required to initiate the study was received from KMU Scientific Research and Publication Ethics Committee on 11/20/2020 (Document number: E-95728670-044-).

2.4. Data Analysis.

In the study, "frequency (n), percentage (%), arithmetic mean (x) and standard deviation (Sd)" were used for personal information. To examine the normality distribution of the data, the skewness and kurtosis coefficients of the data were checked, and "the skewness and kurtosis coefficients of the data were found to be between +1.5 and -1.5." "This situation suggests that the scores obtained from the study show a normal distribution (Tabachnick & Fidell, 2013)." Thus, the independent samples t-test among parametric tests was used in pairwise comparisons, and the ANOVA test was performed in multiple comparisons.

3. Results.

3.1. Results on Descriptive Statements.

Physical Activity.

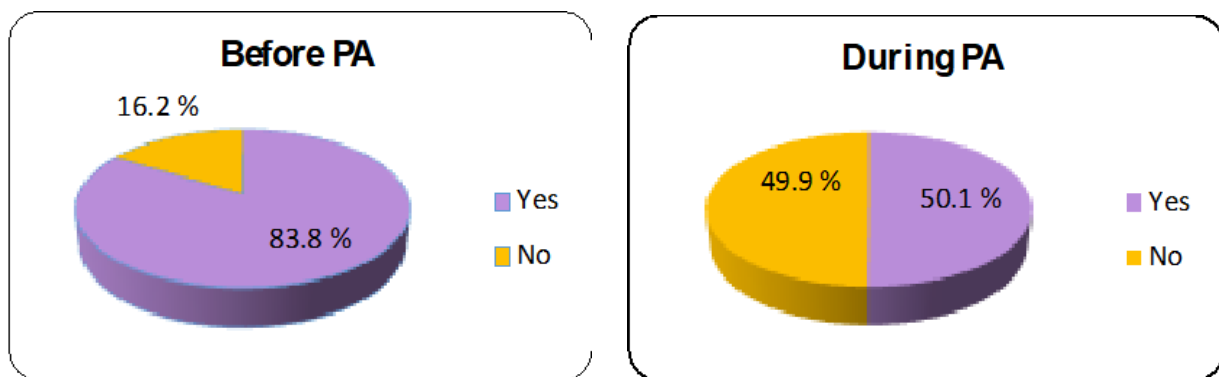


Figure 1. Physical activity levels of the participants before and during the pandemic.

In Figure 1, 83.8% of the participants stated that they did physical activity before the pandemic, and 16.2% expressed that they did not. Of the participants, 50.1% stated that they did physical activity during the pandemic, and 49.9% expressed that they did not. The participants' physical activity status before and during the pandemic by gender is given in Figure 2.





PA by gender

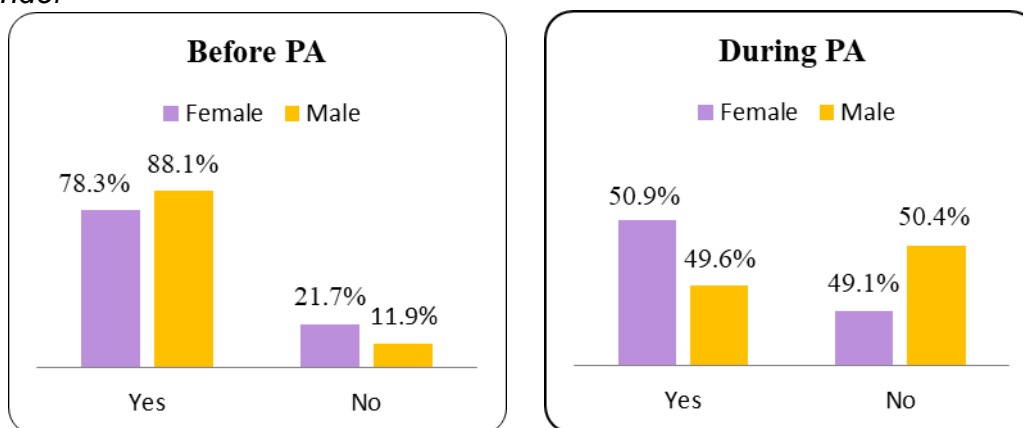


Figure 2. Physical activity level before and during the pandemic according to the gender of the participants.

According to Figure 2, 78.3% of the female participants stated that they did physical activity before the pandemic, and 21.7% did not. It was reported that 50.9% of female did physical activity during the pandemic, and 49.1% did not. It was indicated that 88.1% of male did physical activity before the pandemic, and 11.9% did not. It is observed that 49.6% of male did physical activity during the pandemic, and 50.4% did not. As can be seen, the physical activity status of both female and male decreased during the pandemic. The t-test results of students' physical activity levels during the pandemic by gender are given in Table 2 as MET.

Table 2. The t-test results of participants' total MET score during the pandemic by gender.

	Gender	n	\bar{X}	Sd	T	P
Total MET	Female	175	2507.83	.2183.47	-3.867	.000*
	Male	226	3418.84	.2457.89		

*= $p < 0.05$

When Table 2 was reviewed, a significant difference was found in favor of men between the total MET scores of physical activity levels based on the participants' genders ($t = -3.867$, $p = .000$; $p < .05$).

The distribution of min, max and item means and standard deviation values for the participants' styles of coping with stress during the pandemic is given in Table 3.





Table 3. The distribution of min, max and item means and standard deviation values for the participants'.

Scale	n	min	max	\bar{X}	Item average	Sd
Self-confident approach	401	4.00	21.00	15.57	2.22	.45
Helpless approach	401	1.00	24.00	11.22	1.40	.52
Submissive approach	401	1.00	18.00	6.62	1.10	.52
Optimistic approach	401	1.00	15.00	10.03	2.01	.53
Social support approach	401	1.00	12.00	7.16	1.79	.53

When Table 3 is examined, the highest item mean is observed in the subscale of self-confident approach ($\bar{X} = 2.22 \pm .45$), whereas the lowest item mean is observed in the subscale of submissive approach ($\bar{X} = 1.10 \pm .52$). The t-test results of the participants' styles of coping with stress during the pandemic by gender are given in Table 4.

Table 4. The t-test results of the participants' styles of coping with stress during the pandemic by gender.

Scale	Gender	N	\bar{X}	Sd	T	P
Self-confident approach	Female	175	2.23	.44	.210	.834
	Male	226	2.22	.46		
Helpless approach	Female	175	1.44	.52	1.270	.205
	Male	226	1.37	.50		
Submissive approach	Female	175	1.16	.49	2.069	.039*
	Male	226	1.05	.53		
Optimistic approach	Female	175	2.02	.52	.641	.522
	Male	226	1.99	.53		
Social support approach	Female	175	1.83	.52	1.366	.173
	Male	226	1.75	.53		

*=p<0.05

When Table 4 is examined, a significant difference is found in the subscale of submissive approach (t=2.069, p=.039; p<.05), while no significant difference is detected in the subscales of self-confident approach (t=.210, p=.834; p>.05), helpless approach (t=1.270, p=.205; p>.05), optimistic approach (t=.641, p=.522; p>.05), and seeking of social support approach (t=1.366, p=.173; p>.05) among students' styles of coping with stress according to their





genders. The ANOVA results of the participants' styles of coping with stress during the pandemic according to their physical activity levels are given in Table 5.

Table 5. The ANOVA results of the participants' styles of coping with stress during the pandemic according to their physical activity levels.

Scale	PA Level	n	\bar{X}	Sd	F	P	Difference
Self-confident approach	1.Inaktive	30	2.08	3,80	10.101	.000*	1<3 2<3
	2.Minimally aktive	218	2.16	3,18			
	3.Very aktive	153	2.34	2,83			
Helpless approach	1.Inaktive	30	1.34	3,46	3.660	.027*	2>3
	2.Minimally aktive	218	1.46	4,40			
	3.Very aktive	153	1.32	3,78			
Submissive approach	1.Inaktive	30	1.08	2,62	.944	.390	
	2.Minimally aktive	218	1.13	3,05			
	3.Very aktive	153	1.06	3,30			
Optimistic approach	1.Inaktive	30	2.08	2,51	6.064	.003*	2<3
	2.Minimally aktive	218	1.92	2,66			
	3.Very aktive	153	2.11	2,57			
Social support approach	1.Inaktive	30	1.80	2,36	.624	.536	
	2.Minimally aktive	218	1.76	2,12			
	3.Very aktive	153	1.82	2,04			

*=p<0.05

When Table 5 is examined, a significant difference was found in the subscales of self-confident approach (F=10.101, p=.000; p<.05), helpless approach (F=3.660, p=.027; p<.05), and optimistic approach (F=.6.064, p=.003; p<.05) according to the participants' physical activity levels. It was observed that students with a very active level of physical activity rather adopted the self-confident style compared to inactive students, minimally active students rather adopted the helpless style compared to very active students, and very active students rather adopted the optimistic style compared to minimally active students. No significant difference was identified in the subscales of submissive approach (F=.944, p=.390; p>.05) and seeking of social support approach (F=.624 p=.536; p>.05).

4. Discussion.

The results below were obtained in this study, the aim of which was to determine FSS students' physical activity levels before and after the pandemic, their styles of coping with stress during the pandemic, and to reveal students' styles of coping with stress according to their physical activity levels.





PA level of students before Covid-19 and during the pandemic.

In the study, the ratio of students who regularly did physical activity before the COVID-19 pandemic was (83.8%), while this ratio was observed to decrease to (50.1%) during the pandemic. Although the implementation of lockdowns on the days and at hours specified by authorities to prevent the spread of the COVID-19 pandemic and to decrease the number of cases and the measures taken have positive contributions regarding the spread of the pandemic, the restriction of the time spent outdoors has resulted in changes in individuals' daily regular physical activities and exercise (Chen et al., 2020). It can be mentioned that this situation has affected university students, and there has been a decrease in their physical activity levels. According to the results of a systematic review (n:66), it was concluded that physical activity decreased, and sedentary behaviors increased during the COVID-19 pandemic (Stockwell et al., 2021; Wilson et al., 2021). In France, a 53% decrease was observed in physical activity, and a 63% increase occurred in the inactivity periods during the lockdown (Deschasaux-Tanguy et al., 2021). In the study conducted by Ammar et al. (2020), it was observed that the total physical activity rate, which was (33.5%) before the pandemic, decreased to (24%) during the pandemic. Of the participants who stated that their physical activity rates decreased compared to the pre-pandemic period, 40% mentioned exercising less frequently in the quarantine period (Robinson et al., 2021). While, in a study, it was observed that 63% of individuals had a decrease in their physical activity levels between the beginning of COVID-19 restrictions and the first week (McCarthy et al., 2021), another study revealed that a 48.9% decrease occurred in physical activity as of the beginning of the COVID-19 pandemic (Stanton et al., 2020). In the study examining individuals' physical activity levels before the pandemic, it was detected that 40.5% of sedentary individuals were underactive before the pandemic, and only 22.4% of active individuals were underactive. It was revealed that 33% of sedentary individuals and 40.3% of active individuals became more active (Lesser & Nenhuis, 2020). The results of these studies support the result of our study, indicating a decrease in university students' physical activity levels during the pandemic.

PA level of students before Covid-19 and during the pandemic by gender.

In the study, during the COVID-19 pandemic, the rate of physical activity of male decreased from (88.1%), the rate before the pandemic, to (49.6%) during the pandemic, whereas the rate of physical activity of female decreased from (78.3%), the rate before the pandemic, to (50.9%) during the pandemic. It has been reported that the physical activity recommendations of the World Health Organization (WHO) were met in female by (73%) and in male by (81%) before the COVID-19 restrictions (Faulkner et al., 2021). During the COVID-19 pandemic, a study conducted in Italy reported that female had lower physical activity levels than male during the lockdown (Füzéki et al., 2021). In a study investigating the levels of physical activity done by adolescents at home in Greece, it was observed that the total physical activity level was higher in male compared to female (Morres et al., 2021). In Spain, it was reported that female's physical activity levels were lower than those of male during the pandemic (León-Zarceño et al., 2021). While, in another study, the rate of physical activity of male was (39%) before the pandemic, it increased to (53%) during the pandemic, and the rate of physical activity in female decreased from (41%), the rate before the pandemic, to (21%) during the





pandemic (Konstantinidis et al., 2021). Apart from the fact that physical activity levels have substantially decreased globally during the COVID-19 pandemic, it has been concluded, when evaluated by gender, that the physical activity rate of male (62.4%) is higher than the physical activity rate of female (55.1%) (Wilke et al., 2021). In a study, it was reported that the physical activity levels of male with high levels of physical activity before the pandemic did not change compared to female during the pandemic (Puccinelli et al., 2021). In a study comparing the rate of decrease in the physical activity level 1 year before and during the pandemic, it was concluded that the reduced physical activity level of female (29.9%) was higher than the reduced physical activity level of male (27.2%) (Eek et al., 2021). All these results support the conclusion of our study, indicating that male have higher physical activity levels than female during the pandemic. The lower physical activity level of female compared to male in our study can be associated with the fact that male students try to continue their pre-pandemic exercise habits at home during the pandemic, work in a job, and have more free time than female at home. The reasons for low physical activity levels can also be investigated in future studies for clear answers to this situation.

MET levels of students in the covid-19 pandemic process by gender.

When the total MET values of university students were examined, the mean values of female (2507.83±.2183.47) MET-min/week were found to be lower than the mean values of male (3418.84±.2457.89) MET-min/week. In the studies conducted on university students before the pandemic, the total mean MET values of male students were stated to be higher than those of female students (Vassihg, 2012, Sarıbaş, 2018, Tözün et al., 2017, Kızar et al., 2016, Yerlisu et al., 2017). In the studies performed during the COVID-19 pandemic, it was reported that the total MET-min/week values of participants before the pandemic decreased during the pandemic (Srivastav et al., 2021, Martínez-de-Quel et al., 2021, Ammar et al., 2020, Meza & Lopez, 2021, Fearnbach et al., 2021, Rutkowska et al., 2021, Chouchou et al., 2021). In a study investigating MET levels during the pandemic according to the gender variable, it was observed that male particularly had higher MET values than female (Maugeri et al., 2020). In a study carried out in Kosovo, it was reported that male participants had higher MET-min/week values under the pre-pandemic conditions compared to female participants (Gjaka et al., 2021). While the physical activity level in male in Qatar was (1584 ± 447) MET-min/week before the pandemic, it decreased to (689 ± 249) MET-min/week during the pandemic. While the physical activity level in female was (1283 ± 582) MET-min/week before the pandemic, it decreased to (509 ± 271) MET-min/week during the pandemic (Hermassi et al., 2021). In the studies conducted on physical activity during the pandemic, the total MET values were checked in general, and whether there was a difference by gender was not addressed so much. When the results of a small number of studies investigating MET scores by gender during the COVID-19 pandemic are reviewed, higher MET scores in male, compared to female, support the result of this study.





Students' styles of coping with stress during the covid-19 process.

In this study, the subscale of self-confident approach, one of FSS students' styles of coping with stress, had the highest mean score, whereas the submissive approach subscale had the lowest mean score. In the studies conducted before the pandemic, it was reported that university students used the self-confident approach more and the submissive approach the least (Temel et al., 2007, Eraslan, 2015, Ergin et al. 2014). After the COVID-19 pandemic came into our lives, an increase in depression, anxiety, extreme stress, and even suicidal thoughts was observed in students in the research on university students (Patsali et al., 2020, Cao et al., 2020, Savitsky et al., 2020, Wathélet et al., 2020, Shechter et al., 2020, McKnight-Eily et al., 2021, Wang et al., 2020, Yan et al., 2021a, Kar et al., 2021, Varma et al., 2021). One of the discourses frequently repeated by physicians during the pandemic is the need for good nutrition, good sleep, and coping with stress for psychological resilience for protection against the coronavirus (Karagün, 2020). It was reported that, during the COVID-19 pandemic, Chinese people had a large mental health burden, and younger people and healthcare professionals spent a lot of time thinking about the pandemic. Therefore, there was a high risk of exhibiting psychological problems (Huang & Zhao, 2020). In a study investigating nursing students' styles of coping with stress during the COVID-19 pandemic, it was concluded that the self-confident approach subscale had the highest mean value, whereas the submissive approach subscale had the lowest mean value (Bahçecioğlu et al., 2021). In the study carried out by Altuntaş and Tekeci (2020) on the COVID-19 process, it was reported that the lowest mean score obtained by the participants from the Ways of Coping Questionnaire was received in the submissive approach subscale. When the results of the studies are reviewed, it is observed that the result of our study is supported.

Students' styles of coping with stress by gender in the covid-19 process.

In students' styles of coping with stress during the pandemic by gender, female students were found to prefer the submissive style more than male students. While the pandemic process physically influences the young population and pushes them toward a sedentary lifestyle, it adversely affects their quality of life and enhances their susceptibility to depression (Cihan and Pirinççi, 2020). University students' mental health has been affected significantly in public health emergencies such as the COVID-19 pandemic (Cao et al., 2020). Studies conducted with the onset of the COVID-19 pandemic have revealed that female have higher stress levels than male (Savitsky et al., 2020, Elbay et al., 2020, Wang et al., 2020, Romero et al., 2020, Pérez-Cano et al., 2020, DiTella et al., 2020, Inbar and Altmale, 2020, Ceri and Çiçek, 2021) and lower scores for coping with stress (Marazziti et al., 2020, Peretti-Watel et al., 2020, Kar et al., 2021, Mamun et al., 2021, Yan et al., 2021b, Oducado et al., 2021). In the study conducted during the COVID-19 pandemic, it was concluded that female used the passive coping style, one of the styles of coping with stress, more than male (Fu et al., 2020). In their study, Bahçecioğlu et al. (2021) reported that female had higher social support and submissive approach subscale scores than male. It is observed that previous studies support the results of our study.





Students' physical activity levels and styles of coping with stress in the covid-19 process.

In this study, FSS students' styles of coping with stress changed with the increase in their physical activity levels. As the level of physical activity increased, students' self-confident and optimistic approaches were observed to increase. As the level of physical activity decreased, their helpless approach increased. During the COVID-19 pandemic, it is recommended to increase the level of physical activity for both physical and mental health on the condition that social distancing rules are obeyed (Dwyer et al., 2020). Regular exercise is known to be associated with depression, happiness, and psychological well-being and to have alleviating effects on individuals' negative emotions (Zhang et al., 2020). It is reported that higher physical activity levels are associated with better mood states in children and adolescents (Zhang et al., 2020). In their study, Shechter et al. (2020) concluded that physical activity/exercise was the most widely (59%) used coping style to maleage stress during the COVID-19 pandemic. The study performed by Qin et al. (2020) indicated that individuals with high physical activity levels had better emotional states, whereas individuals with low physical activity levels had worse emotional states during the quarantine period. In their study, Dursun et al. (2021) also reported that negative emotional states were mainly observed in individuals during the quarantine period, but with increased participation in physical activity, the level of psychological resilience and the perception of boredom in free time would decrease.

In a study, Karabağ (2019) stated that secondary education students who exercised had higher mean values in terms of coping with stress and decision-making strategies than students who did not exercise. Suata (2018) reported that there was a statistically quite significant difference in all subscales of female, except for the seeking of social support subscale, as a result of an 8-week Pilates exercise. In the thesis study conducted by Böke (2018) on high school students who were engaged in sports, students were observed to use the helpless approach and the self-confident approach the most, and the submissive approach the least. In another thesis study, it was observed that Bocce athletes had the highest mean score in the self-confident approach and the lowest mean score in the seeking of social support, and the subscale scores of stress coping styles and total stress coping scores of athletes did not differ significantly by gender (Acar, 2019). In a study conducted on female volleyball players, it was concluded that the approach preferred by athletes the most as an approach for coping with stress was the self-confident approach, and the least preferred approach was the submissive approach (Üstün and Üstün, 2020). In our study, it is observed that, among the styles of coping with stress, students' self-confident approach scores increased, and submissive approach scores decreased with the increase in the level of physical activity. Results of the studies conducted on this subject support the result of our study.

5. Conclusion.

As a result, the physical inactivity caused by the COVID-19 pandemic process affects not only the physical health of individuals, but also their psychological health. University students are also among the groups negatively affected by the COVID-19 process. The distance education process may mostly affect students who receive hands-on education, such as the Faculty of





Sports Sciences, more. At this point, it may be recommended that individuals do not stray too far from their daily life habits in order to be able to carry out life and education habits that change with the pandemic process in a healthy way. A few suggestions can be made according to the FSS students.

6. Recommendations.

1. The level of physical activity can be increased in compliance with social distancing rules at home or outdoors during the pandemic process. Thus, contribution to coping with stress is achieved, and both physical and psychological complete well-being can be ensured.
2. In addition to students can keep their motivation high by holding online meetings with teachers and classmates.
3. As a research proposal, could investigate how university students of different ages and departments are affected by the pandemic and provide examples of physical activity.

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