

## Determining the Anxiety of Athletes During Covid-19 Pandemic

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### ABSTRACT

**Aim:** The purpose of this study is to determine the state-trait anxiety of athletes during Covid-19 pandemic.

**Method:** The study was performed by using survey method. The research population is composed of a total of 224 adult athletes ( $\bar{X}_{age}=26.24\pm 8.50$ ) as 139 males ( $\bar{X}_{age}=27.71\pm 9.81$ ) and 103 females ( $\bar{X}_{age}=24.25\pm 5.72$ ) engaged in individual and team sports in different branches in Marmara region (Istanbul, Kocaeli and Sakarya). The athletes have  $13.73\pm 8.65$  years of experience in sports. "State-Trait Anxiety Inventory" developed by Spielberger et al. (1970) and adapted into Turkish by Öner and Le Compte (1983) and "Personal Information Questionnaire" prepared by the researchers were used as the data collection tool. Data were analyzed by using descriptive statistics, independent groups T-test, one-way variance (ANOVA) analysis and Pearson correlation analysis.

**Findings:** State anxiety scores of athletes significantly differ by such conditions as being a national athlete, fear of Covid infection, damaged performance in Covid infection, doing exercise at home during Covid infection and weight change during Covid ( $p<.05$ ) while they do not significantly differ by gender and monthly income perception ( $p>.05$ ). Trait anxiety scores of athletes significantly differ by being a national athlete, fear of Covid infection, damaged performance in Covid infection, doing exercise at home during Covid infection, monthly income perception and weight change during Covid ( $p<.05$ ) while they do not significantly differ by gender ( $p>.05$ ). Moreover, significant negative relationship was established between state anxiety scores of athletes and the time of exercise during pandemic ( $p<.05$ ) while no significant relation was found regarding age, year of sports and duration of sleep during pandemic ( $p>.05$ ). Negative significant relationships were found between trait anxiety scores and age, year of sports, and time and day of exercise; positive significant relationships were found between trait anxiety and duration of sleep in pandemic period ( $p<.05$ ).

**Conclusion:** It has been concluded that state anxiety scores of athletes are over average, their trait anxiety scores are below average and state-trait anxiety scores differ by some demographic variables while they are in relation with some others.

**Keywords:** Covid-19 pandemic, athlete, state-trait anxiety

### INTRODUCTION

Anxiety is defined as a state of waiting for events that upset and boring people about the future, an alarm situation mixed with a feeling of insecurity, as well as the possibility of an external danger or a state of emotion experienced in the face of a situation perceived as dangerous by the person<sup>1-2-3</sup>. Major depressive disorders and anxiety disorders are among the most common and disruptive disorders in the world<sup>4</sup>. As a result of an in-depth systematic review and meta-regressions<sup>5</sup>, it is estimated that the global point prevalence of anxiety disorders is as high as 7.3%, ranging from 5.3% (African cultures) to 10.9% (Euro/Anglo cultures). Anxiety is characterized by excessive anxiety, hypervigilance<sup>6</sup> and physical symptoms resulting from increased activation of the sympathetic nervous system<sup>7</sup>. At the same time, anxiety can greatly impair a person's cognitive abilities<sup>8-9</sup> and cause a negative cognitive bias<sup>10-11</sup>. For this reason, it poses a serious threat to the quality of life and well-being of individuals, and may even lead to suicidal tendencies<sup>12-13</sup>.

Anxiety is divided into two as state and trait anxiety<sup>14</sup>. Trait anxiety is thought to belong to characteristic features of an individual's personality and can be associated with different psychopathological conditions and sustained high

arousal. Conversely, state anxiety is a more transient and intense emotional state associated with temporarily increased sympathetic nervous system activity, but without specific pathological conditions<sup>15</sup>. In another saying; State anxiety is produced by the components of a particular situation and is usually created by external stimuli. It is temporary and limited to certain situations. In contrast, trait anxiety describes a relatively stable personality tendency to experience anxiety towards general stimuli<sup>16</sup>.

Covid-19 has been described as positive single-stranded RNA viruses that are widely distributed in humans and animals worldwide<sup>17</sup>. Its first symptoms mainly include fever, cough, myalgia, tiredness, or shortness of breath. In the later stages of the disease, shortness of breath may occur and gradually transform into acute respiratory distress syndrome (ARDS) or multiple organ failure (MOF)<sup>18</sup>.

This discomfort, which emerged in Wuhan, China on December 1, 2019, started to be seen on March 11, 2020, for the first time in our country by affecting the whole world and it was announced by the World Health Organization (WHO) that it became a pandemic that negatively affected life all over the world on the same day. This disease, which spread rapidly in a short time, negatively affected life both

physically and mentally. Undoubtedly, athletes have also been affected by this pandemic, which affects every professional group and all groups in life. Namely, the athletes remained away from the training and competition environments. For this reason, it is thought that it will be important to investigate the state and trait anxiety levels of athletes, who are among the groups affected by the Covid-19 pandemic, and to contribute to the literature. In addition, if a relationship can be found between anxiety and motor performance, such information makes this research that makes athletes subjects very meaningful. If the relationship cannot be found, the theoretical justification can be provided as an element that indirectly affects the performance, based on its effect on other dimensions. In the light of this information given, the purpose of the research is the determination of the state and trait anxiety levels of athletes during the Covid-19 pandemic.

**METHOD**

**Research Model:** In this research, a "screening model" was used. The screening model is a "research approaches that aim to describe a past or present situation as it exists"<sup>19</sup>.

**Research Group:** The research was carried out on adult athletes. For this reason, the age scale of the World Health Organization was taken into account when determining the age range of adult athletes. Individuals between the ages of 19 and 65 are considered as adults in the WHO's new age scale. The research group was carried out in different branches in the Marmara region (Istanbul, Kocaeli, and Sakarya) and aged between 19 and 56 (139 male ( $X_{age}=27.71\pm9.81$ ), 103 female ( $X_{age}=24.25\pm5.72$ ) a total of 224 athletes ( $X_{age}=26.24\pm8.50$ ). The sports experience years of the athletes is  $13.61 \pm 8.67$ . While choosing the research sample, the convenience sampling method was preferred. The convenience sampling method is "the shortest way to obtain data in a fast and inexpensive way"<sup>20</sup>.

Table 1. Descriptive statistics of athletes

	n	%	$\bar{X}_{age}$	$\bar{X}_{sports\ year}$
Male	139	57,4	26.24±8.50	13.61±8.67
Female	103	42,6		

Table 1 includes descriptive statistics of the athletes. 57.4% of the athletes (n=139) are male; 42.6% (n=103) of them are female; the average age of  $26.24 \pm 8.50$ ; It was determined that the average of years of sports experience was  $13.61 \pm 8.67$ .

**Data Collection:** Due to the pandemic, data collection tools were transferred to the online environment and the research form was made ready. The data of the research were collected from the athletes between 5 May and 20 May 2020. While collecting data, the principle of voluntary participation was taken into account.

**Data Collection Tools:** In the research, "Personal Information Form" and "State-Trait Anxiety Inventory" were used as measurement tools. Detailed information on measurement tools is given below.

**Personal information form:** A "Personal Information Form" has been prepared to determine the demographic information of the athletes. In personal information form, 10

questions were asked to athletes about gender, age, nationality, sports year, the day and time of exercise during the pandemic period, fear of getting Covid, damage to performance in catching Covid, exercising at home during the Covid period, monthly income perception, weight change during the Covid period and sleep during the pandemic period.

**Spielberger State-Trait Anxiety Inventory:** Spielberger State and Trait Anxiety Inventory, which was developed by Spielberger and others<sup>14</sup> and adapted into Turkish by Öner and Le Compte<sup>21</sup>, was used to measure the State and Trait Anxiety Levels of the athletes. The scale, consisting of 40 items consisting of short expressions, consists of two parts: the "state anxiety form" with 20 items, which is created to determine what is felt at the moment, and the "trait anxiety form" with 20 items, which is created to determine what is generally felt. It is reported that the Cronbach Alpha reliability coefficient of the scale, which is a 4-point Likert-type scale, varies between .83 and .87, test-retest reliability between .71 and .86, and item reliability between .34 and .72<sup>21</sup>. As a result of the present research, the Cronbach Alpha reliability coefficient of the measuring tool was determined as .93 for state anxiety and .83 for trait anxiety.

**Data Analysis:** By controlling the data collected within the scope of the research, the data of the age groups that were not considered in the sample of the research were removed from the research. Before deciding on statistical analysis, it was checked whether the data were suitable for normal distribution or not by looking at the values of skewness and kurtosis. As a result of the statistical process, it was determined that the data were in the range  $-1 > \dots < +1$ . It can be stated that these determined values are suitable for a normal distribution<sup>22</sup>. Parametric tests were preferred because the data showed normal distribution. Descriptive statistics, independent groups t-test, one-way analysis of variance, and Pearson correlation analysis were used in the general evaluation of the data. The level of significance was taken as  $p < 0.05$ . The data were analyzed with the SPSS package program.

**Findings**

Table 2. Descriptive statistical results of athletes' state and trait anxiety scores

	n	$\bar{X}$	sd
State Anxiety	242	40,52	10,69
Trait Anxiety	242	39,42	7,09

According to Table 2, it is determined that the state anxiety mean score is  $40.52 \pm 10.69$ ; the trait anxiety mean score is  $39.42\pm7.09$ .

Table 3.The comparison results of the athletes' state and trait anxiety scores by gender

	Gender	n	$\bar{X}$	sd	t	p
State Anxiety	Male	139	39,99	10,20	-,91	,36
	Female	103	41,25	11,32		
Trait Anxiety	Male	139	38,73	6,76	-	,07
	Female	103	40,36	7,44		

As a result of the independent groups t-test in Table 3, it was determined that the state and trait anxiety scores of the athletes did not differ significantly according to gender ( $p > .05$ ).

Table 4. The comparison results of athletes' state and trait anxiety scores by nationality status

	National Athlete	n	$\bar{X}$	sd	t	p
State Anxiety	Yes	117	39,09	9,40	-2,05	,04
	No	125	41,87	11,65		
Trait Anxiety	Yes	117	38,26	6,81	-2,50	,01
	No	125	40,51	7,20		

As a result of the independent groups t-test in Table 4, it was determined that the state and trait anxiety scores of the athletes differ significantly according to their nationality ( $p < .05$ ).

Table 5. The comparison results of athletes' state and trait anxiety scores according to their fear of getting Covid-19

	Fear of Getting Covid-19	n	$\bar{X}$	sd	t	p
State Anxiety	Yes	137	42,99	10,90	4,24	,00
	No	105	37,30	9,54		
Trait Anxiety	Yes	137	40,29	6,49	2,19	,02
	No	105	38,29	7,69		

As a result of the independent groups t-test in Table 5, it was determined that the state and trait anxiety scores of the athletes differ significantly according to their fear of catching covid-19 ( $p < .05$ ).

Table 6. The comparison results of the athletes' state and trait anxiety scores according to the answers of do you think your performance will be harmed if you catch Covid-19

	Impairment of performance	n	$\bar{X}$	sd	t	p
State Anxiety	Yes I think	175	41,76	10,64	2,95	,00
	No I don't think	67	37,30	10,22		
Trait Anxiety	Yes I think	175	39,98	6,73	1,98	,04
	No I don't think	67	37,97	7,82		

As a result of the independent groups t-test in Table 6, it was determined that the state and trait anxiety scores of the athletes differ significantly according to the answers of do you think your performance will be harmed if you catch covid-19 ( $p < .05$ ).

Table 7. The comparison of the athletes' state and trait anxiety scores according to their exercise at home during the Covid-19 period

	Exercise status at home	n	$\bar{X}$	sd	t	p
State Anxiety	Those who exercise	186	39,63	10,73	-2,39	,01
	Those who don't exercise	56	43,50	10,10		
Trait Anxiety	Those who exercise	186	38,45	6,85	-3,99	,00
	Those who don't exercise	56	42,64	6,97		

As a result of the independent groups t-test in Table 7, it was determined that the state and trait anxiety scores of the athletes differ significantly according to their exercise at home during the covid-19 period ( $p < .05$ ).

As a result of the one-way analysis of variance (ANOVA) in Table 8, it was determined that the state and

trait anxiety scores of the athletes differ significantly according to their perception of their monthly income ( $p < .05$ ). According to the results of the Post Hoc (LSD) test conducted to determine the source of the difference, it was determined that those with low monthly income perception in trait anxiety scores were significantly higher than those with medium and high monthly income perception.

Table 8. The comparison results of athletes' state and trait anxiety scores according to their monthly income perception

	Income Perception	n	$\bar{X}$	sd	F	p	Difference
State Anxiety	Low <sup>a</sup>	63	42,76	10,16	2,42	,09	
	Medium <sup>b</sup>	157	40,04	11,08			
	High <sup>c</sup>	22	37,55	8,27			
Trait Anxiety	Low <sup>a</sup>	63	41,48	7,05	4,78	,00	a-b a-c
	Medium <sup>b</sup>	157	38,99	6,90			
	High <sup>c</sup>	22	36,64	7,40			

Table 9. The comparison results of the athletes' state and trait anxiety scores according to their weight status in the Covid-19 period

	Weight Status	n	$\bar{X}$	sd	F	p	Difference
State Anxiety	I lost weight <sup>a</sup>	29	38,52	11,60	11,56	,00	b-a b-c
	I got weight <sup>b</sup>	108	44,04	10,72			
	I kept weight <sup>c</sup>	105	37,47	9,33			
Trait Anxiety	I lost weight <sup>a</sup>	29	38,07	7,13	6,51	,00	b-a b-c
	I got weight <sup>b</sup>	108	41,21	7,42			
	I kept weight <sup>c</sup>	105	37,95	6,33			

As a result of the one-way analysis of variance (ANOVA) in Table 9, it was determined that the athletes' state and trait anxiety scores differ significantly according to their weight status in the Covid-19 period ( $p < .05$ ). According to the results of the Post Hoc (LSD) test conducted to determine the source of the difference, it was determined that the scores of those who gained weight during the Covid-19 period in the state and trait anxiety scores were significantly higher than those who lost weight and maintained their weight.

Table 10. The results of the relationship between some demographic variables of athletes and their state and trait anxiety scores

	State Anxiety	Trait Anxiety
Age	r	-,04
	p	,57
Sports Year	r	-,12
	p	,06
Exercise Days During Pandemic	r	-,20
	p	,00
Exercise Time Duration During Pandemic	r	-,18
	p	,00
Sleep Time During Pandemic	r	,09
	p	,16

As a result of the Pearson correlation analysis in Table 10, a low level of negative correlation was found between state anxiety and the number of days and hours of exercise during the pandemic process. A negatively low-level between trait anxiety and age, sports year, exercise day and hour during the pandemic process; Positive and low-level significant relationships were determined with the

duration of sleep during the pandemic process ( $p < .05$ ).

## DISCUSSION and CONCLUSION

It was aimed to determine the state and trait anxiety states of athletes during the Covid-19 pandemic in this research. In this research, it was determined that the state anxiety mean score was  $0.52 \pm 10.69$ ; the trait anxiety mean score was  $39.42 \pm 7.09$ . According to this result, it was determined that the state anxiety scores of the athletes in the research group were higher than the average and the trait anxiety scores were below the average. Considering that state anxiety is fed from the stressful environment it is in, it is thought that the Covid-19 pandemic, which affects the whole world, is the most important factor in the emergence of this result. When the literature was examined, it was found that the state anxiety scores were high in the Çölgeçen and Çölgeçen<sup>23</sup> research, which supports the results of the present research.

There were not found significant differences in comparing the state and trait anxiety scores of the athletes according to gender. Although there was no significant difference, the anxiety scores of females were found to be higher. The reason for this situation can be shown in the research conducted by Enoch and others<sup>24</sup> that the pathogenesis of the catecholamine mechanisms controlling the parasympathetic and sympathetic systems of females is more active than that of males. When the literature was examined, a significant difference was found in the state of anxiety based on the high female data in gender variable<sup>25-26-27-28-29</sup>, while there are researches without significant differences<sup>30-31-32</sup>. In addition, in the research examining the pandemic period by Capuano and others<sup>33</sup>, it was claimed that there was no evidence that the process was deteriorating in terms of gender, according to Nicolini<sup>34</sup>, the number of people with depression, anxiety and suicide incidence rates with the Covid-19 pandemic increased at a high rate during the period. In the World Health Organization 2021 data, it has been reported that 80% of young females in the world look to the future with anxiety due to the pandemic effect<sup>35</sup>.

A significant difference was found in the comparison of the state and trait anxiety scores of the athletes according to their nationality status. According to this result, the state and trait anxiety scores of non-national athletes were found to be significantly higher. It was thought that national athletes could significantly improve themselves in coping with anxiety and stress by fighting more in the stressful environments of national and international competitions. However, it should be seen natural that he is worried about all factors that may harm the sports performances of high-level performance athletes who have not yet been national, and who set their whole life based on training and competition. In addition, it was thought that during the pandemic period, national athletes did not have difficulty in continuing their training due to their wider opportunities (camp environment, facility competence, etc.), and it was thought that getting away from the environment thanks to training was also effective on anxiety disorders that are likely to occur during this pandemic process. In addition, the fact that our state guided sports psychologists to provide support to National athletes in the camp environment has been a very

important support service for athletes experiencing anxiety. When the literature is examined, there is research that found a significant difference in the anxiety levels of national athletes<sup>36</sup>, while researches with no significant difference<sup>37-38</sup> were also found in the literature.

Due to the significant health problems that may occur in the case of Covid-19<sup>39-40</sup>, it has been determined that both state and trait anxiety levels of athletes with fear of catching Covid-19 are significantly high. While fear occurs in a situation whose cause is known, anxiety occurs in situations of unknown cause<sup>41</sup>. In this respect, it is expected that athletes who are afraid of getting Covid have high anxiety levels. Indeed, fear is a factor that triggers anxiety. The researches with high levels of anxiety<sup>42-43-44</sup> have been observed. When the literature is generally scanned, it is clearly seen that natural disasters in ancient times have always caused negative effects on people<sup>45-46</sup>.

It was determined that the athletes who answered "Yes" to the question are you afraid that your performance will decrease if you catch Covid-19? had significantly higher state and trait scores. For performance athletes who build their lives on organizing all factors that will increase their sports performance in the most efficient way, their performance is of utmost importance for their future. Even the thought of getting Covid-19 disease, which affects the world and causes many deaths, can cause the anxiety of the athletes' performance to decrease. Although the permanent effects of the body on the days of its emergence are not known exactly, having this thought will inevitably increase the level of anxiety in the individual. In addition, the level of stress<sup>47</sup>, which is among the internal factors affecting performance, may have triggered anxiety. In this respect, it is an expected situation that the fear of getting this disease, which preserves its mystery as soon as it occurs, will affect performance. When the literature is examined, researches have been found that indicate a positive relationship between performance decline and anxiety<sup>48</sup>. In addition, it has been demonstrated that factors such as anxiety, stress, motivation<sup>49-50-51</sup> in the sports environment affect sports success, as well as high or low levels of anxiety negatively affect the sportive success<sup>52</sup>.

Significant differences were found in the comparison of athletes' state and trait anxiety scores according to their exercise at home. According to this result, the state and trait anxiety scores of athletes who do not exercise at home were found to be significantly higher. The effect of exercise on anxiety has been a subject that has been researched and studied for years. Studies have reported that an exercise is an important tool in reducing chronic anxiety and exercising moderately decreases anxiety<sup>53-54-55-56</sup>. From this point of view, the fact that continuing to exercise at home outside of the training environment during the Covid-19 period is an important factor in controlling anxiety has been repeated with this research. When the literature is examined, it is clearly seen that there are studies that advocate the positive effects of exercise on anxiety in the Covid-19 period<sup>57-58-59-60-61-62</sup>. In the Covid-19 research by Alves and others<sup>63</sup>, it was observed that the anxiety levels of the children who exercised decreased, while the anxiety levels of the non-exercising group increased. In this context, the current research overlaps with the literature. It has been clearly stated by many sources in the literature

that exercise reduces the anxiety levels of people outside of the pandemic<sup>64-65-66-67</sup>.

Significant differences were found in trait anxiety scores when comparing athletes' state and trait anxiety scores according to their perception of income. According to this result, the trait anxiety scores of those with low-income perception were found to be significantly higher than the athletes with medium and high income. The Covid-19 pandemic, which affects life negatively both socially and economically as it arises, has pushed people away socially as well as economically difficult times. That is to say, many workplaces and educational environments have been closed, and people who gained economic income from their clubs or competitions due to sports have had difficulties in earning these incomes. In addition, sport, which is one of the major subjects of social status and socio-economic level/class change, is a means of salvation and status change for low economic income groups; Therefore, the reality of indirect status and economic loss resulting from sports performance loss becomes a major cause of concern for these groups. In this respect, the anxiety of athletes with low-income levels may be due to the thought that economic difficulties may be experienced during the uncertain period. While there are studies with significant differences in the literature<sup>68-26-29</sup>, it has been observed that there are also studies with no significant difference<sup>25</sup>. In fact, in one study, it was stated that the anxiety level of the social support group decreased during the pandemic<sup>26</sup>. At the same time, in another study conducted during the pandemic period, it was stated that people's fear of losing their job also increased their anxiety levels<sup>70</sup>.

Significant differences were found in the comparison of athletes' state and trait anxiety scores according to their weight change during the pandemic period. According to this result, it was determined that both state and trait anxiety scores of those who gained weight were significantly higher than the athletes who lost weight and maintained their weight. Performance athletes, who are well aware of the importance of training among the factors affecting performance, will be worried about weight gain, which may be an indicator of lack of training, as they know the effect of even a training loss on their performance in the long term. Spending more time at home with the pandemic causes some changes in individuals' mood and physical activity levels. Performance athletes are also worried that the social environment, which previously consisted of fellow athletes (although it usually occurs in family members) has a more limited and different atmosphere. The resulting physical and psychological mood may cause changes in nutritional behavior. In particular, experiencing emotional hunger can cause a change in the bodyweight of the individual<sup>71</sup>. From this point of view, the inactivity that occurs in addition to the wrong eating behaviors or consuming more food due to stress during the time spent at home causes weight change in the individual. The weight gain resulting from less physical activity and more food intake may have increased the level of anxiety as it creates dissatisfaction in terms of physical appearance in the individual. In the literature reviews, it was reported that the amount and frequency of eating habits of individuals increased significantly during the pandemic period<sup>59</sup>. Again, according to Karagün, Sarper-Kahveci, and Selvi<sup>72</sup>, it was

observed that there was a significant decrease in the positive eating habits of Taekwondo players, who experienced an increase in their appetite during the pandemic period. Likewise, according to Demirtaş and Çıplak<sup>73</sup>, it was stated that some athletes in the sample group had an increase in appetite during the pandemic period and went above the competition weights. In addition, it has been revealed by research that in stressful environments, people turn to food to relax faster<sup>74-75</sup>.

When the results between the state and trait anxiety scores of the athletes and their ages were examined, a negative low-level significant relationship was found between trait anxiety and age. In other words, as age increases, the level of trait anxiety decreases. This result can be seen as a normal result because of the gained experiences in developing strategies for coping with anxiety. The fact that the individual is more controlled and successful in coping with anxiety with advancing age may be a factor in the emergence of this result. Trait anxiety can be expressed as a state of anxiety when faced with danger and uncertain situations<sup>76</sup>. From this point of view, the concept of experience that emerges when encountering uncertain situations with increasing age may have provided individuals with a significant struggle aspect in coping with existing conditions. This situation reveals the fact that it is more effective in coping with anxiety in the individual. When examined from this point of view, the fact that aging is an important variable in controlling anxiety has been repeated with the present research. In addition, there are studies in the literature that determine the negative relationship between age and trait anxiety<sup>37</sup> and indicate that trait anxiety scores do not differ according to age groups<sup>38-77</sup>. Unlike the research findings, studies showing the positive relationship between age and trait anxiety are included in the relevant literature<sup>78</sup>. According to the data of the World Health Organization 2021, it has been reported that 90% of the young population in the world increased their anxiety levels during the pandemic<sup>35</sup>.

Negative and low-level significant relationships were found between the state and trait anxiety scores of the athletes and the sports year, the day and hour of exercise during the pandemic process. In other words, it can be said that continuing life with sports and exercise and doing these more frequently in the life process provides a significant benefit in reducing both state and trait anxiety in the person. The fact that elite athletes have done the training that they know the effect on performance is a factor that will reduce their anxiety. It has been demonstrated by the researches that the more physically active the individual is, the happier they feel<sup>79-80-81</sup>, and the fewer daily challenges they face in addition to an active lifestyle<sup>82</sup>, being under less stress<sup>83</sup>, and being less anxious and depressive<sup>84-85-86-87</sup>. In this context, it is clear that an exercise is an important tool in reducing anxiety. Considering that exercise has many benefits, the result of the present study is that being in sports for many years, weekly exercise decreases anxiety, and the result is similar to the view that exercise reduces anxiety in literature<sup>88-89</sup>.

When the results between the state and trait anxiety scores of the athletes and the duration of sleep during the pandemic process were examined, a positive low-level significant relationship was found between trait anxiety and

sleep duration during the pandemic process. In other words, as the trait anxiety increases, the sleep duration increases. Sleep, which is an important coping and escape method in the face of psychological stress, comes into play as a defense mechanism in athletes in anxiety. Sleep, which is one of the basic life necessities is a process that enables the individual to re-store energy in psychological and physiological aspects and relieves stress and responsibilities<sup>90</sup>. In addition, it is clearly stated that sleep disorders and abnormalities are significantly associated with depression and anxiety in psychiatry<sup>91</sup>. The pandemic process, which encompasses the whole world and negatively affects normal life, affects individuals both physiologically and psychologically. The uncertainty brought by the prohibitions and restrictions leads individuals to pessimism and this situation causes an increase in the level of anxiety in individuals. For this reason, it is thought that individuals spend more time asleep during the pandemic process because they want to get away from this anxious environment for a while. In the last literature review, it was seen that Demirtaş and Çıplak<sup>73</sup> also mentioned that wrestlers' sleep patterns were disrupted due to the uncertainties that increased with the cancellation of training during the pandemic.

It has been concluded that state anxiety scores of athletes are over average, their trait anxiety scores are below average and state-trait anxiety scores differ by some demographic variables while they are in relation with some others.

Similar studies can be applied to athletes in different regions and different age groups, and the state and trait anxiety profiles of all athletes throughout Turkey can be created during the Covid-19 process. In addition, comparative studies can be conducted by examining the state and trait anxiety states of athletes who do team and individual sports in the Covid-19 process. In addition, the same study can be carried out in different disabled groups, and in the Covid-19 process, the state and trait anxiety situations of the athletes with special needs can be revealed, and comparisons between groups can be made.

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