

THE EFFECT OF COVID-19 PANDEMIC ON TURKISH WELL TRAINED CYCLIST'S PRE-COMPETITION ANXIETY LEVEL

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Abstract. Aim. The aim of this study is to examine national team level Turkish cyclist's pre competition anxiety level before and after the COVID-19 pandemic. **Materials and methods.** Study held on the Turkish cyclists who is racing in international level. A total of 31 riders with mean age 18.25 ± 1.87 ; length 169.45 ± 7.73 cm and weight 61.18 ± 6.59 kg. In the study, the Turkish version of the "Sport Competition Anxiety Test-SCAT" developed by Rainer Martens in 1977 was used. The one-way analysis of variance (ANOVA) was performed to determine the difference between the socio-demographic characteristics and SCAT scores of cyclist. Statistical significance was accepted as $p < .05$. **Results.** According to the findings, there is small difference between the anxiety scores of the cyclists before and after the pandemic, but it was not significant. It was concluded that the pandemic process did not statistically increase the anxiety of cyclists. In addition, it was found that there was no significant difference between the pre competition anxiety levels before and after the pandemic in terms of gender, category, economic level, education level, mother's education level, place of residence variables and specialty. **Conclusion.** As a result, it was found that the COVID-19 pandemic did not have a significant effect on the racing anxiety of well-trained cyclists. This result shows that the competition anxiety level of experienced athletes who have been cycling for at least 6 years and the passivity during the five-six-month pandemic period do not affect the competition anxiety levels of the athletes. However, considering the possibility of prolongation of the pandemic process, research on this issue should continue in the long term.

Keywords: cyclist, competition anxiety, COVID-19, pandemic

For citation: Kurkcu Akgonul E., Sahin T., Ozen G. The effect of COVID-19 pandemic on turkish well trained cyclist's pre-competition anxiety level. *Human. Sport. Medicine.* 2022;22(1):110–120. DOI: 10.14529/hsm220116

Научная статья
УДК 796.61
DOI: 10.14529/hsm220116

ВЛИЯНИЕ ПАНДЕМИИ COVID-19 НА ПРЕДСОРЕВНОВАТЕЛЬНУЮ ТРЕВОЖНОСТЬ У ТРЕНИРОВАННЫХ ТУРЕЦКИХ ВЕЛОСИПЕДИСТОВ

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Аннотация. Целью данного исследования является оценка уровня предсоревновательной тревожности у турецких велосипедистов-представителей национальной сборной до и после пандемии COVID-19. **Материалы и методы.** В исследование вошли турецкие велосипедисты, участвующие в соревнованиях международного уровня. Всего в исследование вошел 31 спортсмен (средний возраст $18,25 \pm 1,87$ лет; средний рост $169,45 \pm 7,73$ см; средний вес $61,18 \pm 6,59$ кг). В исследовании использо-

валась турецкая версия теста спортивной соревновательной тревожности (SCAT), разработанного Райнером Мартенсом в 1977 году. Разница между социально-демографическими характеристиками и баллами тестирования SCAT определена с использованием однофакторного дисперсионного анализа (ANOVA). Статистическая значимость установлена на уровне $p < 0,05$. **Результаты.** Полученные данные указывают на небольшую разницу между показателями тревожности велосипедистов до и после пандемии, не обладающую статистической значимостью. Таким образом, пандемия не привела к статистическому увеличению тревожности велосипедистов. Кроме того, выявлено отсутствие достоверной разницы между уровнями предсоревновательной тревожности до и после пандемии по критериям пола, категории, экономического уровня, уровня образования, уровня образования матери, места жительства и специальности участников. **Заключение.** Установлено, что пандемия COVID-19 не оказала существенного влияния на предсоревновательную тревожность у тренированных велосипедистов. Таким образом, уровень соревновательной тревожности опытных спортсменов, занимающихся велоспортом не менее 6 лет, и вынужденная пассивность, вызванная периодом пандемии, не влияют на результативность спортсменов. Тем не менее, с учетом возможного затяжного характера пандемии исследования по данному вопросу должны быть продолжены в долгосрочной перспективе.

Ключевые слова: велосипедист, соревновательная тревожность, COVID-19, пандемия

Для цитирования: Kurkcu Akgonul E., Sahin T., Ozen G. The effect of COVID-19 pandemic on turkish well trained cyclist's pre-competition anxiety level // Человек. Спорт. Медицина. 2022. Т. 22, № 1. С. 110–120. DOI: 10.14529/hsm220116

INTRODUCTION

Doing sports is an activity that challenges the person both physically and mentally. Although the acute and chronic effects associated with exercise are considered physiologically, their psychological effects on athletes are still under discussion. In order to increase sports performance, new training methods are researched in theory and applications are carried out in practice. In the studies conducted, the importance of psychological factors in increasing sports performance is also emphasized and it is stated that it should be emphasized. Since sports competition environments are strong and motivational environments, it is not possible to have a loose attitude or to be free from anxiety in competitions. Since cycling is a branch where all competitors start together, the level of competition is high, it is possible for the cycling athletes to have high excitement and mood before the competition.

Cycling is a sport that requires a good level of physical exertion from individuals [30, 24]. It is known that competitive performance depends on physiological factors [7, 15], technical abilities [2] and psychological factors [7]. High performance in cycling is a stressful situation that can alter autonomic and hemodynamic parameters [7]. In this sense, stress and anxiety can significantly interfere with performance by affecting autonomic function [22].

In a competitive environment, stress and anxiety are expected in athletes [18]. Stress is

described that the feeling of discomfort physically, mentally, behaviorally and psychologically in the organism as a result of psychological and physiological compelling factors. When the athlete encounters a challenging or threatening situation, the organism tries to maintain balance and in case of stress, some reactions may occur such as sweating, tremors, and increased heart rate. In order to achieve success, the athlete thinks about the factors such as controlling the game, the opponent, and the field, winning and losing, and the cheering of the audience. Therefore, athletes participate in the competition not only physically but also in psychological aspects. For this reason, the idea of success or failure is almost experienced by most athletes before entering the competition, and these feelings before the competition differ in each one. In this respect, athletes are divided into four categories as “those with low anxiety”, “those with high anxiety”, “those who want high success” and “those who do not care much about success” [6]. Depending on the level of anxiety before the competition, each athlete competes with different anxiety and anxiety and they are affected at different levels. Anxiety is a phenomenon that occurs as a result of physical and mental strain of the organism and is considered as both psychological and physical disorders [10]. It usually occurs as a result of fear of something unknown that creates tension and discomfort [29]. Considering that some of the strongest causes of concern are fear of failure

and loss of prestige [1], it is expected that high-target athletes have a high level of competition anxiety. In the literature about the level of anxiety that athletes should have, it is stated that anxiety should be at a certain level. It has been reported that as anxiety and fatigue increase as they approach the limit of performance capacity, anxiety exceeding the lower or upper level may affect performance negatively [5]. There are some physiological indicators that support this. Athletes secrete many stimuli when their bodies are out of control in anxious situations. Some of these stimuli are muscle tension, irritability, nausea, increased blood pressure and breathing rate, confusion, impaired concentration, difficulty in making decisions, returning to old habits, difficulty remembering details. At the same time, ease and smoothness may disappear in movements, and deterioration in control and concentration can be seen [10].

Athletes have anxious thoughts just before important matches and tournaments due to the expectations of coaches and team management from them [14]. These thoughts can affect the performance on the field positively or negatively depending on the personality type of the athletes, experience [28], mental ability [27]. For this reason, the competition anxiety of athletes was started to be evaluated in the 1980s and after using the Sports Competition Anxiety Test (SCAT), which is a one-dimensional scale that does not discriminate or measure the differences between sports-specific trait anxiety, somatic and cognitive anxiety [20]. According to the researches, psychologists have reported that the performance of the actors increases with increasing anxiety and there is a degree of arousal level [5]. Based on this, it has been reported that if the anxiety exceeds certain limits, the athlete will lose control and performance will decrease [14]. It has been stated in the literature that having anxiety before, during or after the race has different effects on sportive performance. Studies show that anxiety has a temporal relationship with performance; It has been demonstrated that the anxiety level before the competition may differ from the stimulation during the competition. During the competition, it was reported that in-competition anxiety generally decreased, as the individual should concentrate on their own actions rather than internal fears [29].

A new type of coronavirus, identified as the cause of several pneumonia cases in Wuhan, China in late 2019, this virus has been reported to be a serious “global epidemic” [12]. Many people,

young, old, women and men, were affected [23] by this epidemic process both physically and mentally. In terms of athletes, it is thought that changings in both training and competition conditions and the uncertainty of the target competitions cause an increase in anxiety. During this unexpected pandemic, our world suddenly and unprecedentedly lost its normal order, while most of the organized sports events had to be canceled. In this context, all sports events involving athletes of almost every level and age have been canceled or postponed indefinitely. As a result, all people involved in sports, including professional and recreational athletes, are affected by these measures [16]. Considering that especially high-level athletes carry out consistent and planned studies in line with their annual goals, the thought that all their planning was interrupted and that they could not achieve the goal or were not ready for the competition may have increased the competition anxiety level of the athletes in this process. Because it has been reported that the COVID-19 process can cause interruptions in the training programs of athletes and have negative physical and psychological effects in the long term [16].

Psychological factors such as anxiety, self-confidence, tolerance, fear of failure, stress, etc. are thought to be important on endurance sports such as cycling performance. It is necessary to carry out scientific research and take precautions for possible problems caused by the pandemic process that affects sports participation and athletes for a long time [31]. Possible inequalities in opportunities for athletes following a contagious epidemic, may cause elite athletes to develop a career strategy that carries them to the target within the context of country conditions [3]. Considering this effect of the pandemic, as the epidemic process continues, elite athletes may need to have one or several different strategies in their long-term planning. In addition, in this period, national public health institutions, sports federations, sports clubs, all working in the field of athlete health, in order to reduce the effects of the COVID-19 epidemic, to restart sports activities, to protect the health of athletes, trainers, administrators and personnel who will take part in sports organizations, in order to carry out the activities safely, researchers should cooperate [8, 31]. In this respect, it is thought that the development of positive personality traits not only by the athlete but also by the team personnel, including the athlete, will contribute to

success in critical periods such as the pandemic process. The pandemic can be used as an opportunity to raise awareness, be motivated and provide personal development [26]. In this respect, elite level athletes and their coaches can give a positive direction to the pandemic process. For example, the athlete in isolation can recover from all the stresses, injuries and previously accumulated loads [13]. For this reason, even in negative situations such as epidemics, the positive effects of protection from epidemics should be kept in mind.

A good psychology is required for cycling, which is considered to be difficult from individual sports, to be performed at an international level. In this context, observing the psychological changes of the COVID-19 pandemic, which is an unexpected event experienced today, will be beneficial for cycling athletes in the process and in similar situations that may occur in the future. For this purpose, it is important to study in the context of determining how anxiety, which is a psychological factor, affects cycling athletes in the pandemic and that the findings presented to the literature in terms of providing support to athletes engaged in cycling. In this direction, we aim to find out whether the competition anxiety of well-trained male and female athletes at the national team level is affected by the pandemic period.

METHOD

Participants

The study group was comprised of cyclist who participate in national championship and representing Turkey in the European and World Championships. A total of 31 elite volunteer athletes (12 women and 19 men) with age 18.25 ± 1.87 years, height 169.45 ± 7.73 cm, weight 61.18 ± 6.59 kg voluntarily participated in this study.

Procedure

The data of the research were collected during the national team camp in Alanya in 2020. Cyclists were informed for the study and consent was obtained from all cyclists in accordance with the Helsinki Declaration. Before the competition that is planned after the camp, SCAT scale has planned to apply to participants. All procedure and purpose were briefly explained to all cyclists. The SCAT form was filled out approximately 2 hours before the competition to allow all participants to be individually prepared for the competition. PIF was applied in free time during the camp process. During the pandemic process,

the test was prepared in Google form and sent to the same participants online and the answers were received. Cycling competitions were held online several times during the pandemic process and data were collected in accordance with the previous procedure.

Data Collection

In the research, "Personal Information Form-PIF" developed by the researchers and "Competition Anxiety in Sports Test-SCAT" developed by Rainer Martens [20] and adapted into Turkish by Koruç et al. [Koruç vd, in press] were used as data collection tools. PIF used to gather information about the demographic characteristics of cyclists.

Personel Information Form (PIF)

Personal Information Form was developed by researchers to collect personal information about athlete such as age, gender, sports age, place of residence, education level. There are 17 questions about the demographic characteristics of cyclists in the form.

Sports Competition Anxiety Test-Adult Form (SCAT-A)

In order to determine the anxiety levels of adults in the competition environment, "Competition Anxiety in Sports Test-SCAT" developed by Rainer Martens was used. The scale consists of 15 items and is answered in the triple likert type. In SCAT scale, 10 items (2, 3, 5, 6, 8, 9, 11, 12, 14 ve 15) reveal the information about the continuous anxiety of the competition, while 5 items (1, 4, 7, 10 ve 13) consist of filling questions that are not evaluated [29]. The total score in SCAT-A ranges from 10 (low anxiety) to 30 (high anxiety). If the evaluation scores of the scale are <17 , it has a low anxiety score, $17-24$ has a moderate anxiety score of, > 24 has a high anxiety score [6]. The validity of SCAT-A on Turkish athletes has been proven by Koruc, Kuter, Yılmaz, Bayar and Kagan [17]. The test's cronbach-alpha internal consistency coefficient 0.79; the repeat reliability coefficient of the test was found as 0.90 [4].

Analysis of Data

The data obtained in the study were analyzed using the SPSS statistical analysis program. Normality test of the data were analyzed with the "Shapiro-Wilk" test and it was found that the data were normally distributed. In the analysis of data "frequency distribution" was used to determine demographic characteristics, "paired sample t test" was used to examine the difference between competition anxiety level before and after the pandemic. The difference between some

of the socio-demographic characteristics and SCAT scores was evaluated with the one way analysis of variance (ANOVA) and the difference between the groups was examined by one of the post hoc test, Bonferonni. The difference between variables, p value was interpreted on the basis of 0.05 significance level. In order to reveal the relationship between the scores obtained from the scales and variables such as age and sports age, “pearson correlation analysis” (r) was applied.

RESULTS

The frequency and percentage values of the demographic information of the participants are presented in Table 1.

According to Table 1, it is noteworthy the participants are young, the number of male athletes is high, the number of time trialist is high. However, the sample includes junior men, junior women, elite women cyclists and the highest number of athletes from junior men category. It is observed that the education level is mostly at high school level and the economic levels of the athletes are equally distributed below and above the minimum wage.

According to Table 2, no significant difference was found between the pre and post pan-

demetic anxiety scores of the cyclists. Although the anxiety scores are increased, this changes was not statistically significant. When the minimum and maximum values of anxiety scores examined, the anxiety level was less in the normal period before the pandemic and it is noteworthy that the anxiety level has the highest value during pandemic. According to these findings, some athletes were affected by the pandemic, but this effect is not statistically significant.

When Fig. 1 is examined, while the SCAT scores of female athletes did not vary much before the pandemic, but in male athletes are quite fluctuating. It is especially noteworthy that this fluctuation continues after the pandemic too. In addition, it is seen that the minimum and maximum scores of SCAT in male cyclists. From this point of view, well-trained male cyclists have large differences on the race anxiety levels.

According to Table 3, it was determined that there was no significant difference between female and male cyclists ($p > 0.05$), but there is significant difference between female and male cyclists before pandemic ($p < 0.05$). It was observed that female cyclist’s SCAT total scores before and after the pandemic were higher than male cyclists. After the pandemic, while the total

Table 1

Socio-demographic information and frequency percentages of cyclists

Variables	Categories	N	%
Gender	Women	12	38.7
	Men	19	61.3
Specialty	Climber	5	16.1
	Time trialist	16	51.6
	Sprinter	5	16.1
	Mountain biker	5	16.1
Category	Junior men	18	58.1
	Junior women	6	19.4
	Elit women	7	22.6
Education	High school	26	83.9
	College	1	3.2
	University	4	12.9
Economic level	Below minimum wage	13	41.9
	Minimum wage	4	12.9
	Above minimum wage	14	45.2

Table 2

The mean and standard deviations of SCAT score of cyclists and differences between the periods

Competition anxiety in sports	N	X	Min	Max	Sd	t	p
Before pandemic	31	18.80	12	24	2.54	-.303	.764
After pandemic	31	19.00	10	25	3.27		

*Here and in Table 3–5 significant at 0.05 level.

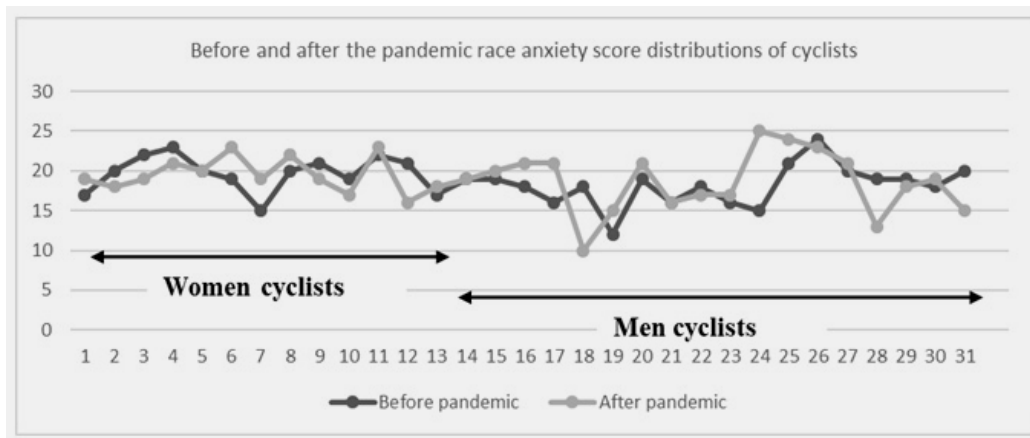


Fig. 1. Before and after the pandemic race anxiety score distributions of cyclists

Table 3

Pre and post pandemic SCAT scores and differences between the means according to gender

Competition anxiety in sport	Gender	N	X	Min	Max	Sd	t	p
Before pandemic	Female	12	19.91	15	23	2.23	2.085	.047
	Male	19	18.10	12	24	2.53		
After pandemic	Female	12	19.66	16	23	2.22	1.005	.323
	Male	19	18.57	15	25	3.79		

Table 4

Pre-pandemic total SCAT scores, standard deviations and p values of the differences between the means according to the socio-demographic characteristics of cyclists

Variables	Category	N	X	F	p
Specialty	Climber	5	19.20	1.619	.208
	Time trialist	16	19.56		
	Sprinter	5	17.40		
	Mountain biker	5	17.40		
Category	Junior men	18	18.27	1.516	.237
	Junior women	6	20.33		
	Elit women	7	18.85		
Economic level	Below minimum wage	13	18.46	2.582	.074
	Minimum wage	4	16.25		
	Above minimum wage	14	19.85		

SCAT score of female cyclists decreased compared to the pre-pandemic cycle, but total SCAT scores of male cyclists increased. According to these findings, male cyclists were most affected gender by the pandemic, but this effect is not statistically significant. It was concluded that in the normal period women has the highest score and it is getting lower in pandemic; but men has the lowest score in normal period and it is getting higher in pandemic. So women has positive, men has negative effect from the pandemic.

Total SCAT scores are examined according to the specialty of the cyclists in table 4, it is seen that the lowest anxiety level was seen in sprinters and mountain bikers in normal period

before pandemic, while the highest competition anxiety was seen in time trialists. According to category basis SCAT score is examined, while junior women had the highest competition anxiety during the normal period before the pandemic, junior men had the lowest competition anxiety. According to the economic situation, it is seen that the cyclists in the minimum wage group have the lowest competition anxiety before the pandemic, while the cyclists in above minimum wage group have the highest competition anxiety. When analyzed statistically, it was found that the mean SCAT scores of cyclists before the pandemic did not differ according to the variables of specialty, categories and economic level

Table 5

Post-pandemic SCAT scores and standard deviations according to socio-demographic characteristics of cyclists and p values of the differences between the means

Variables	Category	N	X	F	p
Specialty	Climber	5	19.20	.898	.455
	Time trialist	16	19.50		
	Sprinter	5	16.80		
	Mountain biker	5	19.40		
Category	Junior men	18	18.27	1.552	.230
	Junior women	6	19.33		
	Elit women	7	20.71		
Economic level	Below minimum wage	13	18.61	.200	.895
	Minimum wage	4	18.50		
	Above minimum wage	14	19.50		

Table 6

Relationship between cyclist's race anxiety scores and age and sports age

Variables	X	Min	Max	SCAT score before pandemic	SCAT score after pandemic
Age	18.25	17	23	-.094	.222
Sports age	6.00	3	14	-.023	-.081

($p > 0.05$). There is no significant difference between the scores of climber, time trialist, sprinter or mountain bikers. Likewise, there is no significant difference between the race anxiety scores of the athletes in the categories of junior men, junior women or elite women. No significant difference was found between the race anxiety levels according to the economic levels of the athletes, too.

When the SCAT score totals are examined according to the specialty of the cyclists in table 5, it is seen that sprinters has the lowest score of competition anxiety after the pandemic, while the competition anxiety is the highest in time trial cyclists. When the SCAT scores are examined by category, it is seen that the elite women have the highest competition anxiety after the pandemic, while junior men have the lowest competition anxiety. When the SCAT scores are examined according to the economic situation, it is seen that the cyclists in the minimum wage group have the lowest competition anxiety after the pandemic, while the cyclists in above minimum wage group have the highest competition anxiety in this period. It was found that the average SCAT scores of cyclists after the pandemic did not differ according to the variables of specialty, category and economic level, as well as before the pandemic ($p > 0.05$).

The relationship between cyclist's pre and post-pandemic SCAT scores and age and sports age was analyzed by "pearson correlation" test. According to the findings, it is seen that the pre-

pandemic anxiety score and age and sports age are negatively and weakly related. After the pandemic, it was found that age and competition anxiety were positively and moderately correlated, whereas sports age were less negatively related, like we found before pandemic.

DISCUSSION

It was concluded that well-trained and national team-level cyclists had moderate race anxiety levels (low < 10 , high > 30) before the pandemic ($X = 18.80$) and after the pandemic ($x = 19.00$) and their competition anxiety levels were not affected by the COVID-19 pandemic. Although there was a slight increase in the anxiety scores of cyclists after the pandemic, this increase was not statistically significant. It is noteworthy that the lowest value of anxiety scores was in the normal period before the pandemic, and the highest value was after the pandemic. As a result, some athletes were affected by the pandemic, but this effect is not statistically significant.

Although the young participants suggest that the level of competition anxiety may be high, it may explain the moderate competition anxiety levels due to experienced athletes. In addition, the high number of male athletes may have decreased the total SCAT scores of the participants. It was concluded that the level of competition anxiety in cyclists was higher in sprinters and mountain bikers compared to climbers and time trialists. While the SCAT scores of female athletes do not vary much before and after the pan-

demic, it is very wavy in male athletes, especially after the pandemic. As a result of this fluctuation, it is seen that minimum and maximum scores of SCAT is in male cyclists.

When the studies in the literature are examined; it is known that women generally show more anxiety than men due to biological factors and social expectations [32, 19]. In our study, when the anxiety level was examined according to the gender variable, it was found that women had higher racing anxiety scores than men both pre and post-pandemic period and supports the results of the literature. In our study, the race anxiety scores of women decreased after the pandemic compared to the pre-pandemic, on the other hand, men's race anxiety level increased after the pandemic; however, it was determined that this was not statistically significant. As a result, male cyclists were the most affected by the pandemic, but this effect is not statistically significant. It was concluded that the race anxiety level of women cyclists did not change with the pandemic process.

It was concluded that the mean SCAT scores of cyclists before the pandemic did not differ according to the variables of specialty, categories and economic levels ($p > .05$). However, when the minimum and maximum values of the total scores of anxiety levels are examined; in the normal period before the pandemic, the competition anxiety was the lowest in sprinters and mountain bikers and the highest in time trialists. By the category junior women has the highest score and junior men has the lowest score; according to the economic situation, it was found that the lowest scores were for the cyclists in the minimum wage group and the highest scores were obtained for the cyclists who has above the minimum wage. The reason for the low anxiety level of sprinters in the normal period before the pandemic may be that the sportsmen with this feature have less duty obligations compared to the athletes with other characteristics. Because the task of sprinters is only the last 200 meters, means in time just 15 sec in a long competition. Climbers and time trialists with the highest anxiety scores, they have the most load and responsibility in terms of both time and distance in a competition. There are climbs for more than one hour and also more than two hours; but the important point here is the patience required for the struggle to win the race rather than the time. At this point, psychological factors play a big role. Categories in cycling are listed as cadets, junior, under-23, elit and mas-

ters. As stated in the literature, anxiety level is higher in unexperienced athletes [28] and females on the basis of gender [32, 19]. Since the smallest category of our participants is juniors, it is expected that junior women have the highest anxiety level.

It was found that the average scores of cyclists after the pandemic did not differ according to the variables of specialty, category and economic level, as well as before the pandemic ($p > .05$). When the minimum and maximum values of the total scores of anxiety levels after the pandemic as before the pandemic are examined; the lowest and highest anxiety level of cyclists are unchanged according to specialty. During the pandemic period, the decrease in endurance values may increase the anxiety of the climbers and time trialists; it is an expected situation that sprinters do not increase their anxiety in the pandemic. On a category basis, it was concluded that after the pandemic, the most competition anxiety was among elite women, and the least competition anxiety was again junior men. While junior women had the highest anxiety levels before the pandemic, it is noteworthy that it was among the elite women after the pandemic. This may be due to the fact that the competitions in the elit category were more difficult and the elite women fear more strain in the competition, as the endurance decreased in the pandemic. It was found that the age and anxiety state of cycling athletes after the pandemic was moderately positively, pre-pandemic anxiety level and age and sports age were negatively and weakly correlated, whereas sports age were less negatively related than before the pandemic. This result supported the positive relationship between experience and anxiety in the literature; However, with the findings of the current study occurring during the pandemic period, it has been revealed that the results of the research show parallelism with the findings in the normal process.

In a study investigating the relationship between trait anxiety and performance in elite cyclists, it was reported that anxiety was strongly associated with performance in field tests and poorly in laboratory conditions. In addition, the results showed that subjects with low and high anxiety levels could give different responses to pre-competitive anxiety [21]. From this point, it can be inferred that performing cycling on the field may affect the level of competition anxiety in cyclists on their performance. In addition, it can be said that each athlete may give

different responses to the same anxiety level, while some athletes may be affected negatively, others may be positively affected. However, the literature shows that both low and high anxiety will decrease performance and burnout will increase [9]. In this sense, high expectation of success among top level cyclists causes psychological pressure; it can be said that competition anxiety resulting from this can have a negative effect on performance. High anxiety appears to be an undesirable situation in high-level athletes.

When the studies that explain the relationship between athletes' anxiety states and their sportive performances with physiological responses are examined; it has been reported that athletes should have good autonomic control for anxiety management. In a study on the subject, it was reported that high-level athletes had better autonomic control, cyclists running at the national team level, with high aerobic capacity (70 ml/kg/min), typically had very good autonomic control [11, 25]. The moderate anxiety levels of our cycling participants can be explained

by their good autonomic control. In another study related to similar results, when the heart rate variability of cyclists 30 minutes before the race was examined, an increase in SDNN was observed, which reflects the increase in sympathetic autonomic control. While there are correlations between physical fitness and some autonomic parameters, it has been reported that anxiety is associated with pre-competition experience [24]. Based on this and considering that elite level athletes are experienced, it is expected that experienced athletes will be good at pre-competition anxiety management and be able to manage the process well in adverse situations.

Suggestions

As a result of this research, it was seen that the COVID-19 pandemic did not have a negative effect on the racing anxiety of well-trained cyclists. However, considering the continuation of the pandemic conditions in the world and the possibility of prolongation of this process, it will be useful to continue the researches on this subject in the long term and to follow the athletes in order to prevent performance losses.

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The article was submitted 24.12.2021

Статья поступила в редакцию 24.12.2021