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The Analysis of Athletes Levels of Coronavirus-19 Phobia

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Abstract

The present study aims to analyze athletes' levels of coronavirus phobia. The sample of the present study consists of 156 individual and 62 team athletes in different sports branches in Yozgat province of Turkey during the season 2019-2020. Athletes' demographic features were obtained using a "personal information form". Athletes' levels of coronavirus phobia were measured using Coronavirus-19 phobia scale developed by Arpacı, Karataş and Baloğlu (2020). The statistical analysis of the obtained data was performed using SPSS 18 package program. In addition, normality test, frequency analysis, percentage analysis, arithmetic means, T test, ANOVA analysis and post hoc tests were used. The data analysis demonstrated the mean scale test score was 50.03. In terms of various variables such as sports branch (individual or team), age, history of coronavirus case in an acquaintance, monthly income from the sports branch, measures taken by managers in sports facilities and other people's personal hygiene during the past/future trainings, statistically significant differences were found among participants' mean total coronavirus phobia scale scores ($p<0.05$). It was found that participants performing team sports had a higher level of coronavirus phobia compared to those performing individual sports. Participants aged 21 and older had a higher level of coronavirus phobia compared to those aged 20 or younger. Participants with a history of coronavirus case in an acquaintance had a higher level of coronavirus phobia compared to those who did not witness such cases in their social circle.

Keywords: Coronavirus, Sports, Athlete

Introduction

World Health Organization (WHO) reported pneumonia cases whose etiology was unknown in Wuhan city of China on 31 December 2019. On 7 January 2020, these cases were defined as a new type of coronavirus (2019-nCoV) which has not been detected in humans before. Later, the disease was define as COVID-19, and WHO classified the pandemic as a "public health emergency of international concern" on 30 January 2020. Due to the emergence of COVID-19 cases in other countries outside China where the first cases broke out as well as the spread and severity of the disease, it was defined as a global pandemic on 11 March 2020. COVID-19 pandemic became a major national concern in Turkey on 10 January 2020, as the Ministry of Health Scientific Committee organized its first meeting on 22 January 2020. The main strategy which has been adopted since the first COVID-19 case in Turkey is to reduce the rate of cases through various public health measures (Republic of Turkey, Ministry of Health Covid-19 Guide, 2020; WHO, Coronavirus Disease (COVID-19) Outbreak, 2020).

COVID-19 pandemic has so far affected various sectors from an economic, social and commercial perspective around the globe. Among these are health, education, industry, transportation, tourism and sports. Sports, which is one of the affected sectors, is an important field which leads to numerous economic, cultural and commercial consequences (Aygün and Ünal 2020). Thanks to scientific and technological developments, the interest in sports branches is increasing day by day (Aygün and Murathan, 2020). Sports is a global product which is watched, performed and consumed by millions of individuals in the world (Ratten and Ratten, 2011). Sports is one of the foremost activities helping a health life and plays a vital role in an athlete's protection against diseases (Aygün and Ünal, 2020).

National and international federations have taken a number of measures to protect athletes' health due to the current COVID-19 pandemic, as manifested by the close contact between International Olympic Committee (IOC) and WHO (The International Olympic Committee, 2020). Staying at home is the main step towards the reduction of pandemic spread in terms of athlete and public health. However, these measures may lead to immobility and thus increase anxiety and depression (Chen et al., 2020). Exercises and trainings may help reduce the risk of anxiety and depression and protect athletes' mental health to some extent (Hull et al., 2020). Given the importance of an athlete's mental health, protective measures taken as a result of the pandemic may also cause various anxiety and stress problems in athletes.

Pandemics are known to cause traumatic effects and increase individuals' levels of anxiety and stress (Bandelow and Michaelis, 2015; Zhang et al., 2020). As for healthy individuals under the threat of a pandemic, their psychological state may be negatively influenced by various factors such as the risk of disease for their families and social circle, losing their jobs, freedom and other financial means and having difficulty in leading a routine life, which results in various behavior disorders. Individuals' perceptions about a certain disease inevitably affect their reaction to that disease, and behaviors during a disease play a role in the spread of a pandemic and loss of lives. Therefore, it bears utmost importance to gain insight into psychological behaviors during a pandemic and manage them for the struggle against it (Bandelow and Michaelis, 2015; Kwok et al., 2020; Kıroğlu, 2020).

Phobia can be defined as a specific situation and/or object which an individual tries to avoid (Öztürk, 1994). Scientific and natural fears cannot be classified as phobias because the latter usually involves an exaggerated reaction. Organism energy increases due to the natural stress experienced during a fear and the individual develops an ability to remain calm against the

threat (Tarhan, 2020*)*. Therefore, the feeling of control should not be lost in order to improve this ability against COVID-19. Otherwise, an individual will be immersed in negative feelings such as death, which causes the brain to release stress hormones affecting the immune system negatively. Thus, it may increase the risk of spread for the pandemic (Aslan, 2020).

Individuals who suffer from coronavirus phobia need to do mental exercises and read books on religious faith and reliance on God to control their anxiety and stress. Controlled anxiety is necessary during the COVID-19 pandemic. To this aim, individuals need to take all scientific measures, protect their health and avoid primitive beliefs such as "nothing will happen to me". It must be remembered that the "new normal" after COVID-19 pandemic will provide all individuals with a strong, health and safe lifestyle (Aslan, 2020). Thanks to the measures taken against coronavirus phobia, it is possible to help athletes return to their sportive routine and reduce the negative effects of the phobia on their performance.

It was reported that an athlete would become an effective factor for the spread of coronavirus (Dores and Cardim, 2020). In this respect, WHO and IOC published a list of protective measures for the development of sports and athlete health. Some of these measures are as follows:

-Keeping social distance in all sports branches due to a threat of COVID-19 infection among athletes,

-Paying attention to social distance and wearing protective masks,

-Giving clean water to athletes in disposable bottles,

-Obeying hygiene rules and providing sufficient ventilation,

-Providing athletes with personal protection sets such as disposable towels, information cards about measures and reporting, wearing medical masks against symptoms such as fever and cough, using disposable glasses, thermometers and hand sanitizers,

-Prevention of sharing personal equipment among athletes,

-In addition, the following recommendations were made for athletes and spectators who will participate in a sportive organization: Individuals who will attend an organization should check their health regularly and should not attend the organization and inform the authorities in case of coronavirus symptoms.

-Athletes should wash their hands regularly and close their mouth and nose with a disposable towel or crook of the arm when they cough. There should be hand sanitizer points in team buses.

-Athletes should avoid contact with positive tested patients and obeying social distancing rules. Technical staff who work with sportive materials should always wear gloves (Turkish National Olympic Committee 2020).

The above-mentioned measures are recommendations for the prevention of COVID-19 pandemic and acceleration of return to daily life in a relatively shorter duration. In addition to bearing importance for the continuity of sports organizations and athlete health, these measures also reveal the close relationship between sports and health (Aygün and Ünal 2020).

The present study aims to analyze athletes' levels of coronavirus phobia and answer the following research questions:

-What are athletes' levels of coronavirus phobia?

-Is there a statistically significant difference among athletes' levels of coronavirus phobia in terms of:

-Gender, age?

-Sports branch / individual / team), sports branch (contact / no contact).

-History of coronavirus case in an acquaintance.

-Dialogues with other individuals about coronavirus.

-Paying attention to personal hygiene.

-Monthly income from the sports branch.

-Necessary measures taken by managers in sports and training facilities

-Other people's personal hygiene during the past/future trainings?

Method

This section presents information about the study group, data collection tools and data analysis of the present study.

Study Group

The study group of the present study contains 156 licensed individual and 62 licensed team athletes in different sports branches in Yozgat province of Turkey during the season 2019-2020.

Data Collection Tools

The data collection tools of the present study are described in this section.

Personal Information Form

The personal information form used for data collection about participants' demographic features consisted of 10 questions

Coronavirus-19 Phobia Scale

The participants' levels of coronavirus phobia were measured using Coronavirus-19 Phobia Scale developed by Arpacı, Karataş and Baloğlu (2020). A 5-point Likert type self-assessment scale, it was developed to measure phobia against coronavirus. The scale items are scored between 1 "Strongly Disagree" and "5 "Strongle Agree". 1st, 5th, 9th, 13th, 17th and 20th items measure Psychological Sub-dimension, 2nd, 6th, 10th, 14th and 18th items measure Somatic Sub-dimension, 3rd, 7th, 11th, 15th and 19th items measure Social Sub-dimension, and 4th, 8th, 12th and 16th items measure Economic Sub-dimension. Total sub-dimensions scores are calculated using the sum of scores in responses to those items. Total C19P-S score is obtained using the sum of sub-dimension scores and it ranges between 20 and 100. A higher score points to a higher level of coronavirus phobia in the sub-dimensions and general scale. The reliability co-efficient of the scale was calculated as 0.92 (Arpacı, Karataş and Baloğlu, 2020). In the present study, too, the reliability co-efficient of the scale was calculated as 0.92.

Data Analysis

The data obtained from the present study was analyzed using SPSS 18.0 package program. The obtained data must be prepared for statistical analysis prior to the statistical data analysis. Kurtosis and skewness coefficients play a crucial role at this point (Şimşek, 2007; 74). In

normal distribution, skewness coefficient is 0. A skewed distribution to the right points to a negative skewness coefficient, while a skewed distribution to the left points to a positive skewness coefficient (http 1). A skewness and kurtosis coefficient between (+-2 and +-7) represents a normal data distribution (West et al., 1995; Şencan, 2005; 376, Şimşek, 2007: 74). Kline (2005) suggests that a skewness coefficient of ±3 and a kurtosis coefficient of ±10 indicates a normal data distribution. In the present study, skewness and kurtosis coefficients were calculated as -0.161/1.481 and -0.194/-1.370, respectively. It can be understood from these figures that the obtained data displayed a normal distribution, and parametric tests were used in the data analysis. Frequency analysis was used to describe participants' demographic features. T test, ANOVA analysis and post hoc tests were used to find significant differences among mean total coronavirus phobia scale scores in terms of selected variables. The level of statistical significance in the tests was taken as 0.05.

Results

Table 1. Athletes' Demographic Features

		N	%
Gender	Female	116	53.2
	Male	102	46.8
Sports Branch	Individual Sports	156	71.6
	Team Sports	62	28.4
Sports Branch	Contact	185	84.9
	No Contact	33	15.1
Age	20 or under	141	64.7
	21 and over	77	35.3
Monthly Income from the Sports Branch	No income	182	83.5
	1-1000 TL	16	7.3
	1001-2000 TL	5	2.3
	2001-3000 TL	4	1.8
	3001 TL and more	11	5.0
Has any of your acquaintances been diagnosed with coronavirus?	Yes	35	16.1
	No	183	83.9
Do you think that managers in charge of sport facilities where you do your trainings have taken necessary measures?	Yes	129	59.2
	No	24	11.0
	I have no idea	65	29.8
Do your dialogues about coronavirus (COVID-19) with other people (teammates, coach, managers or other employees) influence your view on the disease?	Yes	132	60.6
	No	86	39.4
Do you pay attention to personal hygiene rules?	Yes	209	95.9
	Partly	9	4.1
	No	0	0.0
Do other people (teammates, coach, managers or other employees) around you pay attention to personal hygiene rules?	Yes	155	71.1
	Partly	57	26.1
	No	6	2.8

As can be seen in Table 1, 116 athletes (53.2%) are females, while 102 of them (46.8%) are males. 156 athletes (71.6%) are engaged in individual sports branches, whereas 62 of them are engaged in (28.4%) team sports. While 185 athletes (84.9%) perform contact sports, 33 of them (15.1%) perform no contact sports branches. 141 athletes (64.7%) are aged 20 or under, whereas 77 of them (35.3%) are aged 21 and over. 182 athletes (83.5%) stated that they did

not earn any income from their sports branches, while 16 (7.3%), 5 (2.3%) and 4 (1.8%) of them stated that they earned a monthly amount of 1-1000 TL, 1001-2000 TL and 2001-3000 TL, respectively. The question "Has any of your acquaintances been diagnosed with coronavirus?" was answered in the positive by 35 athletes (16.1%) and in the negative by 183 athletes (83.9%). The question "Do you think that managers in charge of sport facilities where you do your trainings have taken necessary measures?" was answered in the positive by 129 athletes (59.2%) and in the negative by 24 athletes (%11.0), and 65 athletes (29.8%) stated that they had no idea about the question. The question "Do your dialogues about coronavirus (COVID-19) with other people (teammates, coach, managers or other employees) influence your view on the disease?" was answered in the positive by 132 athletes (60.6%) and in the negative by 86 athletes (39.4%). While 209 athletes (%95.9) stated that they paid attention to personal hygiene rules, 9 of them (4.1%) stated that they partly obeyed these rules. The question "Do other people (teammates, coach, managers or other employees) around you pay attention to personal hygiene rules?" was answered in the positive by 155 athletes (71.1%) and in the negative by 57 athletes (26.1%), while 6 athletes (2.8%) stated that these people partly obeyed personal hygiene rules.

Table 2. The Findings Related to Mean Total Coronavirus Phobia Scale Scores

	N	Minimum	Maximum	$\bar{x}$	Sd
Coronavirus Phobia Scale	218	20.00	100.00	50.03	16.88

It can be understood from Table 2 that mean total coronavirus phobia scale scores were calculated as 50.03. It can be thus stated that participants had a moderate level of coronavirus phobia.

Table 3. T Test Findings

	Gender	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	Female	116	51.38	16.84	1.262	.208
	Male	102	48.50	16.87		
	Sports Branch	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	Individual	156	48.13	16.54	-2.675	**.008***
	Team	62	54.82	16.91		
	Sports Branch	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	Contact	185	50.08	16.89	.081	.936
	No contact	33	49.82	17.06		
	Age	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	20 or under	141	46.34	16.55	-4.570	**.000***
	21 and over	77	56.80	15.40		
	Coronavirus Diagnosis in an Acquaintance	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	Yes	35	56.57	17.03	2.530	**.012***
	No	183	48.78	16.61		
	Influenced by Others' Words about Coronavirus	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	Yes	132	51.40	16.46	1.491	.137
	No	86	47.93	17.39		
	Personal Hygiene	**N**	**Mean**	**Sd**	**t**	**p**
Coronavirus Phobia	Yes	209	50.18	17.02	.631	.529

Partly	9	46.55	13.39	

Table 3 indicates that no statistically significant differences were found among participants' total coronavirus phobia scale scores in terms of gender (p>.05). However, it was observed that female athletes' levels of coronavirus phobia were higher compared to male athletes ($\bar{x}$=51.38).

A statistically significant difference was found among participants' total coronavirus phobia scale scores in terms of individual and team sports (p<.05). It was emerged that athletes engaged in team sports had a higher level of coronavirus phobia compared to those engaged in individual sports ($\bar{x}$= 54.82).

There were no statistically significant differences among participants' total coronavirus phobia scale scores in terms of contact and no contact sports (p>.05).

There was a statistically significant difference among participants' total coronavirus phobia scale scores in terms of age (p<.05). It was demonstrated that athletes aged 21 and over had a higher level of coronavirus phobia compared to those aged 20 or under ($\bar{x}$= 56.80).

A statistically significant difference was observed among participants' total coronavirus phobia scale scores in terms of history of a coronavirus case in an acquaintance (p<.05). Athletes who responded to this question in the positive had a higher level of coronavirus phobia compared to those who responded in the negative ($\bar{x}$= 56.57). No statistically significant differences were observed among participants' total coronavirus phobia scale scores in terms of their dialogues with other people (teammates, coach, manager or other employees) about coronavirus in the past/future trainings (p>.05). No statistically significant differences were observed among participants' total coronavirus phobia scale scores in terms of paying attention to personal hygiene rules (p>.05).

Table 4. ANOVA analysis findings

	Monthly	**N**	**$\bar{x}$**	**Sd**	**F**	**p**	**Difference**
Coronavirus Phobia	No income	182	48.54	17.12	3.260	.013	2,3>1
	1-1000 TL	16	60.31	16.31			
	1001-2000 TL	5	60.40	7.09			
	2001-3000 TL	4	42.00	12.00			
	3001 TL and more	11	57.90	7.89			
	Measures Taken by Managers	**N**	**$\bar{x}$**	**Sd**	**F**	**p**	**Difference**
Coronavirus Phobia	Yes (1)	129	49.00	15.53	4.892	.008	2>1,3
	No (2)	24	60.00	18.71			
	I have no idea (3)	65	48.40	17.78			
	Personal Hygiene in Other People	**N**	**$\bar{x}$**	**Sd**	**F**	**p**	**Difference**
Coronavirus Phobia	Yes (1)	155	48.19	16.61	5.132	.007	2,3>1
	No (2)	6	66.83	18.90			
	Partly (3)	57	53.28	16.24			

It can be seen in Table 4 that a statistically significant difference was found among participants' total coronavirus phobia scale scores in terms of monthly income (p<.05). It was observed that athletes who had a higher level of monthly income also had a higher level of coronavirus phobia compared to those who did not earn any income.

There was a statistically significant difference among participants' total coronavirus phobia scale scores in terms of their views on measures taken by managers in their training facilities ($p<.05$). It was found that athletes who believed that their managers did not take necessary measurements had a higher level of coronavirus phobia.

A statistically significant difference was observed among participants' total coronavirus phobia scale scores in terms of attention to personal hygiene by other people (teammates, coach, manager or other employees) around them ($p<.05$). It was found that athletes who believed that people around them did not pay attention to personal hygiene had a higher level of coronavirus phobia.

Discussion and Conclusion

The present study, which aimed to analyze athletes' levels of coronavirus phobia in terms of demographic variables, focused on 156 individual and 56 team sports athletes.

No statistically significant differences were observed among participants' total coronavirus phobia scale scores in terms of gender ($p>.05$). However, it was found that female athletes had a higher level of coronavirus phobia compared to male athletes ($\bar{x}=51.38$). This finding can be associated with the fact that men behave more calmly compared to women who have a more vulnerable psychological state and thus display a higher level of coronavirus phobia.

WHO reported that the number of male deaths due to COVID-19 pandemic was higher compared to the number of female deaths (female death by 2.8%, male death by 4.8%) and that women's health was more affected by the diseases compared to men (WHO, 2020). Similarly, in a study on sports faculty students' levels of anxiety during COVID-19, Acar et al. (2020) reported that women's levels of anxiety were higher compared to men. Keskin et al. (2013) too indicated that mental disorders were found to be higher in women due to some social, cultural, economic and biological factors. Çoban et al. (2020) concluded in their study that the income levels of football players and their individual training status were effective on the self-confidence and shot accuracy of the athletes.

There was a statistically significant difference among participants' total coronavirus phobia scale scores in terms of being engaged in individual and team sports ($p<.05$). It was observed that athletes engaged in team sports had a higher level of coronavirus phobia compared to those engaged in individual sports ($\bar{x}= 54.82$). It can be suggested that athletes engaged in individual sports take more measures against the disease and thus believe that they are protected against it, while athletes engaged in team sports cannot ensure that they are protected against the diseases due to their close contact with other teammates. In addition, their obligation to contact other teammates during the trainings and matches may cause them to suffer from a higher level of coronavirus phobia.

There were no statistically significant differences among participants' total coronavirus phobia scale scores in terms of contact and no contact sports ($p>.05$).

A statistically significant difference was found among participants' total coronavirus phobia scale scores in terms of age ($p<.05$). It was observed that athletes aged 21 and over had a higher level of coronavirus phobia compared to those aged 20 or under ($\bar{x}= 56.80$). As the mass media, ministry of health and members of scientific committee reported during the pandemic that elderly people and people suffering from chronic diseases were affected by the

virus at a higher level, it can be inferred that individuals aged 20 or under had a lower level of coronavirus phobia.

A statistically significant difference was found among participants' total coronavirus phobia scale scores in terms of history of coronavirus case in one of their acquaintances ($p<.05$). It was demonstrated that athletes who answered this question in the positive had a higher level of coronavirus phobia compared to those who answered this question in the negative ($\bar{x}=56.57$). Because close contact with people is one of the most commonly seen ways one of coronavirus infection, it is very likely for an athlete whose acquaintance was diagnosed with COVID-19 to develop a coronavirus phobia. It was also reported by Brooks et al. (2020) that even individuals who were not diagnosed with COVID-19 were also negative influenced by the pandemic at a psychological level. They also stated that the increasing number of cases triggered various public concerns about social and economic activities and reduced individuals' psychosocial strength. Similarly, Burtscher et al. (2020) and Grant et al. (2020) reported that isolation measures caused individuals to develop a fear of infection, quarantine and stigmatization and led to the flow of excessive misinformation, which eventually resulted in chronic stress and created a risk factor for anxiety and depression due to a heavy burden on their mental health. These findings overlap with the findings of the present study.

There were no statistically significant differences among participants' total coronavirus phobia scale scores in terms of their dialogues with other people (teammates, coach, manager or other employees) about coronavirus in the past/future trainings ($p>.05$).

There were no statistically significant differences among participants' mean total coronavirus phobia scale scores in terms of paying attention to personal hygiene rules ($p>.05$).

A statistically significant difference was observed among participants' total coronavirus phobia scale scores in terms of monthly income ($p<.05$). It was found that athletes who had a higher level of monthly income had a higher level of coronavirus phobia compared to those who did not earn any income from their sports branches. It can be argued that athletes with a higher level of monthly income view their sports branch as a profession and are thus concerned about losing their source of income during the pandemic. However, Acar et al. (2020) did not report any statistically significant differences among participants in terms of monthly income.

A statistically significant difference was found among participants' total coronavirus phobia scale scores in terms of their views on measures taken by managers in their training facilities ($p<.05$). It was observed that athletes who believed that their managers did not take necessary measures in their training facilities had a higher level of coronavirus phobia. No cases of such pandemics in recent history, the declaration of the disease as a pandemic by WHO, various developments in the international and national press about the pandemic and the fact that measures are taken by the authorities step by step depending on the current developments can be considered as leading factors which caused athletes participating in the present study to believe that their managers have not taken necessary measures yet, thus increasing their level of coronavirus phobia. In a similar study in China, Wang (2020) observed that offering citizens detailed, actual and accurate health information (such as treatment and local cases) and encouraging them to take personal measures (such as hand hygiene, wearing masks) helped reduce psychological effects of the pandemic on individuals and prevent various disorders such as stress, depression and anxiety.

A statistically significant difference was found among participants' total coronavirus phobia scale scores in terms of attention to personal hygiene by other people (teammates, coach,

manager or other employees) around them ($p<.05$). It was demonstrated that athletes who believed that their friends did not pay attention to personal hygiene rules had a higher level of coronavirus phobia. Personal hygiene rules occupy an importance position in the struggle against coronavirus. However, even though many athletes pay attention these rules, they are also aware of the fact that they may be influenced negatively by other people's negligent behaviors due to their close contact, which accounts for these participants' higher level of coronavirus phobia.

In conclusion, the present study found statistically significant differences among athletes' total coronavirus phobia scale scores in terms of sports branch (individual or team), age, history of coronavirus case in an acquaintance, monthly income from the sports branch, measures taken by managers in sports facilities and other people's personal hygiene during the past/future trainings ($p<0.05$). Athletes who are engaged in team sports had a higher level of coronavirus phobia compared to those who are engaged in individual sports. Athletes aged 21 and over had a higher level of coronavirus phobia compared to those aged 20 or under. Athletes whose acquaintances were diagnosed with COVID-19 had a higher level of coronavirus phobia compared to those whose acquaintances were not. Athletes who had a higher level of monthly income had a higher level of coronavirus phobia compared to who did not earn any income. Athletes who believed that their managers took necessary measures in their training facilities and that other people around them paid attention to personal hygiene had a higher level of coronavirus phobia. On the other hand, no statistically significant differences were observed among athletes' total coronavirus phobia scale scores in terms of gender, contact or no contact sports, dialogues with other people about coronavirus and paying attention to personal hygiene rules ($p>0.05$).

It can be concluded that provincial public health councils and directorates of health should coordinate in order to help athletes receive psychological counselling from related institutions in this coronavirus pandemic process, which will eventually contribute to their general mental health and success in their respective sports branches.

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