RESEARCH ARTICLE

Comparison of Covid-19 Fear and Perceived Stress Level in Tennis Players with Positivie and Negative PCR Results at Elazig/Turkiye

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Abstract

The purpose of this research was to compare the COVID-19 fear and perceived stress levels of tennis players in Elazığ province who tested positive and negative for PCR. PCR test results were examined considering variables such as gender, education level, age, and years of playing tennis. The research sample was determined using accessible sampling method and consisted of two participant groups, one with PCR positive (4 participants) and the other with PCR negative (16 participants), in the age range of 10-49. A survey technique was used in the research. The participants' levels of stress perception were measured using the "Perceived Stress Scale Long Form (PSS-14)" and the "COVID-19 Fear Scale (FCV-19S)". Due to the non-normal distribution of the data, PCR test distributions based on gender, age groups, education level, and years of playing tennis were presented with cross-tables. Mann-Whitney U test was used to compare COVID-19 fear and perceived stress levels according to gender and PCR test status. The findings of this study indicated a significant difference in the years of playing tennis for female athletes with negative and positive PCR tests (p = .031 * p <.05) and for male athletes with negative and positive PCR tests (p = .005 * p <.05). It was also found that PCR positive and negative individuals, both females and males, did not differ significantly in terms of COVID-19 fear and perceived stress levels. As a result, the likelihood of testing negative for PCR increases with increasing age groups.

Keywords
COVID-19, Pandemic, Tennis, Fear, Stress

INTRODUCTION

Throughout history, various periods have witnessed the emergence of infectious diseases. In the 21st century, two coronavirus outbreaks, namely SARS-CoV and Middle East Respiratory Syndrome, or MERS-CoV, are the most widespread and deadly global pandemics.

In December 2019, an unusual pneumonia case with previously unseen symptoms was discovered in the city of Wuhan, located in the Hubei province of China. Health authorities promptly initiated measures such as the isolation of individuals suspected of having the disease,

close monitoring of those in contact with infected individuals, and the urgent collection of epidemiological and clinical data for disease progression (Wang and Zhao, 2020).

On December 31, 2019, the first case of COVID-19 was reported to the World Health Organization (WHO) by Chinese authorities (Weston and Frieman, 2020). Due to the disease's spread to 160 countries, with more than 200,000 cases and over 8,000 deaths, the WHO declared it a "pandemic." As cases rapidly increased, countries began implementing necessary restrictions. "The coronavirus, which has been the subject of newspaper headlines and news headlines

in many countries, creates an atmosphere of uncertainty and affects individuals not only physically but also psychologically. Fear, loneliness, boredom, and anger are among the most common emotions experienced by individuals during this period (Ornell, Schuch, Sordi, and Kessler, 2020). The virus's rate of transmission, incubation period, the number of infected individuals, news on social media, and different policies implemented by countries have further intensified feelings of insecurity and fear among individuals. The fear during the pandemic has been shown to increase anxiety and stress levels in otherwise healthy individuals (Barzilay, Moore, Greenberg, Didomenico, Brown, White, Gur, and Gur, 2020). A study examining the fear of contracting or transmitting COVID-19 found that individuals experienced high levels of emotions such as fear, distress, loneliness, anxiety, insomnia, and anger (Shigemura, Ursano, Morganstein, Kurosawa, and Benedek, 2020).

The COVID-19 pandemic not only affects individuals' physical health but also significantly impacts people's mental well-being (Harper, Satchell, Fido, and Latzman, 2020; Satici, Gecet-Tekin, Deniz, and Satıcı, 2021; Yıldırım and Güler, 2020)."During the COVID-19 pandemic, the fear of entering shopping centers or crowded places due to the transmission of the virus from person to person, the fear of encountering infected individuals in healthcare facilities, and the stress of approaching people have been observed as reactions (Doğan and Düzel, 2020; Altunalan et al., 2022). Furthermore, it is known that the implementation of precautions, such as the closure of schools, universities, restaurants, and many factories, has led to people suddenly losing their jobs and income. Unemployment issues and an uncertain future create additional stress and fear among individuals (Fuchs Matonog, Pilarska, Sieradzka, Szul, Czuba, and Drosdzol-Cop, 2020)."

Research studies have shown that age, education level, place of residence, marital status, economic status, and gender are among the factors influencing the fear of COVID-19 (Doğan and Düzel, 2020; Gashi, 2020; Gencer, 2020). Regarding the pandemic, it has been observed that high school graduates are more stressed compared to university graduates, and men are more stressed than women (Doğan and Düzel, 2020). These negative circumstances have also affected social

and sporting activities. In response to these adverse conditions, our country has implemented measures such as quarantine, the closure of institutions and organizations, and the enforcement of mask-wearing and social distancing. During the closure period, gyms and sports activities were suspended, and this situation has also affected sports like tennis.

Tennis, among the sports disciplines, stands out as a visually exciting and pleasant activity due to its inclusion of aesthetic movements based on competition. Therefore, it is among the popular sports. It is observed that many individuals participate in tennis competitions that manage to captivate the audience visually, making it a popular sporting event. Tennis, which is also held in many countries around the world, contributes to the tourism potential of the host country. In countries where tennis competitions are held, major organizations and promotions related to sports competitions are carried out. These sports competitions also offer substantial prizes. Tennis, which enjoys great interest in the countries where it is played, provides opportunities for athletes to showcase their abilities thanks to its broad audience base and major events (Ölçücü, Erdil, Bostancı, Canikli, and Aybek, 2012). Furthermore, tennis today ranks among the sports that are practiced both professionally and recreationally (İmamoğlu, 2009). Additionally, tennis is one of the most popular sports in the world, played by 1.12% of the global population (Turner, Beranek, Rogers, Nosaka, Girart, and Cruickshank, 2021).

Unlike many other sports, tennis is played across all age groups. Therefore, it is considered a valuable lifelong sport for maintaining healthy levels of physical activity in middle-aged and older adults. Due to its accessibility across all age groups, it is expected that the COVID-19 pandemic will exert significant pressure on tennis players, leading to psychological issues such as stress and fear. From the athletes' perspective, COVID-19 has not only posed significant health concerns but has also disrupted training and competition schedules due to the fear of infection (Hellewell, Abbott, and Gimma, 2020). Unfortunately, during the COVID-19 pandemic, the reduction in physical activity levels during periods of social isolation and quarantine, along with interruptions in training programs, is likely to have negative effects on respiratory function and exercise capacity in the short and long term.

Additionally, even for athletes who do not contract the disease, the cancellation of competitions and the resulting loss of income have increased pandemic-related stress levels (Bao, Sun, and Meng, 2020).

In light of this information, this study has been prepared to examine the impact of changes in perceived stress levels on the levels of COVID-19 fear among tennis players with both positive and negative PCR test results who continue to play tennis during the pandemic, using certain variables.

The aim of this research is to determine the extent to which the fear of COVID-19 and stress levels of tennis players with positive and negative PCR test results were affected during the COVID-19 pandemic.

MATERIALS AND METHODS

This section provides information about the research design, location and characteristics of the study, the population and sample, data collection instruments, the data collection process, and data analysis.

Research Design

The data collected in this research was gathered at a specific point in time and in a single instance, making the study a cross-sectional research design (Ruane, 2005; Frankel and Wollen, 2005). The research aims to investigate the impact of perceived stress levels on the change in the COVID-19 fear levels of individuals who play tennis, while also exploring how this effect varies based on factors such as PCR testing, gender, age, education, and years of playing tennis. In this regard, the research design can be described as a causal-comparative model since it examines whether the change in the COVID-19 fear levels of individuals who play tennis is attributed to their stress perception, and it also examines whether the measured socio-demographic factors alter the direction, effect, and strength of the interaction between stress and fear.

Descriptive research model is a type of research that aims to describe, explain and interpret the phenomenon or event as it is. Descriptive research generally uses quantitative data collection methods and analyzes the data with descriptive statistics. In this study, descriptive-comparative model, it aims to make comparisons between different groups, conditions, variables or time periods (Buyukozturk, 2016).

The Research Group

This research was conducted with 50 athletes who played tennis in the Elazığ province during the COVID-19 pandemic period, between November 2021 and January 2022, and had both positive and negative COVID-19 PCR test results. The population of the research consisted of athletes who played tennis in the Elazığ province during the pandemic period with both positive and negative COVID-19 PCR test results. The research sample was not determined through a systematic sampling method but rather through a complete enumeration based on voluntary participation. Complete enumeration is the examination of all units in the research population (Ergin, 1991). In this context, the participants of the study were composed of amateur and professional tennis players. To account for potential data loss, it was decided to include 10% reserve participants. Therefore, the sample size of the research was determined as 60 participants. The study was completed with the participation of 50 volunteers.

Data Collection Instruments

The information about the data collection instruments used in the research is as follows:

Socio-Demographic Questionnaire:

This questionnaire aimed to gather information about the participants' gender, age, education level, and occupation. It also included questions related to PCR test results, symptoms exhibited by those who tested positive, accompanying illnesses, and the course of the disease. Additionally, it included questions to determine participants' emotional and behavioral attitudes towards pandemic measures and questions regarding their sports experience before and after COVID-19.

Fear of COVID-19 Scale (FCV-19S):

The Fear of COVID-19 Scale was developed by Ahorsu and others (2020) and adapted into Turkish for use in a study titled "Fear of COVID-19 and Positivity: Mediating Role of Intolerance of Uncertainty, Depression, Anxiety, and Stress" by Bakioğlu and others (2020). The scale consists of seven items and has a single subscale. Participants rate each item on a scale from "1: Strongly Disagree" to "5: Strongly Agree." According to Ahorsu and others (2020), the original scale has factor loadings between 0.66 and 0.74, indicating good validity. The Cronbach's alpha internal

consistency coefficient is 0.82, indicating good reliability. Moderate correlations were found with depression (r=0.43), anxiety (r=0.51), perceived infectivity (r=0.48), and germ avoidance (r=0.46) scales. After ensuring the linguistic validity of the Turkish version, confirmatory factor analysis was conducted using the data collected from the sample. The Turkish version had good fit indices (x^2/sd=2.45; RMSEA=0.03; CFI=0.99; IFI=0.99; GFI=0.99; AGFI=0.99; NFI=0.99; RFI=0.99; SRMR=0.014). Factor loadings ranged from 0.73 to 0.82. The scale explained 58.86% of the total variance. Internal consistency was high (α=0.88) when examined for internal consistency (Bakioğlu et al., 2020).

Perceived Stress Scale Long Form (PSS-14):

This scale was developed by Cohen, Kamarck, and Mermelstein (1983). It consists of 14 items designed to measure how individuals perceive the stressfulness of certain situations in life and is rated on a 5-point Likert scale. Higher total scores indicate higher perceived stress. The reliability and validity analyses of the Turkish long and short forms of the Perceived Stress Scale were conducted by Eskin and others. They found that the internal consistency coefficient of the long form of the scale was 0.84, and the test-retest reliability was 0.87, indicating that the scale is a reliable measurement tool. When the structural validity of the scale was examined using the principal components method, two factors named "insufficiency-self-sufficiency" and "stress / discomfort" were identified. The two-factor structure explained 46.50% of the total variance. The PSS-14 scale had correlation coefficients of 0.45 with the "Life Events List," 0.64 with the "Beck Depression Inventory," -0.43 with the "Rosenberg Self-Esteem Scale," 0.42 with the "Satisfaction with Life Scale," 0.31 with the family subscale of the "Perceived Social Support Scale," and -0.26 with the friend subscale of the "Perceived Social Support Scale" (all p < 0.01). Based on these correlation coefficients, the scale has concurrent validity. Therefore, the scale is sufficiently valid for measuring individuals' subjective stress perceptions. Items that need to be reverse-scored are "4, 5, 6, 7, 9, 10, 13" (Eskin et al., 2013).

Data Collection

The implementation of this study began after obtaining ethical approval from the Mersin University Social Sciences Ethics Committee following the acceptance of the thesis proposal. The data collection form was pre-tested on five individuals, and it took an average of 20 minutes to complete.

In the research, the most commonly used data collection method, which is the survey technique, was utilized. The survey was conducted between November 2021 and January 2022. Survey forms were sent to the participants who constituted the sample of the research via an online survey platform (Google Forms) link. At the beginning of the data collection form, the purpose of the study was explained to the participants, and their consent was obtained. Participants were informed that their personal information would be protected and that their responses would never be used with their names in any place or at any time. They were then asked to mark the appropriate options. Also This study has been approved by the Mersin University Social and Human Sciences Ethics Committee with decision number 100 on September 7, 2021.

Data Analysis

After the data were collected through the online survey tool on Google Forms, they were analyzed using SPSS version 21. Subsequently, a frequency analysis was conducted for the factors in the "general information questionnaire."

The reverse items in the Perceived Stress Scale Long Form were recoded to prepare them for analysis. Then, the scores for each participant on this scale were calculated by summing all the scale items. For participants who left some questions blank, the total score was assigned as the mean score. The responses of each participant to the items of the COVID-19 Fear Scale (FCV-19S) were summed to obtain the total score for the scale, and for participants who did not have a total score calculated, the mean score was assigned.

In statistical analyzes, PCR test distributions based on gender, age groups, education level, and the duration tennis playing experience are shown in cross tables. Since the data do not show a normal distribution, Mann Whitney U test was used to compare COVID-19 fear and perceived stress levels by gender and PCR test status.

RESULTS

This research, which aimed to examine the effects of the relationship between COVID-19 fear and perceived COVID-19 risk in individuals

playing tennis during the COVID-19 pandemic, was conducted to contribute to the literature related to the pandemic process.

Table 1: Participants descriptive Statistics

Variable	Group	Female			Male		
		Positive	Negative	Total	Positive	Negative	Total
Yaş Grupları	10-18 Years Old	0	0	0	0	1	1
	19-28 Years Old	6	3	9	4	1	5
	29-38 Years Old	6	6	12	5	1	6
	39-48 Years Old	2	1	3	3	5	8
	49 Years and Older	0	1	1	3	2	5
	Total	14	11	25	15	10	25
Education Level	Primary School	0	1	1	0	2	2
	High School	2	0	2	4	1	5
	University	10	8	18	6	5	11
	Postgraduate	2	2	4	5	2	7
	Total	14	14	25	15	10	25
Years of Playing Tennis	0-4 Years	13	5	18	8	1	9
	5-9 Years	1	5	6	4	4	8
	10-14 Years	0	0	0	3	0	3
	15 Years and Over	0	1	1	0	5	5
	Total	14	11	25	15	10	25

Table 1: Cross-tabulation Analysis of PCR Test Results for Female and Male Athletes by Age Groups For Female Athletes:

Chi-square test (X^2) = 2.02, degrees of freedom (df) = 3, Asymptotic Significance (Asymp. Sig.) = 0.572. There is no significant difference in the distribution of PCR positive and negative results among age groups for female athletes. The distribution of PCR positive and negative female athletes is not statistically different by age group.

For Male Athletes:

Chi-square test (X^2) = 5.382, degrees of freedom (df) = 3, Asymptotic Significance (Asymp. Sig.) = 0.250. There is no significant difference in the distribution of PCR positive and negative results among age groups for male athletes. The distribution of PCR positive and negative male athletes by age group is shown. There is no statistically significant difference between PCR positive and PCR negative male athletes.

Cross-tabulation Analysis of PCR Test Results for Female and Male Athletes by Education Level For Female Athletes:

Chi-square test (X^2) = 2.904, degrees of freedom (df) = 3, Asymptotic Significance (Asymp. Sig.) = 0.407. There is no significant difference in the distribution of PCR positive and negative results among education levels for female athletes. The distribution of PCR positive and negative female athletes by education level is shown. There is no statistically significant difference between PCR positive and PCR negative female athletes.

For Male Athletes:

Chi-square test (X^2) = 4.351, degrees of freedom (df) = 3, Asymptotic Significance (Asymp. Sig.) = 0.226. There is no significant difference in the distribution of PCR positive and negative results among education levels for male athletes. The distribution of PCR positive and negative male athletes by education level is presented. There is no statistically significant difference between PCR positive and PCR negative male athletes.

Cross-tabulation Analysis of PCR Test Results for Female Athletes by Years of Playing Tennis: Chi-square test (X^2) = 6.962*, degrees of freedom (df) = 2, Asymptotic Significance (Asymp. Sig.) = 0.031. There is a significant difference in the distribution of PCR positive and negative results among years of playing tennis for female athletes (*p<0.05). The distribution of PCR positive and negative female athletes by years of playing tennis is shown.

Cross-tabulation Analysis of PCR Test Results for Male Athletes by Years of Playing Tennis:

Chi-square test (X^2) = 12.963**, degrees of freedom (df) = 3, Asymptotic Significance (Asymp. Sig.) = 0.005. There is a significant difference in the distribution of PCR positive and negative results among years of playing tennis for male athletes (**$p<0.01$). The distribution of PCR positive and negative male athletes by years of playing tennis is presented. Male athletes who played tennis for 0-4 years have higher PCR positive rates, while the highest PCR negative rate is observed among male athletes who played tennis for 15 years and above.

Table 2. Comparison of COVID-19 Fear and Perceived Stress Levels of Female Athletes with PCR Negative and Positive Test Results

Variables	Group	N	Mean	SD	Min.	Max.	MWU	z	Asymp. Sig.
COVID-19 Fear	Positive	14	20,07	7,51	11,00	34,00			
	Negative	11	20,00	6,37	10,00	29,00	77,000	,000	1,00
	Total	25	20,04	6,89	10,00	34,00			
Perceived Stress Level (PSL)	Positive	14	23,00	3,92	16,00	29,00			
	Negative	11	24,36	5,18	17,00	35,00	66,500	-,577	,564
	Total	25	23,60	4,47	16,00	35,00			
PSL Inadequate Self-Efficacy Subscale	Positive	14	23,64	2,92	19,00	28,00			
	Negative	11	22,00	5,51	15,00	32,00	47,500	-1,624	,104
	Total	25	22,92	4,24	15,00	32,00			
PSL Stress/Discomfort Perception Subscale	Positive	14	18,64	5,23	10,00	29,00			
	Negative	11	22,09	4,95	11,00	31,00	45,500	-1,730	,085
	Total	25	20,16	5,30	10,00	31,00			

Table 2: Comparison of COVID-19 Fear and Perceived Stress Levels Between Female Athletes with PCR Negative and PCR Positive Results. There were no statistically significant differences found between female athletes with PCR positive and negative results in terms of mean values for COVID-19 fear, perceived stress level, inadequate self-efficacy perception, and stress/discomfort perception variables.

Table 3: Comparison of COVID-19 Fear and Perceived Stress Levels in Male Athletes with Negative and Positive PCR Test Results.

Variables	Group	N	Mean	SD	Min.	Max.	MWU	z	Asymp. Sig.
COVID-19 Fear	Positive	15	17,47	6,12	7,00	26,00			
	Negative	10	18,90	10,83	7,00	42,00	72,500	-,139	,889
	Total	25	18,04	8,14	7,00	42,00			
Perceived Stress Level (PSL)	Positive	15	21,40	5,12	12,00	31,00			
	Negative	10	23,30	9,12	15,00	48,00	73,500	-,084	,933
	Total	25	22,16	6,88	12,00	48,00			
PSL Inadequate Self-Efficacy Subscale	Positive	15	22,47	3,46	16,00	29,00			
	Negative	10	24,40	8,58	15,00	42,00	73,500	-,084	,933
	Total	25	23,24	5,96	15,00	42,00			
PSL Stress/Discomfort Perception Subscale	Positive	15	19,60	5,12	10,00	31,00			
	Negative	10	20,90	8,44	11,00	42,00	72,000	-,167	,867
	Total	25	20,12	6,51	10,00	42,00			

Table 3: Comparison of COVID-19 Fear and Perceived Stress Levels in Male Athletes with Negative and Positive PCR Test Results. There were no statistically significant differences found between male athletes with positive PCR results and those with negative PCR results in terms of mean values for COVID-19 fear, perceived stress level, inadequate self-efficacy perception, and stress/discomfort perception variables.

Within the scope of the research objective, the results of 34 participants who were PCR positive and 16 participants who were PCR negative, aged between 10 and over 49 years, and living in the Elazığ province are provided below:

There is no statistically significant difference in the distributions of male and female athletes between PCR-negative and PCR-positive groups.

There is no statistically significant difference in the distributions of age and education levels among female and male athletes in both PCR-negative and PCR-positive groups. The likelihood of athletes testing PCR-positive increases statistically significantly as the years of playing tennis increase, both in females and males. COVID-19 fear and perceived stress levels do not differ between PCR-positive and PCR-negative individuals in both females and males.

DISCUSSION

This study was conducted to examine the relationship between the fear of COVID-19 and perceived COVID-19 risk among individuals who play tennis during the pandemic. In this context, data were collected from individuals playing tennis in Elazığ province, and an applied research method was followed.

Discussion on the Results of Descriptive Findings Regarding COVID-19 Diagnosis In order to control the COVID-19 pandemic, rapid and accurate detection of the disease is crucial (Bhadra, Jiang, Kumar, Johnson, Hensley, & Ellington, 2015). Globally, COVID-19 diagnosis is made through the examination of samples obtained from nasopharyngeal and oropharyngeal swabs in the laboratory. Currently, the gold standard method used for COVID-19 diagnosis is the RT-PCR test. RT-PCR results generally turn positive a few days (2-8 days) after infection (Lee, Baek, Kim, Choi, Song, & Ahn, 2017). According to the results obtained, the time it takes for individuals with COVID-19 infection to return to tennis, the time spent exercising weekly before COVID-19 infection, the time spent exercising weekly after COVID-19 infection, taking vitamin supplements after COVID-19 infection, adhering to hygiene rules, wearing masks regularly, avoiding crowds, changes in dietary habits, and the impact of the coronavirus on themselves were found to be influential variables. Since no similar research has been found in the relevant literature, the results of the study are considered important. However, the limited sample size of the study is a limitation of the research. Based on the results obtained, it can be said that the gender of the participants does not have an effect on PCR positive or negative status. Since no similar research has been found in the relevant literature, the results of the study are

considered important. However, the limited sample size of the study is a limitation.

Discussion on the Results of the Relationship Between Perceived COVID-19 Fear and Socio-Demographic Variables during the COVID-19 Pandemic Risk perception affects health behaviors against diseases with unpredictable outcomes, such as COVID-19 (WHO, 2020). The average COVID-19 risk scores of the tennis-playing individuals who participated in the research were not different between women and men in both PCR negative and positive groups. According to the results obtained, it can be said that the perceived COVID-19 risks of the participants are at a moderate level. In the relevant literature, it is observed that the COVID-19 risk scores perceived by the participants in this study parallel the findings obtained in different sample groups in the studies conducted by Yıldırım and Güler (2020), Jaspal et al. (2022), Yanez et al. (2020), Caserotti et al. (2021), Yorguner et al. (2021), Yıldırım et al. (2021), and Yıldırım and Güler (2021). It was found that there was no statistically significant difference between all participants included in the research according to PCR test results in terms of their perceived COVID-19 risks. Since a limited number of similar studies have been found in the relevant literature, it can be said that the result obtained is due to the limited number of samples.

It was found that there was no statistically significant difference in COVID-19 risks among the participants included in the study according to their gender. While Yıldırım and Güler (2020), Rodriguez-Besteiro et al. (2021), Yıldırım et al. (2021), and Yıldırım and Güler (2021) stated that the gender variable is effective in the COVID-19 risk levels in their studies conducted with different sample groups, Jaspal et al. (2020) and Caserotti et al. (2021) reported that it was not effective, similar to the results of this study. These results can be considered variable in terms of sample size and sample groups. It was found that there was no significant relationship between the age groups of the participants and their COVID-19 risk levels. Since researches conducted by different sample groups, such as Cihan et al. (2020), Huynh (2020), Iorfa et al. (2020), Yıldırım and Güler (2020), Caserotti et al. (2021), and Yıldırım et al. (2021), have reported that there is a relationship between age groups and COVID-19 risk levels, this does not overlap with the results of this thesis. It is

thought that the reason for the difference in the results obtained in the research is the small sample size of the participants forming the sample of the research. It was found that there was no significant relationship between the education levels of the participants included in the research and COVID-19 risk. Since researches conducted with different sample groups, such as Huynh (2020), Iorfa et al. (2020), Yıldırım and Güler (2020), and Yıldırım et al. (2021), have reported a relationship between education levels and COVID-19 fear levels, this does not overlap with the results of the research. It is thought that the reason for the difference in the results obtained in the research is the small sample size of the participants forming the sample of the research.

It was observed that individuals included in the research who had fewer years of playing tennis had generally shorter tennis experience, and those who had longer tennis experience protected themselves from the coronavirus disease. Although there is a positive relationship between the age factor and being PCR positive, it suggests that experienced tennis players in this thesis adhere to hygiene rules sufficiently and have strong immune systems. Since no similar research has been found in the relevant literature, the results of the study are considered important. However, the limited sample size of the study is a limitation.

Discussion of the Results of the Relationship Between COVID-19 Fear Levels and Perceived COVID-19 Risk Although fear is defined as a negative emotion from a psychological perspective, it is an important factor that prompts individuals to engage in protective behaviors in various situations. It is reported that pathologically low levels of fear increase risk-taking behavior and even hinder protective behaviors by increasing risk perception among individuals during the COVID-19 pandemic (Harper et al., 2021). The prolonged duration of the COVID-19 process and the still high mortality rate affect individuals' fear of COVID-19 and perceived risk levels (Sperling, 2021). In the literature, individuals' cognitive and emotional risk perceptions related to COVID-19 are positively associated with protective behaviors against COVID-19. However, excessive perceived risk is reported to be associated with various psychological health problems such as fear, anxiety, stress, death anxiety, decreased life satisfaction, sleep disturbances, suicide attempts,

and ineffective coping (Yıldırım and Güler, 2021). It was found that there was a positive low-level significant relationship between the perceived COVID-19 risk and the perceived risk of the participants included in the research. In a study conducted by Harper et al. (2021), it was reported that there was a positive and moderate correlation between COVID-19 fear and perceived risk. In the literature, other studies have also reported a positive correlation between COVID-19 fear and perceived risk (Ahorsu et al., 2020; Li et al., 2020).

Recommendations

To make the results of the study more meaningful, a larger number of participants should be included in the research. In this regard, similar research can be conducted by involving a greater number of athletes to achieve more comprehensive findings. In this sense, conducting similar research with different sample groups can make the results of the study more comprehensive and generalizable. The research design can be applied to individuals participating in different sports disciplines. While there has been an increase in studies in the literature that examine the effects of COVID-19 fear and perceived risk levels on athletes in different sports disciplines, no studies focusing on individuals who play tennis have been found. Therefore, research can be conducted to explore the relationship between tennis players and COVID-19 with various variables. Young tennis players may exhibit some differences based on their developmental stage. Research can be conducted on male and female athletes regarding the effects of COVID-19 in the context of their respective developmental stages.

Conflict of interest

There is no conflict of interest with any author. Additionally, no financial support has been provided to any author.

Ethics Committee

This study has been approved by the Mersin University Social and Human Sciences Ethics Committee with decision number 100 on September 7, 2021.

Author Contributions

Contribution has been made from the design stage of the study to the implementation stage, from data collection to statistical analysis and interpretation. The authors have read and accepted the published version of the article.

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