

## RELATIONSHIP BETWEEN PERCEIVED STRESS AND ANXIETY ABOUT GETTING COVID-19: A STUDY ON ELITE BOXERS

## RELAÇÃO ENTRE O STRESS PERCEBIDO E A ANXIEDADE EM CONTRAIR COVID-19: UM ESTUDO SOBRE BOXEADORES DE ELITE\*

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**Abstract:** In this study, it was aimed to determine the relationship between elite athletes' perceived stress and fear levels of contracting the new type of Covid-19 virus. This research was carried out on elite boxers at the national team level. The population of the study consisted of 800 athletes at the level of national teams. The sample group consisted of 160 randomly selected athletes from this universe. Personal information form created by the researchers, Perceived Stress Scale in the literature and New Type Coronavirus (Covid-19) Anxiety Scale were used as data collection tools. The data obtained were analyzed in a computer environment. Variables were expressed using mean, standard deviation, percentage and frequency values. Correlation analysis was applied to reveal the relationships between the scales. For the significance level of the tests,  $p < 0.05$  and  $p < 0.01$  were accepted. As a result, a significant and positive relationship was found between perceived stress and the total score of anxiety about contracting the corona virus and the sub-headings of individual anxiety and socialization anxiety of the scale. This situation is thought to be due to the fact that athletes are constantly at home during the pandemic period and try to train in restricted situations affect their fitness.

**Keywords:** Boxer. Perceived stress. Covid 19. Anxiety.

**Resumo:** Neste estudo, o objetivo era determinar a relação entre o estresse percebido pelos atletas de elite e os níveis de medo de contrair o novo tipo de vírus Covid-19. Esta pesquisa foi realizada sobre boxeadores de elite a nível da equipe nacional. A população do estudo consistia de 800 atletas a nível de equipes nacionais. O grupo da amostra consistiu de 160 atletas selecionados aleatoriamente deste universo. Formulário de informações pessoais criado pelos pesquisadores, Escala de Estresse Percebido na literatura e Escala de Ansiedade Novo Tipo Coronavírus (Covid-19) foram usados como ferramentas de coleta de dados. Os dados obtidos foram analisados em um ambiente de computador. As variáveis foram expressas utilizando valores médios, desvio padrão, porcentagem e frequência. A análise de correlação foi aplicada para revelar as relações entre as escalas. Para o nível de significância dos testes, foram aceitos  $p < 0,05$  e  $p < 0,01$ . Como resultado, foi encontrada uma relação significativa e positiva entre o estresse percebido e a pontuação total de ansiedade sobre a contração do vírus corona e os subtítulos de ansiedade individual e ansiedade de socialização da escala. Pensa-se que esta situação se deva ao fato de que os atletas estão constantemente em casa durante o período pandêmico e tentam treinar em situações restritas que afetam sua condição física.

**Palavras-chave:** Boxeador. Percebe-se o estresse. Covid 19. Ansiedade.

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## 1. INTRODUCTION

One of the most important parts of modern and contemporary life is undoubtedly the state of stress (strain). Stress, which becomes a term we actively use in our lives without questioning its counterpart in the literature in daily life, is a factor that can affect all aspects of an individual's life. In addition to negatively affecting the functions normally performed by the person, exposure to stress for a long time causes different health problems to occur in the person, and also affects the individual's function and quality of life very negatively. Recently, it is known that one of the most important stressors affecting the lives of both athletes and sedentary individuals all over the world and in Turkey is the new type of Covid-19 virus. It is known that from the day of the first Covid-19 case encountered in Turkey, the restriction decisions in social life, sports activities and organizations, activities that can be called daily routines such as to go out on the streets in leisure time intervals, to participate in activities for socialization, and to do sports and recreational activities have come to the agenda.

New Coronavirus Disease (COVID-19) was first encountered in Wuhan Province within the borders of China. It is a type of virus identified on January 13, 2020 as a result of research conducted on some patients with respiratory symptoms (fever, cough, difficulty in breathing) (Ministry of Health, 2020). The virus was first encountered in people who spend time in the seafood and animal market operating in the region. In the following periods, it spread among people in different cities in Hubei province, firstly Wuhan, and then in other provinces of the People's Republic of China and worldwide. Coronaviruses are a very large family of viruses that can cause disease in animals or humans. Some types of coronavirus are known to cause respiratory tract infections in humans at a level that can lead to more severe diseases called Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The virus that causes the new Coronavirus Disease is the SAR-CoV-2 virus. (Ministry of Health, 2020)

Sport, which increases its field of activity as both an active and passive participant on people worldwide, is developing and growing day by day. This event brings the concept of performance to the forefront for athletes. It is known that performance is a phenomenon that includes both physical and psychological factors. There are many psychological phenomena that affect performance in sports (Güney, 1998). Many psychological concepts affecting the

performances of athletes have been studied in the literature (Yüce & Salici, 2019; Gözmen & Aşçı, 2016; Çimen & Yaman; 2020; Cerit et al., 2013; Yiğitöl & Büyükumucu, 2021).

It is thought that the negative decrease in the branch-specific and general motor characteristics of the athletes, who have undergone the new type of Covid-19 process without training, due to the decrease in their performance levels, affects their stress levels and their fear of getting this disease.

In the literature review conducted by the researcher, there were no studies examining the levels of aggression (Şahiner et al., 2020), anxiety (Arısoy et al., 2020), sleep quality (Yoka et al., 2021), perceived stress (Göksu and Kumcağız, 2020; Dereğeli, 2021) and anxiety levels of getting sick (Aslan et al., 2021; Gümüşgöl et al., 2020), especially in various athlete groups. In addition, no studies have been found on elite athletes engaged in boxing. In this study, it was aimed to examine the relationship between perceived stress and fear levels of contracting the new type of Covid-19 virus among elite level boxers.

## 2. METHODOLOGY

This study was produced from the master's thesis numbered 696509 in Erciyes University Institute of Health Sciences, Department of Physical Education and Sports Sciences.

### *Model of the Study:*

In the study, a method for descriptive survey and correlational survey was used to reveal the current situation. Descriptive survey models are research approaches that aim to describe a past or present situation as it is. The event, individual or object that is the subject of the research is tried to be defined in its own conditions and as it is. No effort is made to change or influence them in any way. Correlational survey models, on the other hand, are research models that aim to determine the existence and/or degree of co-variance between two or more variables (Karasar, 2004).

### *Forming Volunteer Groups*

This research was carried out on elite boxers at the national team level. The population of the study consisted of 800 athletes at the level of national teams. The sample group consisted of 160 randomly selected athletes from this universe.

**Table 1.** Descriptive Statistics of the Participants

	<b>Groups</b>	<b>N</b>	<b>%</b>
<b>Gender</b>	Male	118	73,8
	Female	42	26,2
	Total	160	100,0
<b>Age</b>	13-16	30	18,8
	17-18	42	26,3
	19-34	88	55,0
	Total	160	100,0
<b>Sports Age</b>	1-5	66	41,3
	6-10	48	30,0
	11-15	46	28,7
	Total	160	100,0
<b>Level of Income</b>	0-3000 TL	84	52,5
	3001-6000TL	33	33,1
	6001 TL and above	23	14,4
	Total	160	100,0
<b>Place of residence</b>	Town/City	61	38,1
	Metropolitan	99	61,9
	Total	160	100,0

According to the gender variable, 73,8% of the participants were male, 26,2% were female, according to age variable, 18,8% were between the ages of 13-16, 26,3% were between the ages of 17-18 and 55% were between the ages of 19-34, according to the sports age variable, 41,3% were 1-5 years, 30% were 6-10 years and 28.7% were 11-15 years, according to the income level variable, 52,5% were 0-3000 TL, 33.1% were 3001-6000 TL and 14,4% were 6001 TL and above, according to the place of residence variable, 61.9% were in the metropolitan and 38.1% were in the town-city.

### ***Data Collecting Tools***

During the data collection process, information and questionnaires about the study were sent to the participants through social networks. This method was preferred in order to maintain social distance during the pandemic period. Elite boxers participating in the study were asked to fill in the scales of perceived stress and new type of coronavirus (Covid-19) anxiety and a personal information form.

### ***Personal Information Form***

A total of five questions were created in order to have information about the gender, age, sports age, income level and place of residence of the boxers at the level of the national teams participating in the study.

### ***Perceived Stress Scale***

It was developed by Cohen et al., (1983). The Perceived Stress Level Scale, which consists of a total of 14 items, is designed to measure the extent to which some situations in a person's life are perceived to be stressful. The scale is a 5-point Likert-type scale ranging from "Never (0)" to "Very often (4)". 7 of the scale items, which contain positive statements, are scored backwards. Standardization studies for the use of the scale in Turkey were conducted by Baltaş et al. (1998). The total score obtained from the scale indicates the stress level of the person. The score of 11-26 indicates a low stress level, 27-41 indicates a moderate stress level, and 42-56 indicates a high stress level (Baltaş et al., 1998).

### ***New Type Coronavirus (Covid-19) Anxiety Scale:***

The scale consisting of 16 items and 2 factors developed by Tekkurşun-Demir, Cicioğlu and İlhan (2020) was used. The scale is a five-point Likert-type scale. Items are listed as "Strongly Disagree", "Disagree", "Undecided", "Agree", "Strongly Agree" and graded as 1, 2, 3, 4 and 5. Only the 2nd item in the scale contains negative statements. The lowest score that can be obtained from the Individual Anxiety factor consisting of the first 11 items is 11, and the highest score is 55. The lowest score that can be obtained from the Social Anxiety factor consisting of the last 5 items is 5, and the highest score is 25. Cronbach Alpha coefficient calculated for the whole scale is .917, the Cronbach Alpha coefficient calculated for the "Individual Anxiety" sub-dimension is .904 and the Cronbach Alpha coefficient calculated for the "Socialization Anxiety" sub-dimension is .816. These values indicate that the data collected for the research are reliable.

### ***Data Analysis***

The data obtained in the study were analyzed in computer environment. Skewness and kurtosis distributions are given according to the statistics of the data obtained in the study. Kolmogorov-Smirnov test was evaluated after checking the prerequisites of normality of variables and homogeneity of variances.

**Table 2.** The Results of the Skewness-Worry and Kolmogorov-Smirnov Test Significance Level of the Participants' Scale Scores

	<b>N</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>p</b>
<b>Perceived Stress</b>	160	,299	,805	,039
<b>CoronaVirus Anxiety Total</b>	160	,160	-,602	,013
<b>Individual Anxiety</b>	160	,095	-,977	,000
<b>Socializing Anxiety</b>	160	,488	-.020	,005

When the results of the Kolmogorov-Smirnov Test are examined in Table 2, it is observed that the deviations from the normality of the scores of the participants obtained from the perceived stress and the new type of coronavirus anxiety scales are significant. The application of the Kolmogorov-Smirnov test is only one of the methods used to examine the state of normality. When the normal distribution curves were examined, it was seen that there were no excessive deviations from normality. On the other hand, the fact that these values are in the range of  $\pm 1$  is interpreted as there are no excessive deviations from normality (Büyüköztürk, 2007). In addition, George and Mellery (2016) stated that the values of kurtosis and skewness coefficients between  $\pm 1$  can ideally be accepted.

Variables were expressed using mean  $\pm$  standard deviation, percentage and frequency values. Correlation analysis was applied to reveal the relationships between the scales. For the significance level of the tests,  $p < 0.05$  and  $p < 0.01$  were accepted.

### 3. RESULTS

**Table 3.** Descriptive statistics for the perceived stress scale

	<b>N</b>	<b>Min</b>	<b>Max.</b>	<b>X<math>\pm</math>SD</b>
<b>Perceived Stress</b>	160	17,00	69,00	38,75 $\pm$ 9,20

It was determined that the mean score of the participants obtained from the perceived stress scale was 38,75 $\pm$ 9,20.

**Table 4.** Descriptive statistics of the new type coronavirus (Covid-19) anxiety scale

	<b>N</b>	<b>Min</b>	<b>Max.</b>	<b>X<math>\pm</math>SD</b>
<b>Coronavirus Anxiety Total</b>	160	16,00	80,00	47,90 $\pm$ 14,02
<b>Individual Anxiety</b>	160	11,00	55,00	34,38 $\pm$ 10,69
<b>Socializing Anxiety</b>	160	5,00	25,00	13,51 $\pm$ 4,74

The mean score of the participants for the Corona Virus Anxiety total was found to be 47,90 $\pm$ 14,02. The mean score of the participants for the individual anxiety sub-heading was 34,38 $\pm$ 13,51, and the mean score of the participants for the socializing anxiety sub-heading was 13,51 $\pm$ 4,74.

**Table 5.** The relationship between perceived stress and new type of coronavirus (Covid-19) anxiety

	<b>Individual anxiety</b>	<b>Socializing anxiety</b>	<b>Corona Virus Anxiety Total</b>

<b>Perceived Stress</b>	r	,293	,299	,325
	p	,000	,000	,000
	n	160	160	160

A significant and positive relationship was found between perceived stress and the total score of the corona virus anxiety ( $r: ,293$ ;  $p=,000$ ) and individual anxiety ( $r:,293$ ;  $p=,000$ ) and socializing anxiety ( $r:,325$ ;  $p=,000$ ).

#### 4. DISCUSSION AND CONCLUSION

In this section, the findings obtained as a result of the analysis of the data collected through the scales of the participants in the study were discussed. Explanations and comments were made based on the results.

It was determined that the mean scores of the participants obtained from the perceived stress scale were moderate. In the literature review conducted by the researchers, Göksu and Kumcağız (2020) reported that the perceived stress levels of individuals during the Covid 19 period were low. It was reported that the perceived stress of the students studying in the faculty of sports sciences was moderate (Degeli, 2021). In a similar study conducted by Savcı and Aysan (2014) on university students, it was stated that the perceived stress levels of university students were moderate and high mostly. In a similar study, Öztürk (2020) stated that the perceived stress levels of university students were high. In another study on perceived stress during the Covid 19 period, it was observed that although healthcare professionals had sufficient knowledge and skills on the subject, their perceived stress levels were high (Orhan and Gümüş, 2021). In this study, it is thought that the moderate level of perceived stress is related to the personality traits of elite boxers in terms of the sport they are engaged in.

It was determined that the scores of the participants under the sub-headings of Corona Virus Anxiety total and individual and socializing anxiety were above the average. In the literature research conducted by the researchers, studies stating that various participant groups have different levels of anxiety about getting Covid 19 were found (Aslan et al., 2021; Polatcan and Kaptangil, 2021; Yıldız, 2020). Considering that the epidemic spreads much faster as a result of people's close contact with each other, it is understandable that athletes interested in contact branches are more concerned. In addition, the widespread use of measures to alleviate the COVID-19 pandemic, such as social distance, and people being more careful about interpersonal relationships (Kim & Cho, 2020) may be one of the reasons why this anxiety is above average.

A significant and positive relationship was found between perceived stress and the total score of the corona virus anxiety and the sub-headings of individual anxiety and socializing anxiety. In the literature review conducted by the researchers, there are studies that determine the relationship between perceived stress and problem solving (Savcı and Aysan, 2014), sleep quality (Pınar et al., 2014), coping with stress (Tekin et al., 2019), life quality (Pepe et al., 2021), psychological resilience (Yağmur and Türkmen, 2017), psychological resilience (Degeli, 2021), anxiety (Tuğut et al., 2021). Again, there are studies on the relationship between the anxiety of contracting new type COVID-19 and sports commitment (Özgün et al., 2021), motivation to participate in physical activity (Yavuz et al., 2021), sports-specific achievement motivation (Aksoy, 2021) and skills to cope with sports problems (Çakır, 2022).

It has been stated that regular physical activity leads to positive behavior changes and the adoption of a healthy lifestyle, and develops skills and abilities to successfully cope with anxious and stressful events (Mammen and Faulkner., 2013; Rebar et al., 2015; Söyleyici and Salici, 2020; Schuch et al., 2019). However, the sudden suspension of sports activities during the COVID-19 pandemic, the closure of gyms and fitness centers, the restriction of outdoor activities, the limitation of people's participation in physical activity, and the constant hearing or reading of news about COVID-19 from the media have caused fear, anxiety and stress (Ammar et al., 2020; Todisco and Donini, 2021; Salari et al., 2020). Considering that the COVID-19 pandemic has negative feelings such as fear, anxiety and stress on all people in addition to the elite boxers who constitute the sample of the study, many factors such as being unable to leave the house, fear of getting infected with the virus, sedentary life, uncertainty of education, and exam anxiety can be listed as factors that cause stress in people during the isolation process in our country.

As a result, a significant and positive relationship was found between perceived stress and the total score of the corona virus anxiety and the sub-headings of individual anxiety and socialization anxiety of the scale. This is thought to be due to the fact that athletes are constantly at home during the pandemic process and try to train in restricted situations affect their fitness.

In this study, some suggestions are presented as summarized with the following items:

- By including boxers in a larger sample group, stress and anxiety levels after the Coronavirus Pandemic can be examined.

- Other fights and defense sports, which include boxing-like face-to-face contact and applied individually, can be added to the study and the level of perceived stress in different branches and anxiety about getting coronavirus can be examined.



- Athletes engaged in team sports can be included in the study.
- Professional boxers and other professional fighting athletes can also be added to the study.

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