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Investigating the Psychological Resilience of Elite Athletes and Sedentary Individuals during the COVID-19 Pandemic Period

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Abstract

The COVID-19 pandemic has had a profound impact on athletes, not only physically but also psychologically. With the suspension of sports events, lockdowns, and social distancing measures, athletes faced significant disruptions to their routines, training, and competitions. The uncertainty of the situation, combined with isolation and fear of the virus, led to increased stress, anxiety, and mental health challenges among many athletes. In this study, it is aimed to examine the psychological resilience between elite athletes and sedentary individuals during the COVID-19 period, and it is thought that revealing the differences or similarities between the two main groups and subgroups of the psychological effects of the pandemic will contribute to the literature. For investigating the psychological resilie a total of 664 men and 742 women living in Ankara participated in the study. Personal information form and psychological resilience scale were used as data collection tools in the study. Normality distribution was tested by applying kurtosis and skewness test to the data. As a result of the research the psychological resilience of elite athletes was significantly higher than that of sedentary individuals. Among all participants. Psychological resilience was found to be positive among males in the gender variable and among those with a higher level of education in the education variable. No significant difference was found for marital status. COVID-19 disease and income level. It can be said that the results of this study are important to be prepared for a possible similar event.

Keywords: Psychology • COVID-19 • Elite athletes • Sedentary behaviour • Psychological resilience

Abbreviations: COVID-19: Coronavirus Disease 2019; WHO: World Health Organization; PDL: Psychological Resilience Scale

Introduction

These articles, which point to the right to a healthy life, have also brought with them definitions of healthy lifestyles. It is seen as individuals controlling all their health-related behaviours, in other words, choosing and implementing behaviours that improve their health in their daily plans [1].

These behaviours include adequate and balanced eating habits, stress maleagement, regular physical activity, spiritual growth, mutual support and taking responsibility for protecting and improving one's health [2]. The common risk factors for chronic disease are tobacco use, unbalanced and inadequate diet, physical inactivity, alcohol consumption, high blood pressure and high fat intake [3]. Thus, among the factors that affect huMale health, it can be seen that the age we live in has an effect, as well as the preferences of the person. Although all technological developments seem to focus on making people comfortable and exploratory, it can be said that these developments have Maley side effects. Technological developments related to transport can lead people to transport vehicles that free people from dependence on place, time and space, and offer the freedom of fast travel. Thanks to these technological developments, it can be said that the world is smaller than it used to be. Although it is seen as a comfort that Maley people can go anywhere in a short time, it is seen that some infectious diseases travel at the same speed as people.

Due to the development and acceleration of travel opportunities, it can be said that all countries in the world are under potential risk of dangers that may lead to international destructive epidemics. Destructive consequences may result from the spread of disease-causing microorganisms, the diseases they may cause, the deaths and panic that occur with the spread of such diseases [4]. In early January 2020, the People's Republic of China informed the World Health Organisation (WHO) that it had detected a new, deadlier and more contagious virus than ever before in the city of Wuhan. The world then became aware of the Corona (COVID-19) virus, a variant of influenza. With the ease of transport and increased globalisation, an epidemic in any part of the world can now threaten all countries without looking far and wide. Maley serious acute diseases occurring in a short period of time will strain the capacity of health systems in both developing and developed countries [4].

Unlike epidemic influenza, influenza pandemics are severe epidemics that spread rapidly around the world and are associated with the emergence of a new virus to which the general population has no immunity [5]. It is not possible to predict in advance when and how pandemics will start, nor is it possible for two pandemics to share the same characteristics [6]. The effects of this virus, called COVID-19, which has spread around the world, and the difference in the rate of contagion have been explained by scientists, and with the warnings of the WHO, in addition to the common measures taken by countries, each country has taken different measures specific to its own conditions. This virus, which attacks the lungs in a short time through the ACE II receptors in huMales, has been observed to cause excess mortality, especially in people over 65 and those with chronic diseases. As the COVID-19 virus remains in the host without showing symptoms, especially in most young people, it was thought that the fact that young people who did not think they were ill were not isolated from society increased the spread of the disease. Although a clear limit of 14 days was previously given, studies published on COVID-19 showed that the median duration was 5 days, with complaints and symptoms developing within 11.5 days [7].

In order to deal with this virus, which is so widespread and for which

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there is still no cure, all countries have set up their own scientific committees and taken various decisions. Most of these decisions, which have generally been gradual, have basically aimed to reduce interaction between people. In accordance with these isolationist decisions, schools were closed, collective activities were banned, places of worship were closed, sports competitions of all kinds were postponed, and this situation continued with curfews imposed from time to time. The population was constantly reminded of the importance of isolation and the use of masks, and advised not to go out unless absolutely necessary. These gradual decisions became a nationwide quarantine, which grew to include people under the age of 20, after people over the age of 65 were banned from going out in our country. Quarantine is the isolation of a person who has been exposed to an infectious disease and the restriction of their movements in order to determine whether they are sick or not. Quarantined persons are those who are presumed to have been exposed to the pathogen, whose disease status is unknown, who are possible carriers and who do not currently show symptoms of the disease [8]. In another definition, quarantine is a health measure applied in the form of keeping and observing people, ships, goods or animals coming from a place or region where an infectious disease is common [9].

Considering that the last pandemic outbreak of this magnitude coincided with the 1940s, it was clear that Maley people were moving from a life of freedom to a new way of life that they had never experienced before. The only battle that could be fought as an individual against an invisible enemy, from whom, how and when it would come, for which no definitive treatment had yet been found, was seen as the option of isolation from society. As part of the measures taken, not only were people banned from exercising outdoors, either individually or collectively in an organisation, but almost all sporting activities around the world were postponed until an indefinite date. Athletes, the main element of sporting competitions, were unable to leave their homes. The physical, social, emotional and psychological effects of these measures, which restrict social activities such as curfews due to quarantine measures, on athletes will certainly be revealed in this and Maley other studies.

Importance of research

This study is important in terms of revealing the psychological resilience of elite athletes and sedentary individuals in an extraordinary period we are experiencing. It is observed that the pandemic process we are experiencing reveals psychological disorders in many people. It is important to find out who and to what extent this period, which human beings have not experienced recently, affects and to what extent, and to examine the psychological resilience of different groups.

Psychological resilience

People who are able to maintain their health despite being exposed to stressful life conditions were first defined by Kobasa with the characteristic of 'psychological resilience' [10].

Psychological resilience is a characteristic that begins at birth, develops positively or negatively, and varies until death. The impact of the events experienced by the person in the state of resilience occupies an important place. Resilience can vary in different areas of a person's development [11,12]. At first glance, resilience, which is expressed as a personality trait that has the ability to adapt by reducing the effects of stress-induced negativity of psychological resilience, has been perceived as a genetic condition by some researchers and they have suggested "resilience and genetic relationship" [13]. Maley studies have shown that psychological resilience can also be learned later. Psychological resilience is a new behaviour, a phenomenon that can be learned and developed by correctly perceiving the difficulties faced by individuals [14].

COVID-19 and the global pandemic

Coronaviruses (COV), which belong to a large family of single-stranded RNA viruses, are known for their ability to infect animals and huMales. They can cause Maley diseases, particularly respiratory diseases. Covids, the largest known RNA family of viruses, are divided into four main groups: Alpha, delta, gamma and beta coronaviruses. In addition to COVID-19, six other coronavirus types have been identified that are capable of infecting huMales [15]. The most important coronaviruses known for their ability to infect huMales are SARS. Of these, SARS originated in China and has been active in 29 countries, causing cases and deaths. MERS, which originated in Saudi Arabia, was active in 27 countries and caused deaths [16]. When analysed by species, these viruses were found to be of bat and wild animal origin [17].

COVID-19 epidemiology

In December 2019, a new coronavirus disease emerged in China, thought to have been transmitted from a fish market [18]. This new coronavirus disease that emerged in Wuhan was named COVID-19 [19]. Following the rapid spread of the disease around the world, researchers began to investigate the virus, which differed from the known virus in terms of its rate of spread and mortality. The huMale-to-huMale spread of the virus was so rapid that only a few weeks after this study by Remuzzi et al., the number of countries with the virus exceeded 100 and became a full pandemic [20].

Epidemics and psychological resilience

Our world has seen epidemics before, but we can be described as a generation that has never seen a virus spread so quickly in an age of rapid communication and transport. It is evident that Maley researchers are currently interested in studying the physical and mental changes caused by COVID-19 and are conducting studies. The reason for this interest may be directly proportional to the size of the epidemic. Nowadays, we can see that researchers are working in this direction because they think it is valuable to study the effects of the virus in every aspect. When we look at the literature, we find studies that are not of this magnitude, but have been conducted in similar outbreaks. During the SARS virus outbreak, which is similar to this outbreak but smaller in terms of impact area, some studies similar to this study come to the fore. In addition, it can be seen that Maley studies examine some sub-variables of psychological resilience, mainly sleep problems, anxiety, depression and trauma [15].

Physical activity and sport

Defining sport as physical activity alone may be incomplete. Skills such as socialisation, sense of belonging, acting with a group, sense of achievement, self-confidence and discipline can contribute to the process of becoming a social person. People who participate in sports activities interact with different people. Being with people who are different from oneself can trigger the process of recognising different personalities and adapting through learning differences. The need to be together with people with different characters or different world views and the need to live together can initiate the socialisation process by developing a sense of finding a middle way of living together in the individual who is involved in sport. Sports can create an interaction not only among the people who engage in sports but also among the spectators [21].

Morgan, who thinks that the relationship between personality and sportive perforMalece is divided into two different groups among researchers, named these groups as sceptical and naive groups. There is a relationship between personality and sportive perforMalece, but this relationship may not be clear or perfect [22].

Materials and Methods

In this section, the method that forms the basis of the study, the way the data were collected, the universe and the sample, as well as the information about the statistical processes that emerged as a result of the study, and the data resulting from the study are included.

In this study, it was aimed to measure the psychological resilience levels of individuals who do sports at elite level and sedentary individuals

during the COVID-19 period. At the same time, it was aimed to determine whether there is a difference between the psychological resilience of the participants during the COVID-19 period according to their demographic characteristics.

Universe and sample

Between 2020 and 2021, the research group of this study was regularly interviewed with elite athletes living in Ankara as shown in Table 1.

According to the variable of educational status of the participants, it is seen that 45 (3.2%) primary school graduates, 152 (10.7%) secondary school graduates, 303 (21.6%) high school graduates, 773 (55.0%) undergraduate and 133 (9.5%) graduate graduates. According to the monthly income variable, 712 participants (50.6%) had an income level of 0-2500 ₺, 364 participants (25.9%) had 2501-5000 ₺, 221 (15.7%) participants had 5001-7500 ₺ and 109 participants (7.8%) had an income level of 7501 ₺ and above. According to the variable of did / do you do sports at the elite level, 639 (45.4%) yes and 767 (56.6%) no answers were received. In their answer to the variable "Have you had COVID-19 disease?", 304 (21.6%) answered yes and 1102 (78.4%) answered no.

Table 1. Distribution of participants on demographic characteristics.

Groups	N	%	0.43
Gender	0.43	0.43	0.43
	Male	664	47.2
	Woman	742	52.8
Education	0.43	0.43	0.43
	0.43	0.43	0.43
	0.43	0.43	0.43
	0.43	0.43	0.43
	Primary school	45	3.2
	Secondary school	152	10.8
	High school	303	21.6
	Licanse	773	55
	Master degree	133	9.5
Salary	0.43	0.43	0.43
	0.43	0.43	0.43
	0.43	0.43	0.43
	0-2500 ₺	712	50.6
	2501-5000 ₺	364	25.9
	5001-7500 ₺	221	15.7
	7501 ₺ and over	109	7.8
Sport status	0.43	0.43	0.43
	Yes	639	45.4
	No	767	56.6
COVID-19	0.43	0.43	0.43
	Yes	304	21.6
	No	1102	78.4
Marital status	0.43	0.43	0.43
	0.43	0.43	0.43
	Yes	401	28.5
	No	1005	71.5
	Total	1406	100

Data collection tool

In this study, the "Personal Information Form" prepared by the researcher and the "Psychological Resilience Scale" were used to measure their psychological resilience during the pandemic period as a data collection tool [23].

Personal information form

In the personal information form created by the researcher, questions were prepared regarding the variables of gender, educational status, monthly income, whether they do sports at an elite level, whether they have had COVID-19 disease and age status.

Psychological Resilience Scale (PBL)

The resilience scale consists of three sub-dimensions: Commitment, control and challenge. The psychological resilience scale is a 5-point Likert-type scale that ranges from "strongly disagree" to "strongly agree".

Analysis of data

The data obtained in the study were transferred to the SPSS 26.0 package program. In order to prepare the data and make them suitable for analysis, kurtosis and skewness coefficients were examined. The fact that the skewness coefficient remains within the ranges of (± 2) and kurtosis coefficient (± 4) shows that the data exhibit normal distribution [24-26]. It was determined that the data exhibited normal distribution and parametric tests were used in statistical analysis.

In order to describe the demographic characteristics of the students in the analysis of the data obtained from the research result, from the frequency and percentage analysis, according to the demographic variables considered, the answers of the participants to the elite level of sports and other questions were searched.

Results

When the total scores obtained from the psychological resilience scale were compared, it was determined that the mean psychological resilience scores of female participants in the control and challenge sub-dimensions were higher than men of the female participants were statistically significantly higher than the male participants but this difference was not statistically significant as shown in Table 2.

When Table 3, is examined, Participants differ statistically significantly according to their level of education in the sub-dimension of dedication. Accordingly, it was concluded that secondary school students were statistically significantly higher than the mean scores of undergraduate and graduate students. When the averages of the total psychological resilience scale score according to the level of education are examined, it is seen that the averages are highest in secondary school students, followed by graduate students, and the lowest average is in primary school students.

Table 2. Participants' gender variable, psychological resilience and its sub-dimensions results of the t-Test.

Cinsiyet		N	$\bar{x}$	Ss.	Sd	t	p
Dedicated	Male	664	3,868	664	1404	-1,979	0,022*
	Woman	742	3,801	597			
Control	Male	664	3,638	523	1404	450	0,377
	Woman	742	3,650	480			

Challenge	Male	664	4,093	667	1404	3,613	0,341
	Woman	742	4,214	588			
Psychological resilience scale (total)	Male	664	3,866	547	1404	802	0,021*
	Woman	742	3,888	473			

Table 3. One-Way ANOVA results regarding psychological resilience and sub-dimensions of the participants according to the educational status variable.

Financial situation		N	$\bar{x}$	Ss.	F	p	Tukey
Dedicated	Primary (1)	45	3,882	760	7,945	0,000**	2>4,5
	Secondary (2)	152	4,057	660			
	High (3)	303	3,888	665			
	Licanse (4)	773	3,763	601			
	Master Deg. (5)	133	3,836	570			
Control	Primary (1)	45	3,444	473			
	Secondary (2)	152	3,679	530	2,260	0,61	-
	High (3)	303	3,647	549			
	Licanse (4)	773	3,640	473			
	Master Deg. (5)	133	3,688	506			
Challenge	Primary (1)	45	3,930	818	1,876	0,112	-
	Secondary (2)	152	4,147	682			
	High (3)	303	4,136	711			
	Licanse (4)	773	4,173	580			
	Master Deg. (5)	133	4,205	559			
Psychological resilience scale (Total)	Primary (1)	45	3,752	650	2,158	0,072	-
	Secondary (2)	152	3,961	565			
	High (3)	303	3,890	575			
	Licanse (4)	773	3,859	468			
	Master Deg. (5)	133	3,910	442			

Discussion

In this study, the psychological resilience of elite athletes and sedentary individuals during the COVID-19 pandemic was examined, with the goal of identifying any differences between the two groups. The study period spans from March 11, 2020, when the World Health Organization declared COVID-19 a global pandemic, to January 14, 2021, when the COVID-19 vaccination campaign began in Turkey. The research focused on individuals in Ankara, including both elite athletes and sedentary individuals. Data was collected remotely through online surveys. Participants were asked about their psychological resilience, their level of athletic participation (elite or non-elite), gender, COVID-19 infection status, education level, marital status, and monthly income. The results showed the following:

There were significant differences in the "challenge" and " Psychological Resilience Scale" dimensions of psychological resilience, with elite athletes showing higher resilience compared to sedentary individuals.

In the "commitment" dimension, male participants showed significantly higher resilience, while female participants had higher resilience in the overall "PBL" dimension.

Overall, the study found that elite athletes exhibited significantly greater psychological resilience compared to sedentary individuals, suggesting that participation in elite sports may provide a protective effect against the psychological challenges posed by the pandemic.

The fact that psychological resilience is in favor of elite athletes is also supported by Maley studies examined in the literature reviews on psychological resilience. In general, when the psychological resilience among the students in the faculties of educational sciences and sports sciences of the universities was examined, the resilience was found to be higher in the students in the faculties of Sports Sciences [27]. Looking at this result, it can be said that as the duration of doing sports increases, psychological resilience increases positively. In another study, in the study conducted on students in high schools providing sports education, it is evaluated that their endurance increases positively as the sports year increases [28]. When the 3-4 day training periods of the athletes in the 15-18 age group were examined, the athletes stated that they felt better emotionally than before they started exercising [29].

When the answers given by the participants to the question "Have you had COVID-19 disease?" were examined, no significant difference was found between the two groups. 9.5% of the participants stated that they were infected with COVID-19 disease. In another study investigating the life satisfaction of those who have had COVID-19 disease in themselves, their families or their close environment, those who caught the disease themselves or at least one of their surroundings differed both in terms of feeling of loneliness and psychological resilience. It has been observed that events such as illness and death trigger the feeling of loneliness in individuals exposed to COVID-19 disease. When psychological resilience is examined in terms of the health of the individual, it is seen as important in terms of life satisfaction, and it can be said that resilience is positively affected by the increase in life satisfaction in individuals who are not concerned about health [30].

One of the sources of support for resilience is family and friends [31]. Students who have experienced COVID-19 disease have a pessimistic approach to their future, and they declare that their greatest desire after the epidemic is socialization [32]. In the literature review, the sterility of work related to the pandemic period is striking. It is seen that there are very few

studies that support or oppose the result we found during the writing of the thesis.

Conclusion

As a result, it can be said that individuals who do sports at an elite level during the COVID-19 pandemic period, which forms the basis of the research, are psychologically more resilient than sedentary individuals. Assuming that individuals who do sports at the elite level are constantly in a physical and mental struggle, have developed problem-solving skills against the negative situations they encounter, have the habit of reacting positively physically and mentally to changing conditions, and are prepared for instant emotional transitions, it can be expected that they will adapt more easily to the pandemic environment that they have not experienced before due to their age, which has suddenly entered the world agenda. The climate of fear spread from televisions and social media during the pandemic period is likely to have an impact on this result.

It is seen that studies should be carried out to minimize these effects. These and similar studies reveal the negative psychological effect in athletes and sedentary individuals. It is seen that it is necessary to evaluate the results correctly and to carry out psychological support studies after the pandemic. One of the most important results of the study is the positive relationship between doing sports and psychological resilience. In these and similar social events, it may be appropriate to start a mass sports movement in order to less affect the citizens. Especially through the Ministry of National Education, studies can be reduced to very young individuals and a society mass where doing sports has become a habit can be reached in future generations. By adopting the physical and mental benefits of doing sports, open up adequate sports areas by the state.

In particular, outdoor projects where sports can be done are likely to benefit people a lot in a new pandemic or similar period. In a rapidly globalizing world, we are likely to experience a new pandemic period. Despite such a period, it may be beneficial to produce policies for the effective operation of health institutions by providing adequate mental support to people. In particular, online psychological support units can be created and functionality can be gained in reaching people in an organized Malener. It is important for physically and mentally tired people to return to sports strongly. Individual support can be given to people who do sports at the elite level through the federations they are affiliated with, and psychological support centers can be established within the federations. It is one of the events that affect people the most during the pandemic period.

Ethics committee approval

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Declaration of conflicting interests

The authors declare there is no conflict of interest.

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