

# Relationship Between Anxiety Levels and Exercise Addiction of Higher School Students Studying in the Field of Sports Sciences During Covid-19 Pandemic Process

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## ABSTRACT

**Background:** The purpose of this study is to determine the relationship between anxiety levels and exercise addiction of higher school students studying in the field of sports sciences during Covid-19 pandemic period.

**Aim:** It is to determine relationship between anxiety levels and exercise addiction of higher school students studying in field of sports sciences during Covid-19 pandemic period.

**Methods:** 184 students participated in the study. Gender, age, educational class, having regular exercise and exercise periods were learned as demographical information. In order to determine anxiety and exercise addiction levels of students, Corona virus anxiety scale and Exercise addiction scale survey were applied. In the analysis of study SPSS-24 statistical packet program was used.

**Results:** When demographic information of students are reviewed, it is seen that gender of 51.1% of them was male and gender of 48.9% of them were female. It was determined that 44% of students were at the age of 22. 28.3% of educational class was 2nd class. While 62.5% of students did regular exercise and active sports, 37.5% of them did not deal with these. While 38% of those doing regular and active sports did not do exercises, 4.3% of them did regular exercise and active sports. When coronavirus anxiety scale applied to students is examined, it is seen that gender had impact of dizziness, dullness, lose of appetite, and nausea and that situation of doing regular exercises and active sports had impact on lack of appetite and nausea. When exercise addiction scale applied to students is examined, it is seen that doing regular exercise and active sports and its period had impact on hyper focus and mood swings. When relationship between coronavirus anxiety and exercise addiction levels of students are reviewed, it was seen that postponement of individual social needs and conflict had negative impacts on the person's anxiety level, drowsiness, loss of appetite, and nausea.

**Conclusion:** When coronavirus anxiety levels and exercise addiction of students during Covid-19 pandemic period are examined, the process they are in have had various negative impacts on the students. Gender of students studying in the field of sports sciences affects their anxiety status. At the same time, regular exercise students do and its period plays a role in relation to focusing and emotional changes.

**Keywords:** Covid-19, Anxiety, Exercise Addiction, Sports Sciences

## INTRODUCTION

The purpose of this study is to determine the relationship between anxiety levels and exercise addiction of higher school students studying in the field of sports sciences during Covid-19 pandemic period.

Novel corona virus first came out on 12th of August, 2019 in province of Wuhan in China and by rapidly spreading throughout the world since that date, it has become a pandemic that took its place in the world's agenda and it was named as SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) and with its widely used name it was named as Covid-19<sup>1</sup>. First Covid-19 case in Turkey was detected on 11th of March, 2020 and first death incident was recorded on 18th of March, 2020<sup>2</sup>. This virus infecting people from all age groups especially affects persons whose age is above 65 even more<sup>3</sup>. During this period, various applications have come out for protection from disease and maintaining health. Social distance and hygiene come at the forefront for protection against Covid-19 pandemic and constitute the only solution for avoiding the spreading of disease<sup>4</sup>.

While Covid-19 affected the whole world, it has also deeply affected the sports community. Sudden cessation of sports, delaying of competitions, their being canceled have

negatively impacted sporters psychologically, sociologically, and spiritually. During the Covid-19 process, the inability of the athletes to train, the fear of losing their performance, boredom, anxiety, fear, hypersensitivity, stress and emotional confusion will also affect the exercise levels of the athletes.

Sports is a social phenomenon that has made people become addicted to it and has achieved to constitute their focus of interest as being watched by different means in social life. Sports that made people addicted to it by meeting needs and pleasures of people which they did not wish to give up, has been adopted as a big social institution today and has developed specific behaviors, symbols and ideas that closely involved the community. Technology advancing in development has reduced requirement for people with regards to works done with human power and as a result of this, pressure and stresses caused by business and external world causes for people to have psychological burden with a life style that is not harmonious with natural structure of persons. At this stage, with relaxing impact of sports and its aspect to releave people from perception of being ordinary will make important contributions to psychosocial developments of people. Sports events contribute to concept of socialization needed

by the community. Individuals taking part in these activities do not have difficulties in expressing themselves in the society. For this reason the contribution of sports to social development is considerably big. By means of sports, individual develops his personality and self-structure positively and turns into an individual that acts for benefit of community. When this type of situations are examined, place and importance of sports in the lives of individuals become apparent<sup>6</sup>. While sports contribute to physical and mental development of individuals, according to some researches being conducted, it can also have negative effects. As an answer to sources of negative aspects of exercise, it can be stated that if exercise is done continuously and more than necessary it can cause addiction in the end<sup>6, 7, 8, 9</sup>.

It is an inevitable fact that people who go beyond regular and programmed exercise in order to lead a healthy life and who have brought the duration, frequency and severity of the exercise program to a level where they cannot control the exercise addiction. A person should control time he allocates for exercise as well as its intensity and frequency. People should not allocate an important part of their life for exercises. In persons allocating an important part of their time for exercise, mental disorders can be observed as it is the case in other types of addiction. When these situations are observed in people, diagnosis of exercise addiction can be<sup>10</sup>.

If we would define exercise addiction with respect to negative effects, it is the situation where exercise activities come at the fore with respect to social life as person realized activities by increasing exercise period, duration and intensity outside his control<sup>11, 12</sup>. Physiological and psychological symptoms in individuals as a result of exercise addiction can be listed as exercise-related headache, laziness, constant movement, loss of appetite, insomnia, aggression, guilt and anxiety<sup>13</sup>. Anxiety is the physical, emotional and mental reactions that a person experiences when he encounters a stimulus from his outer or inner world. In other words, it is a state of excessive anxiety and arousal that the person feels in the face of situations and events and has difficulty in preventing them<sup>14</sup>. As anxiety acts as a kind of early warning system for danger, it warns the individual in order to anticipate the dangers. In this context, anxiety is a warning about one's vulnerability to social situations and physical dangers. However, it directs the individual to take action to avoid situations that may cause bodily harm or psychological distress<sup>15</sup>.

People can be faced with various situations that cause them to be confronted with difficulties such as test, exam, examination, surgery, interview and contest within daily life routine. It is quite normal for them to have a general anxiety or fear under these situations. Because anxiety constitutes a different method for coping against various stress factors and difficulties in the world. However, if the fear and anxiety situation becomes unbearable in daily life, if it disrupts sleep order and causes for avoidance of things that are normally required to be done or if an excess response is given with respect to responses that would normally be given, anxiety must be considered as a problem. Anxiety is usually characterized by a range of physiological (eg, sweating, increased heart rate),

behavioral (eg, biting nails, fidgeting) and/or cognitive (eg, negative thoughts, inattention) signs and symptoms<sup>16</sup>. Anxiety that is constituted of situations such as anxiety, doubt, tension, fear, etc, has been the source of several studies to estimate its impact on human physical health, mental health, decision making, and various responses to other factors. There is no specific reason for anxiety. It is impossible to differentiate the emotion experienced from individual's way of perceiving his environment. Individual who feels himself safe in his environment, situations such as fear or anxiety do not occur. On the other hand another person may not feel himself safe in his environment and he may experience his feelings as per his perception. These ways of perception are thought to us by the culture in which we are raised. Depending on this, reasons for anxiety may vary from one society to another. Even if it is difficult to determine the reason for anxiety, some generalizations can be made for all communities. With these generalizations made, certain common aspects can be determined in environments causing for feeling of anxiety to occur<sup>17</sup>.

With Covid-19 pandemic, different applications were made by governments in the world and with certain restrictions, period of staying at home has increased for most of the individuals. This situation makes one consider that changes may occur in psychological and exercise situations of individuals going outside their normal routine. In the light of these information, it is aimed to evaluate changes in anxiety levels and exercise addiction of individuals during Covid-19 pandemic in this study.

## MATERIAL & METHODS

184 students studying in the field of sports sciences have participated in the study. Age, educational class, situation of doing regular exercise and active sports, exercise periods relating with students participating in the study were learned as demographical information. In order to determine anxiety and exercise addiction levels of students, survey form with Coronavirus Anxiety Scale (CAS) and Exercise Addiction Scale (EAS) was applied.

Coronavirus anxiety scale is a scale in the form of 5 likert scale. The scale is constituted of 5 questions and a single dimension. Scoring of the scale was made whereas "0" meant "never", "1" meant "Rarely, less than one or two days", "2" meant "A few days", "3" meant "more than 7 days" and "4" meant "almost daily in the last two weeks".<sup>18</sup>

In exercise addiction scale a structure with 3 factors was obtained. Scale is constituted of 17 questions and it explains 54.61% of variant. When factors are examined, it was determined that the first factor was composed of the first 7 articles (1, 2, 3, 4, 5, 6, 7) under the name of "Hyperfocus and Emotional Changes". This factor alone explains 34.89% of exercise addiction variable in the scale. It was determined that "Delaying of Individual-Social Needs and Conflict" constituting second factor was composed of 6 articles (8, 9, 10, 11, 12, 13). This factor alone explains 13.06% of exercise addiction variable in the scale. It was determined that third factor under the name of "Tolerance Development and Passion" was composed of 4 articles (14, 15, 16, 17) and that third factor alone explained 6.65% of exercise addiction variable in the scale. The score ranges of the Exercise Addiction Scale are evaluated as "1-17 normal groups, 18-34 low-risk groups, 35-51 risk groups,

52-69 dependent groups, 70-85 highly dependent groups". In the study analysis SPSS 24 statistical packet program and Anova test was used <sup>19</sup>.

**RESULTS**

Table 1: Demographic Information

| Demographic Information |                  | Frequency | %     |
|-------------------------|------------------|-----------|-------|
| Gender                  | Female           | 90        | 48,9  |
|                         | Male             | 94        | 51,1  |
| Age interval            | 18- 19 ages      | 28        | 15,2  |
|                         | 20- 21 ages      | 75        | 40,8  |
|                         | 22 age and above | 81        | 44,0  |
| Classes                 | 1. class         | 34        | 18,5  |
|                         | 2. class         | 52        | 28,3  |
|                         | 3. class         | 48        | 26,1  |
|                         | 4. class         | 50        | 27,2  |
| Regular exercise        | Yes              | 115       | 62,5  |
|                         | No               | 69        | 37,5  |
| Exercise period         | None             | 70        | 38,0  |
|                         | 1 day            | 38        | 20,7  |
|                         | 2-3 days         | 42        | 22,8  |
|                         | 3-4 days         | 26        | 14,1  |
|                         | Almost each day  | 8         | 4,3   |
| Total                   |                  | 184       | 100,0 |

When we reviewed demographic information of students participating in the study, we see that with respect to gender 48.9% were female and 51.1% were male. 15.2% of students were in 18-19 age group, 40.8% of them were in 20-21 age group, 44% of them were 22 years of age or older. 18.5% of students participating in study were in 1st class, 28.3% of them were in 2nd class, 26.1% of them were in 3rd class, and 27.2% of them were in 4th class. While 62.5% of students did regular exercises, 37.5% of them did not do regular exercises. 38% of students participating in study do not do exercise at all, 20.7% of them do exercise 1 day in a week, 22.8% of them do exercise 2-3 days in a week, 14.1% of them do exercise 3-4 days in a week, 4.3% of them do exercise almost each day of the week.

Table 2: CAS

| CAS                | N   | Min. | Max.  | Mean   | Std.    |
|--------------------|-----|------|-------|--------|---------|
| CAS1 Dizziness     | 184 | ,00  | 4,00  | ,5326  | 1,03439 |
| CAS2 Sleep Problem | 184 | ,00  | 4,00  | ,5815  | 1,05783 |
| CAS3 Opacity       | 184 | ,00  | 4,00  | ,5217  | ,96923  |
| CAS4 Anorexia      | 184 | ,00  | 4,00  | ,7446  | 1,20335 |
| CAS5 Nausea        | 184 | ,00  | 4,00  | ,5217  | 1,05559 |
| CAS Scale Sum      | 184 | ,00  | 20,00 | 2,9022 | 4,50636 |

When Coronavirus anxiety scale of students participating in study is reviewed, it is seen that scoring of students was in between minimum 0 and maximum 4. It is seen that students mostly had lack of appetite and sleep disorder.

Table 3: Exercise Addiction

| Exercise addiction                                   | N   | Min.  | Max   | Mean    | Std.     |
|--|-----|-------|-------|---------|----------|
| Hyperfocus and Emotional Swings                      | 184 | 7,00  | 35,00 | 26,6087 | 5,07745  |
| Postponement of Individual Social Needs and Conflict | 184 | 6,00  | 30,00 | 16,4239 | 4,66995  |
| Tolerance Development and Passion                    | 184 | 4,00  | 20,00 | 13,3641 | 3,30805  |
| Exercise Addiction Scale Sum                         | 184 | 17,00 | 78,00 | 56,3967 | 10,12707 |

When answers given to exercise addiction survey by students participating in study are reviewed, it is seen that 26.6% of students was in less risky group regarding hyperfocus and emotional swings, 16.42% of them were in normal group regarding postponement of individual social needs and conflicts, 13.36% of them were in normal group regarding tolerance change and passion.

Table 4: Gender and CAS

| Gender and CAS        | F      | Sig. | t     | df      | Sig. (2-tailed) |
|-----------------------|--------|------|-------|---------|-----------------|
| CAS1 Dizziness        | 16,333 | ,000 | 2,616 | 182     | ,010            |
| CAS2 Sleep disorder   | 3,723  | ,055 | 1,633 | 150,999 | ,010            |
|                       |        |      | 1,629 | 176,308 | ,105            |
| CAS3 Dullness         | 14,960 | ,000 | 2,635 | 182     | ,009            |
|                       |        |      | 2,612 | 152,309 | ,010            |
| CAS4 Lack of appetite | 24,785 | ,000 | 3,136 | 182     | ,002            |
|                       |        |      | 3,109 | 153,914 | ,002            |
| CAS5 Nausea           | 43,947 | ,000 | 3,767 | 182     | ,000            |
|                       |        |      | 3,724 | 136,949 | ,000            |
| CAS Scale sum         | 24,271 | ,000 | 3,285 | 182     | ,001            |
|                       |        |      | 3,255 | 149,340 | ,001            |

When we look at the relationship between Gender and Corona virus anxiety status of the students participating in the study, we see that there is a significant relationship between the gender of the students and dizziness, dullness, loss of appetite and nausea. usea.

Table 5: Regular exercise situation and CAS

| Regular exercise situation and CAS | F      | Sig. | t      | df      | Sig. (2-tailed) |
|------------------------------------|--------|------|--------|---------|-----------------|
| CAS4 Lack of appetite              | 9,251  | ,003 | -3,057 | 182     | ,003            |
|                                    |        |      | -2,871 | 116,875 | ,005            |
| CAS5 Nausea                        | 20,145 | ,000 | -3,100 | 182     | ,002            |
|                                    |        |      | -2,860 | 110,264 | ,005            |
| CAS Scale sum                      | 11,223 | ,001 | -3,140 | 182     | ,002            |
|                                    |        |      | -2,935 | 115,019 | ,004            |

When situation of doing regular exercise and coronavirus anxiety situations of students participating in the study is reviewed, it is seen that there is a significant relationship between students' lack of appetite and nausea.

Table 6: Regular exercise situation and EB

| Regular exercise situation and EB | F    | Sig. | t     | df      | Sig. (2-tailed) |
|-----------------------------------|------|------|-------|---------|-----------------|
| Hyperfocus and emotional change   | ,019 | ,892 | 3,623 | 182     | ,000            |
|                                   |      |      | 3,584 | 138,460 | ,000            |
| Exercise addiction scale sum      | ,380 | ,538 | 1,883 | 182     | ,061            |
|                                   |      |      | 1,807 | 125,436 | ,073            |

When relationship between situation of doing regular exercise and exercise addiction of students participating in the study is reviewed, it is seen that there is a significant relationship between hyperfocus and emotional swings of students.

Table 7: Exercise period and EB

| ANOVA                        | Ss      | df | Ort.    | F     | Sig. |                                 |           |     |         |  |  |
|------------------------------|---------|----|---------|-------|------|---------------------------------|-----------|-----|---------|--|--|
| Exercise period and EB       | 428,306 | 4  | 107,076 | 4,468 | ,002 |                                 |           |     |         |  |  |
|                              |         |    |         |       |      | Hyperfocus and emotional change | 4289,520  | 179 | 23,964  |  |  |
|                              |         |    |         |       |      |                                 | 4717,826  | 183 |         |  |  |
| Exercise addiction scale sum | 707,734 | 4  | 176,934 | 1,754 | ,140 |                                 |           |     |         |  |  |
|                              |         |    |         |       |      |                                 | 18060,304 | 179 | 100,896 |  |  |
|                              |         |    |         |       |      |                                 | 18768,038 | 183 |         |  |  |

When relationship between periods of exercise and exercise addiction situations of students participating in study is reviewed, it is seen that there is a significant

relationship between hyperfocus and emotional swings of students.

Table 8: Relationship between CAS and EB

| Relationship between CAS and EB |                  | CAS1 | CAS2 | CAS3 | CAS4 | CAS5 | Hyperfocus and emotional change | Postponement of individual social needs and conflict | Tolerance development and passion |
|---------------------------------|------------------|------|------|------|------|------|---------------------------------|--|-----------------------------------|
| CAS1                            | Dizziness        |      |      |      |      |      |                                 |  |                                   |
|                                 | Sig. (2-tailed)  |      | ,000 | ,000 | ,000 | ,000 | ,161                            | ,003   | ,736                              |
| CAS4                            | Lack of appetite |      |      |      |      |      |                                 |  |                                   |
|                                 | Sig. (2-tailed)  | ,000 | ,000 | ,000 |      | ,000 | ,309                            | ,000   | ,158                              |
| CAS5                            | Nausea           |      |      |      |      |      |                                 |  |                                   |
|                                 | Sig. (2-tailed)  | ,000 | ,000 | ,000 | ,000 |      | ,406                            | ,000   | ,245                              |

When the relationship between coronavirus anxiety and exercise addiction situations of students participating in the study is reviewed, it is seen that there is a significant relationship between postponement of individual social needs of students and conflict situations and dizziness, lack of appetite and nausea.

## DISCUSSION

When relationship between coronavirus anxiety levels and exercise addiction of higher education students studying in the field of sports sciences during Covid-19 pandemic period is reviewed, it is seen that the period they are in had various negative impacts on students' anxiety levels and exercise addiction. Gender of the students studying in the field of sports sciences affects their anxiety. Also, the students' regular exercise and its duration play a role in focusing and emotional changes.

In their study named "Evaluation of Fear and Anxiety Levels of Dentistry Specialist Students during the Covid-19 Pandemic Period"; Atay et al found that the Covid-19 pandemic affected female students more<sup>20</sup>.

In the study named Spielberger state and trait anxiety level conducted by Ocaktan ME, Keklik A, and Çöl M on health personnel, it is seen that women's anxiety levels are higher than men<sup>21</sup>.

In the study of Güloğlu B., Yılmaz Z, İstemihan F.Y., Arayıcı S.N., Yılmaz S. titled "Examination of Anxiety and Hopelessness Levels in Individuals During the Covid-19 Pandemic Process", it was observed that the Covid-19 pandemic had negative effects on the mental health of individuals<sup>22</sup>.

In their study named 'The Examination of University Students Exercise Addiction During the Pandemic', Cebi M., Cebi A. I., found that there was a significant relationship between the time devoted to sports and exercise addiction, and that there was an increase in exercise addiction in parallel with the increase in time devoted to sports<sup>23</sup>.

In a study conducted by Cicioğlu et al. in 2019, it was reported that there was no significant relationship in which the level of exercise addiction was examined according to the age variable of the students of the faculty of sports sciences similar to our results<sup>24</sup>.

In their study conducted in 2015, Bavli et al found that the exercise addiction group was 7.1% in individuals who regularly do sports. In the study conducted by Büyüköztürk et al in 2017, they determined that this rate was 12% in those who regularly do sports<sup>25, 26</sup>.

Babalou and Salehian (2019) showed that there was a significant correlation between exercise addiction and body image concern as well as dysfunctional attitudes in bodybuilders<sup>27</sup>.

## CONCLUSION

When coronavirus anxiety levels and exercise addiction of students during Covid-19 pandemic period are examined, the process they are in have had various negative impacts on the students. Gender of students studying in the field of sports sciences affects their anxiety status. At the same time, regular exercise students do and its period plays a role in relation to focusing and emotional changes.

Lockdowns had during the pandemic period might also have negative effects on the students. During this period, students' having distant education, their being subject to lockdowns due to the age restriction and their having a role of transmitting the disease may affect the students negatively. Due to the reason that studies conducted in this field are few in number, it can be suggested for scientific studies to be conducted.

It is considered that with this study conducted it can be useful for future studies to be realized by measuring the relationship between anxiety levels of students during Covid-19 pandemic period and exercise addiction with regards to higher education students studying in the field of sports sciences and development of mental health.

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