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RESEARCH ARTICLE

An Investigation on Anxiety States of Students in Faculty of Sport Sciences During COVID-19

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Abstract

This study aims to investigate anxiety states of students in Faculty of Sport Sciences during coronavirus (Covid19) in terms of some variables. Total number of 166 students as 67 female and 99 male chosen by simple random sampling from Sinop University Faculty of Sport Sciences participated in this study. Informed consent form and Beck Anxiety Inventory were used as data collection tool. To disclose differences in statistical evaluation of the data Mann-Whitney U Test and for multiple comparisons Kruskal-Wallis Test were used. In paired comparison of the total scores in anxiety inventory, it was detected statistically difference with regards to gender variable in favor of males (p<0,05). On the other hand, there were not found any statistically significant difference in age, monthly personal income, home exercise status, exercise frequency, exercise duration, habit of cigarette smoking and following virus news at daily basis during coronavirus threat (p>0,05). Anxiety levels of females participated in this study were found higher than males. No statistically significant difference was found in home exercise. But, anxiety levels of the participants exercised at home were observed lower compared to the others who did not.

Keywords

Exercise, anxiety, covid-19, coronavirus.

INTRODUCTION

Having been detected with the clusters of pneumonia in China at December 19, the pandemic started to be seen in our country in March 2020 (He et al., 2020). This pandemic was called as 'Severe Acute Respiratory Syndrome-Coronavirus-2' (SARS-CoV-2) and the disease that it causes was named as Covid–19 (Corona Virus Disease 2019), by World Health Organization (Ignatowicz et al., 2019; Priya, 2020). Number of cases increased rapidly after officially announced to be seen in our country March 11, 2020. Rapid increase in numbers of the infected people was accompanied with some serious measures consecutively. The measures taken in our country were determined as prohibitions and guidelines. In this context, in our country as gradually; education (in-person class)

was suspended, implementation of distance learning began, and people over the age of 65 and under the age of 20 were imposed a curfew. Besides, government agencies and experts called for 'staying at home' so as to keep people in self-isolation, by using mass communication. In this way, social interaction and contact of the people were reduced to minimum levels. People strived to stay at home in this isolation period, and this new routine and uncertainty led to anxiety. So, the concept of 'anxiety' became an important topic needs to be focused in this period.

Colloquial speech usage of this concept via translation was added to our language as 'concern/apprehension/worry' that could not meet the same meaning as in English. So, psychiatry experts who thought this usage causes loss of

meaning, managed to replace it with 'anxiety' in scientific language and started to use it (Öztürk, 2004). The concept of anxiety, on the other hand, is considered as both symptom and also the reason of mental disorders by the experts. According to the researchers, anxiety is the expression of the fight-or-flight reaction which prepares human organism to physically move in case of danger (Beck, 2008).

Anxiety is an important health problem affects both individual and society. In treatment of the anxiety, medication is also given together with several methods. In addition, the effects of sport and exercise on mental health have been examined by many researchers (Byrne and Byrne, 1993; Salmon, 2000). These researchers have suggested that sport provides improvement on mood thanks to its physiological and biological characteristics (Dishman et al., 1997). Lawlor and Hopker (2001), Mead et al. (2009), on the other hand, have pointed out that there is a relationship between exercise and reducing of the depression symptoms. Sport, therefore, has been thought to be an implement producing positive effects on mental health. In this context, purpose of our study is to investigate the anxiety levels of the students, from Sinop University Faculty of Sport Sciences, in terms of some variables.

MATERIALS AND METHODS

Research design

This research was correlational survey model with cross-sectional and descriptive characteristics. Prior to this study, the application was made to Sinop University Human Research Ethics Board. In accordance with the Human Research Ethics Board decision dated 20/05/2020 and numbered 2020/51, it was pronounced that this research is compliance with the Human Research Ethics Board Guideline and there is no inconvenience ethically.

Participants

Sinop University Faculty of Sport Sciences (2019-2020 Academic Year, 263 students) comprised the population, whereas total number of 166 students as 67 female and 99 male selected randomly constituted the sample of the research.

Data Collection

Survey method was used as data collection tool in the study. Questionnaire prepared by the researcher consisted of two sections. 'Personal Information Form' in the first part and 'Beck Anxiety Inventory' in the second part were located. Questions were prepared by using 'Google Forms' so that it helps the students reach to the questionnaires easier. Introductory text of the questionnaire and online form link were sent to the students through e-mail and text message. Questionnaire remained as open access for three weeks, the questionnaire then was stopped when data entry was over and data set was made ready for the statistical analysis.

Personal Information Form

Participants were asked to respond the questions such as gender, age, home exercise status, exercise frequency, exercise duration, habit of cigarette smoking and the status of following virus news at daily basis during coronavirus.

Beck Anxiety Inventory

It is a Likert type self-assessment inventory created by Beck et al. (1961) consisted of 21 questions and scored between 0-3. Higher score demonstrates higher anxiety level in an individual. Validity and reliability study was performed by Ulusoy et al. (1998), and they found Cronbach's Alpha reliability (internal consistency) score as 0,93. Cronbach's Alpha reliability score for this study was determined as 0,89.

Statistical analyses

To control if the error terms show normal distribution, Shapiro-Wilk Normality test was used prior to the test selection which would be then applied to the obtained data of the study ($p < 0,05$). Mann Whitney U test for paired comparisons and Kruskal Wallis test for multiple comparisons were utilized in total scores obtained from inventory. Research findings were expressed as n, (%), mean and standard deviation, and accepted as $p < 0,05$ level of significance. All statistical calculations were made by using SPSS 22.0 V. statistical package.

RESULTS

In paired comparison of the total scores in anxiety inventory, it was detected statistically difference with regards to gender variable in favor of males ($p < 0,05$). On the other hand, there were not found any statistically significant difference in age, monthly personal income, home exercise status, exercise frequency, exercise duration, habit of cigarette smoking and following virus news at Daily basis during coronavirus threat ($p > 0,05$).

Table 1. Frequency and Percentage Distribution of The Participants in Terms of Their Demographic Information

Gender	n	%
Female	67	40,6
Male	99	59,4
Total	166	100,0
Age		
17-19	38	22,9
20-22	94	56,6
23-25	34	20,5
Total	166	100,0
Monthly Personal Income		
500 tl and under	39	23,5
501 tl and 1000 tl	51	30,7
1001 tl and 1500 tl	22	13,3
1501 tl and 2000 tl	18	10,8
2000 tl and over	36	21,7
Total	166	100,0
Home Exercise Status		
Regularly	80	48,2
Never	35	21,1
Sometimes	51	30,7
Total	166	100,0
Exercise Frequency		
1-2 times in a week	47	28,3
3-4 times in a week	58	34,9
5 times and more in a week	26	15,7
Total	131	78,9
Exercise Duration		
15 minutes	17	10,2
16-30 minutes	37	22,3
31-45 minutes	39	23,5
1 hour and over	38	22,9
Total	131	78,9
Smoking Status		
Yes	51	30,7
No	98	59,0
Sometimes	17	10,2
Total	166	100,0
Status of Following COVID-19 News		
Yes	136	81,9
No	30	18,1
Total	166	100,0

When Table 1 is examined, the ratio of the participants seems to be as 46.6% female and 59.4% male. The responses of the students with regard to the variable of home exercise were determined as 48.2% regular, 21.1% never and 30.7% sometimes. Besides, smoking status of the participants, that considered as risk group vulnerable to coronavirus by experts, were found as 30.7% yes, 59.0% no and 10.2% sometimes.

Table 2. Anxiety Levels of The Participants in Terms of Gender Variable

Gender	n	Mean	Std. Dev.	Median	IQR	p
Female	67	32,83	7,92	31,00	14,00	**0,001**
Male	99	26,14	5,64	24,00	6,00	

When Table 2 is considered, participants' scores obtained from the anxiety inventory in terms of gender variable show significance in favour of the males (p<0,05). So, anxiety levels of the female participants were found higher.

Table 3. Anxiety Levels of The Participants in Terms of Their Age

Age	n	Mean	Std. Dev.	Median	IQR	p
17-19 years	38	26,84	5,31	26,00	8,25	
22-20 years	94	30,12	8,01	28,00	13,00	0,100
23-25 years	34	27,76	7,15	25,50	7,75	

As it is seen in Table 3, any statistical difference was not found in anxiety levels of the students in terms of age variable (p>0,05).

Table 4. Anxiety Levels of The Participants in Terms of Their Monthly Personal Income

Personal Income	n	Mean	Std. Dev.	Median	IQR	p
500 tl and under	39	29,64	8,27	25,00	12,00	
501 tl and 1000 tl	51	29,24	7,84	27,00	12,00	
1001 tl and 1500 tl	22	26,95	4,67	26,50	6,25	0,958
1501 tl and 2000 tl	18	28,94	8,56	26,00	8,50	
2000 tl and over	36	28,72	6,65	28,00	9,25	

When Table 4 is considered, monthly personal incomes of the participants demonstrate no statistical significance (p>0,05).

Table 5. Anxiety Levels of The Participants in Terms of Home Exercise Status

Exercise	n	Mean	Std. Dev.	Median	IQR	p
Regularly	80	28,78	8,22	26,00	9,75	
Never	35	29,80	6,72	29,00	11,00	0,332
Sometimes	51	28,43	6,52	27,00	10,00	

When table 5 is examined, variable of home exercise status of the participants display no statistical significance (p>0,05). But, according to the obtained data; anxiety levels of the people who do not exercise at home were found higher.

Table 6. Anxiety Levels of The Participants In Terms of Home Exercise Frequency

Exercise Frequency	n	Mean	Std. Dev.	Median	IQR	p
1-2 times in a week	47	28,82	6,39	27,00	12,00	
3-4 times in a week	58	29,43	8,68	27,00	9,50	0,056
5 times/more in a week	26	25,46	4,81	25,00	7,00	

Exercise frequencies of the students show no statistical difference according to the table 6 (p>0,05).

Table 7. Anxiety Levels of The Participants in Terms of Exercise Duration

Exercise Duration	n	Mean	Std. Dev.	Median	IQR	p
15 minutes	17	25,00	4,31	25,00	5,00	
16-30 minutes	37	29,70	7,62	28,00	11,00	0,069
31-45 minutes	39	28,24	7,96	26,00	10,00	
1 hour and over	38	29,51	7,73	28,00	11,00	

When table 7 is examined, no statistical difference was detected in students' exercise durations (p>0,05).

Table 8. Anxiety Levels of The Participants in Terms of Their Smoking Status

Smoking	n	Mean	Std. Dev.	Median	IQR	p
Yes	51	28,90	7,31	27,00	9,00	
No	98	28,76	7,60	26,00	11,00	0,605
Sometimes	17	29,58	6,85	28,00	8,00	

Smoking habits of the participants indicate no significance according to table 8 (p>0,05). However, non-smokers' anxiety scores were identified lower than smokers.

Table 9. Anxiety Levels of The Participants in Terms of Following COVID-19 News

Following COVID-19 news	n	Mean	Std. Dev.	Median	IQR	p
Yes	136	28,75	7,43	27,00	9,00	0,570
No	30	29,53	7,34	33,00	27,00	

When table 9 is regarded, no statistical difference was detected in multiple comparison in terms of status of following coronavirus news (p>0,05).

DISCUSSION

In this study, it was aimed to investigate the anxiety states of the students, who study in Sinop University Faculty of Sport Sciences, during Coronavirus in terms of some variables. Participants seem to be as 46,6% female and 59,4% male in this study. The responses of the students with regard to the variable of home exercise were determined as 48.2% regular, 21.1% never and 30.7% sometimes. Moreover, smoking status of the participants, that considered as risk group vulnerable to coronavirus by experts, were found as 30.7% yes, 59.0% no and 10.2% sometimes (Table 1).

When the study is examined in terms of gender variable, the scores obtained from anxiety inventory display statistical significance in favour of males (p<0,05; Table 2). Anxiety levels of the female participants were found higher according to the above mentioned obtained data. Kinrys and Wyngant (2004), pointed out that women have higher risk of developing lifetime anxiety levels, compared to the men. Ateş et al. (2018) in their study with the caregivers of cancer patients; stressed that anxiety and depression states of the women are significantly higher than men. Keskin et al. (2013), reported mental disorders are more prevalent in women depending on reasons such as social, cultural, economic and biologic. Bayraktar et al. (2014), investigated the anxiety levels of the prospective teachers in terms of sport and different variables, they then discovered statistical significance in gender variable. According to the data they obtained, state anxiety levels of the women were found higher than men. These obtained data have the quality to support our study.

In the study, any statistical difference was not detected in anxiety levels of the students in terms of age variable (p>0,05; Table 3). Canan and Ataoğlu (2010) in a similar study, determined that there is no significant relationship between age and anxiety. On the other hand, Güvendi and Bilgin (2016), could not find any statistical significance in football players' anxiety levels in terms of age variable. These above mentioned studies also have quality to support our study particularly. During coronavirus pandemic, experts expressed disease to affect higher age groups. Participants between the ages of 17 and 25 constitute our sample, so age variable can be said not to affect anxiety levels of the participants considerably.

When examined the monthly income variable, no statistical significance was detected (p>0,05; Table 4). Aydın and Tiryaki (2017), could not find any statistical significance between income level and anxiety level. However, anxiety levels of the participants who had lower income level were higher according to the research results. Akgün et al. (2007), in their study, reached the results of no relationship between anxiety levels in terms of income levels. These studies have common ground with our study. Nevertheless, there are some studies indicating the anxiety levels decrease as long as monthly income increase (Saddicha and Khess, 2010; Deveci et al., 2012).

Our study does not display any statistical significance in terms of home exercise status which is thought to be paramount variable (p>0,05; Table 5). According to the data, however, anxiety levels of the participants who do not exercise at home were found higher. In a study conducted by Collingwood et. al. (2000), it was reported that significant decrease in anxiety and depression levels occur due to participation of exercise programs last for 8-16 weeks. In addition, Brown et al. (1992) indicated short duration exercise has positive effects on mental health. In our study, anxiety levels of the students exercise at home were detected lower than those who do not. In another research carried out by Gouttebarge (2020), with 1602 football player during Coronavirus pandemic; depression was observed in 22% of the female and 13% of the male while anxiety symptoms were observed in 18% of the female and 16% of the male football players. Researcher, in his statement about these above mentioned results, said that 'I worry about this sharp increase in depression and anxiety levels,

which was induced of the unprecedented emergency that people had to confront, may be the same in rest of the society.' Therefore, exercise during coronavirus pandemic is thought to affect individual's mental health in positive way according to the obtained data.

No statistical difference was found when exercise frequency and exercise duration of the students were examined (p>0,05; Table 6-7). But anxiety scores of the participants who exercise 5 times and more in a week were found lower, compared to the others. Canan and Ataoğlu (2010), did not discover any relationship between exercise duration and anxiety. However, they found out that anxiety levels of the people who exercise regularly are in lower levels than those who do not exercise, no matter which sports are performed. (WHO, 2006) has encouraged people to make physical activity every day, at least 30 minutes. Besides recommended lower limit of daily physical activity duration is 30 minutes, exercise more than 30 minutes in a daily basis is also believed to have more positive effect on people's health.

Smoking has been commonly explained as a risk factor during the coronavirus by experts. No statistical significance was found in terms smoking status variable in our study p>0,05; Table 8). But according to the obtained data, anxiety scores of the non-smoker participants were detected lower than those who smoke. When the literature related to this topic is reviewed, studies showing a relationship between smoking and anxiety may be seen (Bjemgaard et al., 2013)

No statistical difference was detected in multiple comparison in terms of status of following coronavirus news (p>0,05). %81.9 of the participants, however, seem to follow Coronavirus news. This rate demonstrates how much anxiety the people feel about coronavirus.

In conclusion; anxiety levels of the female participants were found higher, compared to men. In our study, no statistical difference was found in terms of home exercise status. Anxiety scores, nonetheless, of the participants who exercise at home were concluded to be lower comparing to the others. As one of the Coronavirus risk factors, smoking was shown to have no significant effect on participants' anxiety levels. But, it was discovered that the students who smoke have higher anxiety levels than non-smokers.

As recommendations for the periods like this; keeping up well-balanced diet, considering

sleep quality, enhancing immune system and staying away from stress by increasing the motivation, in addition to all of these; low and moderate intensity exercise are to provide positive effects on anxiety levels of the people.

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