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The Stress and Optimism Levels among Professional Football and Basketball Players during the COVID-19 Pandemic

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The blurring of vision, uncertainty about the size and how the Corona virus (COVID-19) crisis, and the lack of knowledge of who might be infected with this virus drives the motivation for this study. Consequently, the study aimed to investigate the effect of the corona pandemic on the stress and optimism levels among professional football and basketball players during the Coronavirus (COVID-19) outbreak and the differences in these levels depends on game and gender variables. To achieve this, we used the descriptive approach on a sample consisting of 386 soccer and basketball players selected using the purposive sample technique. Due to curfew in the country and to reduce face to face interaction, an electronic questionnaire was built using Google questionnaire. This consisted of 10 paragraphs that dealt with the stress, and 8 paragraphs that dealt with optimism. The researchers used averages, standard deviations, two-way ANOVA and independent samples t-test by using SPSS version 24 with a confidence level of 95% (p value= 0.05). The results of the study have shown that stress and optimism levels among professional soccer came with a high degree and on the other hand came with a moderate degree among professional basketball players. Additionally, there were statistically significant differences in the stress domain according to gender and game variables and favour of males and a football game. Finally, the researchers recommend that the continuous detection of the level of the various psychological levels among the athletes is an important factor in providing psychological care for them.

Keywords: *Stress, Optimism, Soccer, Basketball, Coronavirus*

Introduction

The World Health Organization (WHO) announced that the Coronavirus (COVID-19) is a pandemic, threatening the planet with 4,815,088 million cases and 318,721 deaths (WHO, 2020). Noting that the mortality rate of this epidemic is estimated at 2 %, but some researchers estimate the death rate between 0.06-0.03 % (Nishiura et al., 2020). Although sport mainly contributes to economic and social development, sport has been negatively affected as a result of this pandemic by cancelling or suspending international, regional and national sporting events such as the Olympic Games in Tokyo (2020), where it was postponed for one year (Schinke et al., 2020; Schyns et al., 2020).

Corsimi et al (2020) indicates that there no athlete is safe participating in premier leagues globally or locally. Home stone has become a necessity to limit the spread of this epidemic, which has negatively affected athletes and may be accompanied by boredom, stress, anxiety, lack of commitment by athletes to healthy eating habits such as excessive eating, especially foods rich in sugars and fats, and sleep disorders which negatively affect the efficiency of the immune system (Brooks et al., 2020). Additionally, the psychological effects of home quarantine on athletes can be explained in two ways: moving away from friends, which can generate severe emotional frustration, and the fear of this virus spreading more than expected (Holmes et al., 2020).

In general, Wang et al (2020) indicates that 53.8% of the study sample in China during the outbreak of the Coronavirus had negative psychological effects ranging from moderate to severe, 16.5% had a moderate to severe depression, 28.5% had a moderate to severe anxiety level and 8.6% suffer from moderate to severe stress. In this area, Frank et al (2020) indicate that an increase in athletes to online psychotherapy through advising and diagnose mental disorders for those athletes including fear of infection, anxiety, inability to reach fitness centres, sleep and eating disorders as well as inability to control stress. Periods of physical inactivity, physical isolation from team members, distance from the sports community and lack of social contact cause mental disorders among athletes (Reardon et al., 2019). The Corona pandemic has also strained mental health, anxiety, fear and behavioural disorders (Marcinko et al., 2020). Similarly, the uncertainty and unpredictability of this virus and physical distancing have had negative effects on the psychological aspects among athletes (Schinke et al., 2020).

Optimism can positively contribute to reducing mental health disorders and promote well-being in times of crisis (Ju et al., 2013). Also, it reduces the development of anxiety and emotional stress (Riichior & Masahiko, 2006). Similarly, optimism improves mental and social health, helps to adapt, works to build a purposeful life, and helps manage difficult times (Glaw et al., 2017). Duy & Yildiz (2017) indicate that optimism is positively associated with increased self-esteem, self-efficacy, mental health and social support. It also contributes to post-traumatic growth and recovery (Britton et al., 2019). Whereas pessimism has been positively associated with depression, anxiety and negative mental health during the epidemic (Arslam et al., 2020).

A high level of optimism relates to the immune system efficiency, which helps in dealing with stress and various pressures (Gaudreau & Blondin, 2004). Furthermore, optimism is the building of a character that acts as a decisive factor when an athlete finds himself under pressure (Seligman, 2004).

Problems of this study arose through professional athletes being exposed to various pressures resulting from the rescheduling of their training, the postponement of sporting competitions, the maintenance of their physical fitness during home quarantine and physical isolation, and the athletes may wonder when the situation will improve. Thus, we need to know the psychological stress and optimism levels among those athletes to allow psychiatrists to take care of them and provide psychological counselling to them. In addition, providing them with various psychological strategies to help them cope with the various disturbances resulting from the spread of the Corunavirus, even in circumstances similar to this pandemic. Based on the previous presentation, the researchers conducted this study to investigate the effect of the corona pandemic on the stress and optimism levels among professional football and basketball players during Coronavirus (COVID-19) outbreak and the differences in these levels depend on game and gender variables.

Materials and Methods

Patients

In the present online survey by Google from conducted in Amman, we used this online questionnaire to collect the data from sample of 386 soccer and basketball players selected using purposive sample technique. The sample under study were explained the purpose of our study to get their consent. Table 1 provides a description of the study sample.

Table 1: A description of the study sample (n= 386)

Gender	Soccer		Basketball		All sample	
	Number	Percentage %	Number	Percentage %	Number	Percentage %
Males	164	83.7	80	42.1	244	63.2
Females	32	16.3	110	57.9	142	36.8
Sample	196	100	190	100	386	100

Study design

Due to curfew in the country and to reduce face to face interaction, an electronic questionnaire was built using Google questionnaire, which consisted of 10 paragraphs that dealt with the stress, and 8 paragraphs that dealt with optimism. Noting that the researchers used the stress scale for Sheldon Cohen with appropriate modifications to fit with Corona pandemic. In

addition, the researchers used the optimism scale (Rachel et al., 2019) without modification. In addition, we used the fifth Likert scale to measure how participants feel about each paragraph (table 2). This study was conducted at the end of April.

Table 2: The stress and optimism scales of the study sample responses

The response/ stress	The response/ optimism	Degree	average	Level
Very often	Strongly agree	5	More than 4.20	Very high
Fairly often	Agree	4	3.40- less than 4.20	High
Sometimes	Neutral	3	2.60- less than 3.40	Moderate
Almost never	Disagree	2	2.60- less than 1.80	Low
Never	Strongly disagree	1	Less than 1.80	Very low

Scientific coefficients of the study tool

To verify the validity of the study tool, we presented it to a committee of five arbitrators with the competence and experience of the faculty members at the University of Jordan to find out the suitability of paragraphs of this questionnaire and its ability to achieve the goal of the study.

To verify the consistency of the study tool, we used the Alpha Cronbach coefficient, where Cronbach alpha for the stress was found to be 0.918 and 0.82 for the optimism scale and these values is considered a high indicator of the stability of the study tools.

Ethical considerations

The participants' rights were protected by explaining the purpose and significance of the study. Participants were reassured that their responses would remain anonymous. The clients were informed that their participation in the study would remain anonymous and that their privacy would be respected. They were provided with a comprehensive explanation that their involvement in the study was voluntary and that they could withdraw at any time. Written approval was obtained from all study participants.

Statistical analysis

To achieve the objectives of the study and answer its questions, the researchers used averages, standard deviations, two-way ANOVA and independent samples t-test by using SPSS version 24 with a confidence level of 95% (p value= 0.05).

Results

The data collected from 386 soccer and basketball players, shown in Table 3, reveals the means and standard deviations of study sample responses about the stress and optimism levels according to the game variable.

Table 3: Mean and standard deviations of the stress and optimism levels among study sample according to the game variable (n=386)

Stress paragraph's	Soccer players		Basketball players	
	Means	SD	Means	SD
During home isolation, how often have you been upset because of something that happened unexpectedly?	4.15	1.14	3.34	1.40
During home isolation, how often have you felt that you were unable to control the important things in your life?	4.08	1.17	3.59	1.26
During home isolation, how often have you felt nervous and "stressed"?	3.88	1.30	3.18	1.39
During home isolation, how often have you felt confident about your ability to handle your personal problems?	4.05	1.21	3.55	1.43
During home isolation, how often have you felt that things were going your way?	4.31	0.99	3.73	1.28
During home isolation, how often have you found that you could not cope with all the things that you had to do?	3.91	1.32	3.35	1.29
During home isolation, how often have you been able to control irritations in your life?	3.83	1.24	3.01	1.27
During home isolation, how often have you felt that you were on top of things?	3.75	1.39	3.08	1.40
During home isolation, how often have you been angered because of things that were outside of your control?	4.44	0.97	3.53	1.46
During home isolation, how often have you felt difficulties were piling up so high that you could not overcome them?	3.43	1.40	2.67	1.40
Stress domain	**3.98**	**0.92**	**3.30**	**0.96**

Optimism paragraph's	Soccer players		Basketball players	
	Means	SD	Means	SD
I am feeling optimistic about life's challenges	2.63	1.48	2.88	1.32
I expect things to work out for the best	2.36	0.95	2.38	0.98
I am feeling optimistic about my future	2.56	0.80	2.26	0.64
I don't get upset too easily	2.67	0.98	2.80	0.92
The future is looking bright to me	2.22	0.69	2.62	0.68
I expect more to go right than wrong when it comes to my future	2.47	0.86	3.13	0.73
I am expecting things to turn out well	2.68	0.97	2.65	0.97
In uncertain times, I usually expect the best	2.39	0.76	2.80	0.73
Optimism domain	**2.50**	**0.93**	**2.69**	**0.87**

Table 4 reveals the means and standard deviations of study sample responses about the stress and optimism levels according to the gender variable.

Table 4: Mean and standard deviations of the stress and optimism levels among study sample according the gender variable (n=386)

Stress domain					**Optimism domain**			
Game	Males		Females		Males		Females	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Soccer players	4.18	0.87	3.79	0.93	2.42	0.56	2.58	0.54
Basketball players	3.35	1.09	3.26	0.85	2.56	0.47	2.82	0.42

Table 5 indicates the results of the two-way ANOVA test for the stress domain according to the game and gender variables.

Table 5: Results of the two-way ANOVA for the stress domain according to the game and gender variables

Source	Type III SS	df	MS	F	Sig.
Game	12.122	1	12.122	14.266	.000*0
Gender	6.385	1	6.385	7.514	.006*0
Gender * Game	11.233	1	11.233	13.219	.000*0
Error	324.609	382	.850		
Corrected Total	380.098	385			

* ($\alpha \leq 0.05$)

Table 6 indicates the results of the two-way ANOVA test for the optimism domain according to the game and gender variables.

Table 6: Results of the two-way ANOVA for the optimism domain according to the game and gender variables

Source	Type III SS	df	MS	F	Sig.
Game	.143	1	.143	.566	0.452
Gender	.917	1	.917	3.624	0.058
Gender * Game	.126	1	.126	.498	0.481
Error	96.631	382	.253		
Corrected Total	98.629	385			

* ($\alpha \leq 0.05$)

Table 7 indicates the results of the independent samples t-test for the stress and optimism domains accordingly to gender within each game.

Table 7: Independent samples t-test results for the stress and optimism domains according to gender within each game

Variables	Game	Gender	Number	Mean	SD	T	Sig.
Stress	Soccer	Males	164	4.03	0.87	4.18	0.000*
		Females	32	3.31	0.93		
	Basketball	Males	80	3.20	1.09	0.70	0.479
		Females	110	3.30	0.85		
Optimism	Soccer	Males	164	2.81	0.56	1.48	0.139
		Females	32	2.97	0.54		
	Basketball	Males	80	2.90	0.47	1.12	0.263
		Females	110	2.97	0.42		

* ($\alpha \leq 0.05$)

Discussion

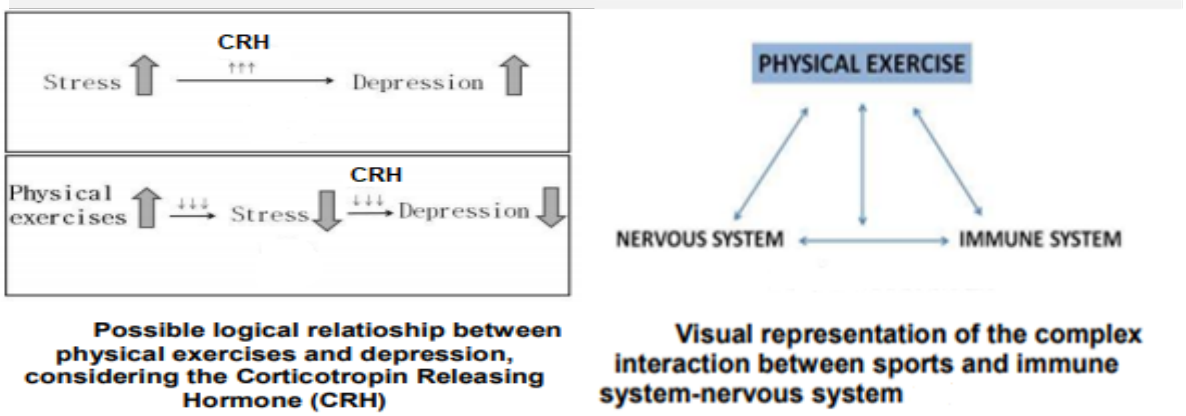
The Corona pandemic imposed on the countries of the world with many strict measures to limit the spread of this virus where the home stone and physical spacing were one of these measures, which resulted in many psychological pressures on athletes in general. As a result of the effects of the home stone contributed to postponing sports competitions, absence of group training, fear of low fitness and difficulty in communicating face to face with coaches. As the results of this study showed, the stress level among professional soccer came with a high average while the level of optimism came with a low average. The results also showed that the stress and optimism level came in a moderate degree for basketball players. This reflects the negative effects of home stone on athletes. Schyns et al (2020) indicates that home stone is tense and anxious because of the distance from friends and lack of clarity of the athletes' vision about the timing of returning to sports competitions. This explains the reason for the increasing demand of athletes for counselling from psychiatrists online. This high stress level among soccer players was accompanied by a decrease in their optimism level. The optimism level is related to an inverse relationship with stress and psychological pressures, meaning a higher optimism level, accompanied by a decrease in the anxiety and stress level and this helps in adapting to different pressures and increases the athletes ability to reduce stress, anxiety and improve their abilities to manage difficult times by building a meaningful life.

By reviewing the results of the study, the researchers found statistically significant differences in the stress level between male and female footballers with a higher average for males, accompanied by a lower level of optimism for players compared to female players. The level of the championship contributes to this through that the Professional Football League and has

a great importance compared to the female league. Most of the players also take football as a career and a source of support for themselves and their families and thus generate feelings of fear for the future of their career. This is due to the lack of clarity in the narration among the players about the date of the resumption of local and Arab championships. The researchers found that the stress and optimism levels among basketball players of both sexes came at a moderate degree because basketball in Jordan is not the most popular game. The basketball league level is lower compare to the football league. Likewise, professionalism in basketball is not the same as professional football. Perhaps the prolonged suspension of the Football Professional League of 2019 contributed to this, as it stopped for nine months. This was shown by the results of the study, which indicated that there were statistically significant differences in the stress level and with a higher average for soccer players compared to basketball players.

While not neglecting the large media coverage of this pandemic in increasing psychological pressures on individuals in general, where the rumours spread on social networking sites contributed to raising concerns among individuals. There is no doubt that the home stone was accompanied by a great psychological, emotional and financial burden on individuals and may be accompanied by feelings of boredom, anger and unity among athletes. The researchers believe that the high stress level and the low optimism level among the study sample can be due to various reasons, including the absence of psychological strategies pursued with the players during the corona pandemic such as practicing yoga, meditation, mental perception, writing future goals and listening to favourite music. Where the results of a previous study under publication indicated that the psychological method used during the home quarantine of athletes in Jordan were limited to watching matches. The researchers also believe that the absence of communication between players and coaches may have contributed to this, and this requires those in care of sponsoring football and basketball in Jordan with the necessity of holding group meetings through some applications such as Facebook and Zoom, as well as educating these athletes with balanced healthy nutrition in addition to organising webinars on strategies for controlling body mass and components and following their strength training in homes, according to the area and resources available.

In this field, the researchers focus on exercise that contributes to the control of cortisol hormone levels in the body, which contributes to reducing stress and the risk of depression (Taspinar et al., 2014). While not neglecting the positive role of regular physical activity on the health of the brain and thus improving motor communication networks, Figure 1 illustrates the relationship between exercising and sports activities with the psychological aspects and their relationship to the immune and nervous system (Alicia, 2015). The studies indicate that people who have a high level of stress are more likely to be affected, due to a defect in the regulation of hormonal secretion, and this reduces their immune response as a high level of cortisol hormone contributes to the inhibition of this response (Schmidt et al., 2014).



Possible logical relatioship between physical exercises and depression, considering the Corticotropin Releasing Hormone (CRH)

Visual representation of the complex interaction between sports and immune system-nervous system

Fig 1. Illustrates the relationship between exercising and sports with the psychological aspects and their relationship to the immune and nervous system

Conclusions

The continuous examination of the different psychological aspects levels among athletes is an important factor in providing psychological care for them, as the study showed that the corona pandemic had a negative impact on stress and optimism levels among the study sample. It affected football players to a higher degree. This requires those in care of nurturing these sports to use psychology strategies in such circumstances. This requires us as researchers to conduct other studies that address psychological methods that can be used in these conditions and in similar conditions by revealing the best psychological practices that can guide them in dealing with athletes.

Conflicts of Interest

We declare no competing interests

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