

ORIGINAL SCIENTIFIC PAPER

Motivational Structure for Sports Practice during COVID-19 Pandemic in Professional Football Players

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Abstract

Investigating of the athletes' motivation for sports practice is necessary to encourage them to participate in sport, and continue exercising. During the Covid-19 pandemic period due to changes in athletes' routines, the role of motivation to play sports could be even more important. The research aimed to determine the motivation structure for sports practice in football players with the help of factor analysis. The sample of respondents consisted of 360 professional football players (21.71±4.42 years) from the Premier League of Bosnia and Herzegovina. A questionnaire on motivation for sports during the Covid-19 pandemic period was used, consisting of 18 items related to motivation to play sports and modified according to the Participation Motivation Questionnaire (PMQ). A five-point Likert scale was used in the questionnaire. The questionnaire was in electronic form and was sent to the football players via Google form. Factor analysis identified six dimensions: 'Sport success', 'Support', 'Social status', 'Friendship', 'Physical health', and 'Sports activities'. These six dimensions explain the total manifest motivation participation space with 62.26% of the total variance. In conclusion, this study contributed to the understanding of the motivational structure of professional football players for playing sports. That is, the main motivational dimensions for engaging and committing to sports during the Covid-19 pandemic were singled out. This all points to the importance of this research and may serve future studies that will examine the motivational structure of professional athletes.

Keywords: soccer, senior players, sports motivation, Covid-19 lockdown, factorial analysis, PMQ

Introduction

The Covid 19 pandemic has tremendously affected sports around the world. Pandemic has changed the lives of athletes and brought uncertainty regarding the maintenance of training, and postponing sports events (Mon-López, de la Rubia, Hontoria, & Refoyo, 2020; Parm, Aluoja, Tomingas, & Tamm, 2021). The outbreak of the Covid-19 caused significant changes also in football, such as the suspension of leagues, isolation of players, individual training, etc. (Brooks et al., 2020).

During the Covid-19 lockdown, many teams have designed home training programs for their players, which included physical, technical, and tactical preparation (Peña et al., 2021). Although coaches struggled to make training plans and pro-

grams, athletes trained mostly at home alone without supervision (Sarto et al., 2020) which made it difficult to conduct training. It is noticeable that home-based training faces more challenges such as inappropriate training conditions, poorly organized training, movement restriction, and lack of communication with coaches (Jukic et al., 2020) which can negatively affect the motivation of football players to carry out sports activities.

Motivation is a fundamental factor that encourages the participation of athletes in sports activities (Roychovdhury, 2018), and affects success in sports (Bollok, Takacs, Kalmar, & Dobay, 2011). Motivation can be either intrinsic or extrinsic, and in sports intrinsic factors (excitement of the sport, personal ac-



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complishment, improving skills) are considered more important, and athletes who show inner (intrinsic) motivation enjoy the sports activity and performance itself, and this is what gives them pleasure. For extrinsic or external motivation, participation in sports is determined by the acquisition of some benefits that can be of a material (e.g. monetary reward) or social nature (e.g. status) (Đurović, Veljković, & Petrović, 2020). Although early theories in the field of motivation assumed that total motivation represents the sum of internal and external motivation, today it is recognized that this relationship is much more complex than originally thought (Mladenović & Trunić, 2011). Athletes with high intrinsic motivation have better self-appreciation and are more successful in their activities compared with their intrinsically less motivated mates. On the whole, task-oriented, environment-motivates athletes, in addition to being able to afford higher performance levels, are not adversely affected by a long preparation. On the other hand, ego-oriented individuals compare their abilities with those of others or, if they have to perform well, they become overwhelmed by worries and tension (Bollók, Takács, Kalmár, & Dobay, 2011; Vlachopoulos, Karageorghis, & Terry, 2000). Therefore, the motivational structure should be analyzed to determine which factors are dominant in playing professional sports.

Although many authors have assessed motivation for sport in a variety of sports in both young and older athletes (Trembath et al., 2002; Jones, Mackay, & Peters, 2006; Moradi, Bahrami, & Dana, 2020), a small number of authors tried to determine the motivational structure, and they were mostly based on younger athletes and recreational athletes. In these studies, the number of factors identified through factor analysis has varied depending on the sample under investigation (Gill et al., 1983; Buonamano, Cei, & Mussino, 1995; Koivula, 1999; Jones, Mackay, & Peters, 2006). Therefore, the authors recommend identification of motivation dimensions for different samples (Jones et al., 2006). Also, it should be added that no studies have been found that have established a motivational structure for playing sports in adult professional football players, hence the need for this study.

In the Covid-19 pandemic period due to changes in athletes' routines such as reduced training and increased uncertainty in setting goals, the role of motivation to play sports could be more significant (Tingaz, 2021). It is not surprising that the authors deal with the topic of sports motivation during a specific Covid-19 period (Ruffault, Bernier, Fournier, & Hauw, 2020; Leyton-Román, de la Vega, & Jiménez-Castuera, 2021; Rozmiarek, et al., 2022). In this regard, the research aimed to determine the motivation structure for sports practice during the Covid-19 Pandemic in football players with the help of factor analysis. This will contribute to the understanding of the factorial structure for motivation and commitment to sports practice with professional athletes, and highlight which motivational dimensions are important for playing sports.

Method

Subjects

The sample of respondents consisted of 360 professional football players from the Premier League of Bosnia and Herzegovina (21.71 ± 4.42 yrs) who stated that they trained an average of 113.60 ± 42.43 min/day during $5.38 \pm .95$ day/weeks in Covid-19 lockdown. All the football players involved were healthy, without serious injuries and they have been training for over 5 years. Ethical review and approval required for the study on human participants in accordance with the local legislation and institutional requirements. Before participation, experimental procedures were explained to all the participants. The research was conducted in accordance with the Declaration of Helsinki.

Measurements

A questionnaire on motivation for participation in sport, and keeping up exercise during the Covid-19 pandemic was used, consisting of 18 items related to motivation to play sports and modified according to PMQ (Gill, Gross, & Huddleston, 1983; Zahariadis & Biddle, 2000). A five-point Likert scale was used in the questionnaire, and responses were identified as 'very important', 'important', 'somewhat important', 'unimportant', and 'not at all important' (Joshi, Kale, Chandel, & Pal, 2015). The questionnaire was in electronic form and was sent to the football players via Google form.

Statistics

Factor analysis was used to examine the internal structure of the questionnaire for motivation in sports participation. The Kaiser-Meyer-Olkin Measure and Bartlett's Test of Sphericity were computed to determine whether the data were suitable for factor analysis. The Guttman-Kaiser criterion was used to determine the number of significant main components, according to the criteria of factor loadings above 0.30, and eigenvalues above 1.0 are isolated (Ntoumanis, 2001). The magnitude of the relative contribution of each isolated factor in explaining the variance of the whole system of manifest variables is shown as a percentage. Pearson Correlation Coefficients between motivation participant factors will be used. The data were analyzed using the statistical package SPSS version 26.0 (SPSS Inc., Armonk, NY, USA).

Results

Table 1 shows the results of the Bartlett test ($\chi^2=1522.015$; $df=153$; $p<.000$) and the Kaiser-Meyer-Olkin index ($KMO=.788$), which exceeds the recommended value of 0.6 (Kaiser, 1974) showing that the correlation matrix is suitable for conducting factor analysis.

According to Kaiser-Guttman's criterion, six factors were retained (Table 2), whose eigenvalues are greater than 1.00, which

Table 1. KMO and Bartlett's Test

Variables	Value
Kaiser-Meyer-Olkin Measure	.788
Bartlett's Test of Sphericity	
Approx. Chi-Square	1522.015
df	153
Sig.	.000

explains the total manifest motivational space with 62.26% of the total variance. The individual contribution for the first main component is 24.64%, for the second 10.23%, for the third 7.93%, for the fourth 7.33, for the fifth 6.51, and the sixth 5.63%.

Rotation was performed with hair direct oblimin transformation. It is evident that the first main component carries most of the variance (24.64%), so it can be considered the most significant measure of all applied manifest motivational variables.

Table 2. Total Variance Explained

Factor	Eigenvalue	% of variance	Cumulative %
1	4.44	24.64	24.64
2	1.84	10.23	34.86
3	1.43	7.93	42.79
4	1.32	7.33	50.12
5	1.17	6.51	56.63
6	1.01	5.63	62.26

In Table 3, the variables were grouped into six factors based on their calculated factor weights. The first main component can be defined as a factor of success (Sport success) because the largest projections have the same variables: 'like to compete', 'want to play at a higher level', 'like the rewards', and 'like the sport challenge'. The second main component (Support), which is isolated from the residual variability of all applied motivational variables, has significant projections of the variable: 'need support from colleges', 'need support from coach', and 'wished for socializing with colleagues'. On the third main component (Social status), significant projections have vari-

ables: 'want to be popular', and 'want to gain status'. On the fourth (Friendship) significant projection the variables are: 'like to meet new friends', 'like the teamwork', 'like being on a team', and 'like the excitement'. On the fifth (Physical health) significant projections have variables: 'want to be healthy', and 'want to stay in shape'. On the sixth (Sports activities) significant projections we have variables: 'wished of group training', 'wished of friendly games', and 'wished of officially games'.

In table 4, based on Pearson Correlation Coefficients, it is noticeable that motivation participant constructs correlate weakly with each other (.01-.28).

Table 3. Factorial Structure for the Variable Solution (18 items) of the Participant Motivation Questionnaire (n = 360)

	Factor Pattern Matrix					
	1	2	3	4	5	6
Sport success						
like to compete	.77					
want to play at a higher level	.68					
like the rewards	.64					
like the sport challenge	.58					
Support						
need support from colleges		.90				
need support from a coach		.88				
wished for socializing with colleagues		.34				
Social status						
want to be popular			.90			
want to gain status			.75			
Friendship						
like to meet new friends				-.73		
like the teamwork				-.72		
like being on a team				-.60		
like the excitement				-.39		
Physical health						
want to be healthy					.84	
want to stay in shape					.57	
Sport activity						
wished of group training						.71
wished of friendly games						.68
wished of official games						.66

Table 4. Pearson Correlation Coefficients between Motivation Participant Questionnaire Constructs

Component	1	2	3	4	5
2	.06				
3	.18	-.09			
4	-.22	-.18	-.11		
5	.16	.01	.08	-.07	
6	.28	.13	.01	-.24	.16

Discussion

This study aims to make a specific contribution in an attempt to determine the internal structure of motivation and commitment to sports practice during the Covid-19 pandemic in professional football players and to highlight which motivational dimensions are important for playing sports. Factor analysis identified six dimensions: 'Sport success', 'Support', 'Social status', 'Friendship', 'Physical health', and 'Sports activities'. This corresponds to previous studies where mostly basic 6 to 8 factor structures have been found (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Jones et al., 2006).

When analyzing the isolated dimensions, it is noticeable that they correspond to the factors that have been isolated in previous studies. Thus 'Success', corresponds to 'Achievement status' (Bačanac et al., 1994); 'Social status' corresponds to 'Reward/status' (Jones et al., 2006); 'Friendship' is also found in the study (Jones et al., 2006); and suits as a 'Team' (Bačanac et al., 1994); while 'Physical health' corresponds to 'Physical fitness' (Gill, 1983; Bačanac et al., 1994; Jones et al., 2006). Although the factors mostly correspond to previous studies, it should be noted that some items in one paper may belong to one category (factor), and the same statement in another study belongs to another factor.

It should be added that in our study, two other factors were singled out, such as 'Support', which refers to support during the Covid-19 pandemic, and 'Sports Activities', which refers to items related to the fact that athletes wanted to return to training and competition activities. As this is a modified version of the PMQ questionnaire, several different claims are consistent with the Covid-19 pandemic situation, and in this regard, it is clear why these two separate factors do not meet in previous studies.

It is evident that the first factor 'Sport success' carries most of the variance (24.64%), so it can be considered the most significant measure of all applied manifest motivational variables. This factor is defined by motives such as 'like to com-

pete', 'want to play at a higher level', 'like the rewards', and 'like the sport challenge', which are the main motivation for participation in adult professional footballers. This is not in line with the studies of the authors (Gould et al., 1985; Frederick and Rian, 1993) which state that competitors in sports rated 'Skills development' as their primary motivator. It can be seen here that although they are adult professional athletes, there are different motivational structures, which is in line with (Jones et al., 2006) which indicate different motivational dimensions in different athletes. The second factor was 'Support', which corresponds to the given situation in which the athletes found themselves, so their need for support is understandable to easily overcome the given situation. The other 4 factors explain a smaller part of the variance, but they are not negligible.

The limitations of this study can be reflected in a smaller number of items in the questionnaire, so the recommendations for further research would be to take into account more claims that will more fully examine the motivational structure for playing sports.

Conclusion

In conclusion, this study contributed to the understanding of the motivational structure of professional football players for playing sports. That is, the main motivational dimensions for engaging and committing to sports during the Covid-19 pandemic were singled out. Factor analysis identified six dimensions: 'Sport success', 'Support', 'Social status', 'Friendship', 'Physical health', and 'Sports activities'. Previous researches have determined the motivational structure of various athletes, but they have not dealt with professional senior football players. It should also be noted that the motivational structure was examined during the Covid-19 lockdown, in a period when the routine of athletes was changed, which could have affected their motivation. This all points to the importance of this research and may serve future studies that will examine the motivational structure of professional athletes.

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Conflict of Interest

The author declares that there is no conflict of interest.

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References

- Bačanac, L., Lazarević, L., & Arunović, D. (1994). Karakteristike motivacije mladih Jugoslovenskih sportista za bavljenje sportom. *Fizička Kultura*, 48(3), 203-211.
- Bollók, S., Takács, J., Kalmár, Z., & Dobay, B. (2011). External and Internal Sport Motivations of Young Adults. *Biomedical Human Kinetics*, 3, 101-105.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G.J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), 912-920.
- Buonamano, R., Cei, A., & Mussino, A. (1995). Participation motivation in

- Italian youth sport. *The Sport Psychologist*, 9(3), 265-281.
- Đurović, D., Veljković, A.A., & Petrović, T. (2020). Psychological aspects of motivation in sport achievement. *Facta Universitatis, Series: Physical Education and Sport*, 18(2), 465-474.
- Fabrigar, L.R., Wegener, D.T., MacCallum, R.C., & Strahan, E.J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-279.
- Frederick, C.M., & Ryan, R.M. (1993). Differences in motivation for sport and exercise and their relations with participation and mental health. *Journal of Sport Behavior*, 16(3), 124-147.
- Gill, D.L., Gross, J.B., & Huddleston, S. (1983). Participation motivation in youth sports. *International Journal of Sport Psychology*, 14(1), 1-14.
- Jones, G. W., Mackay, K.S., & Peters, D.M. (2006). Participation motivation in martial artists in the west midlands region of England. *Journal of Sports Science & Medicine*, 5(CSSI), 28-34.
- Joshi, A., Kale, S., Chandel, S., & Pal, D.K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396-403.
- Jukic, I., Calleja-González, J., Cos, F., Cuzzolin, F., Olmo, J., Terrados, N., ... & Alcaraz, P. E. (2020). Strategies and solutions for team sports athletes in isolation due to COVID-19. *Sports*, 8(4), 56.

- Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.
- Koivula, N. (1999). Sport Participation: Differences in Motivation and Actual. *Journal of Sport Behavior*, 22(3), 360-380.
- Leyton-Román, M., de la Vega, R., & Jiménez-Castuera, R. (2021). Motivation and commitment to sports practice during the lockdown caused by Covid-19. *Frontiers in Psychology*, 3846.
- Markland, D., & Ingledew, D.K. (2007). Exercise participation motives: A self-determination theory perspective. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp. 23-34,302-305). Human Kinetics.
- Mladenović, M., & Trunić, N. (2015). Sportska motivacija i ciljna orijentacija mladih srpskih košarkaša. *Sport, Nauka i Praksa*, 5(1-2), 31-39.
- Mon-López, D., de la Rubia Ríaza, A., Hontoria Galán, M., & Refoyo Roman, I. (2020). The impact of Covid-19 and the effect of psychological factors on training conditions of handball players. *International Journal of Environmental Research and Public Health*, 17(18), 6471.
- Moradi, J., Bahrami, A., & Amir, D. (2020). Motivation for participation in sports based on athletes in team and individual sports. *Physical Culture and Sport*, 85(1), 14-21.
- Ntoumanis N. A step-by-step guide to SPSS for sport and exercise studies. Routledge, London 2001.
- Parm, Ü., Aluoja, A., Tomingas, T., & Tamm, A.L. (2021). Impact of the COVID-19 pandemic on Estonian elite athletes: survey on mental health characteristics, training conditions, competition possibilities, and perception of supportiveness. *International Journal of Environmental Research and Public Health*, 18(8), 4317.
- Peña, J., Altarriba-Bartés, A., Vicens-Bordas, J., Gil-Puga, B., Piniés-Penadés, G., Alba-Jiménez, C., ... & Casals, M. (2021). Sports in time of COVID-19: Impact of the lockdown on team activity. *Apunts Sports Medicine*, 56(209), 100340.
- Roychowdhury, D. (2018). A comprehensive measure of participation motivation: Examining and validating the Physical Activity and Leisure Motivation Scale (PALMS). *Journal of Human Sport & Exercise*, 13(1), 1-17.
- Rozmiarek, M., León-Guereño, P., Tapia-Serrano, M.Á., Thuany, M., Gomes, T.N., Płoszaj, K., ... & Malchrowicz-Moško, E. (2022). Motivation and Eco-Attitudes among Night Runners during the COVID-19 Pandemic. *Sustainability*, 14(3), 1512.
- Ruffault, A., Bernier, M., Fournier, J., & Hauw, N. (2020). Anxiety and motivation to return to sport during the French COVID-19 lockdown. *Frontiers in Psychology*, 11, 610882.
- Sarto, F., Impellizzeri, F.M., Spörri, J., Porcelli, S., Olmo, J., Requena, B., ... & Franchi, M.V. (2020). Impact of potential physiological changes due to COVID-19 home confinement on athlete health protection in elite sports: a call for awareness in sports programming. *Sports Medicine*, 50(8), 1417-1419.
- Tingaz, E.O. (2021). The psychological impact of COVID-19 pandemic on elite athletes, management strategies and post-pandemic performance expectations: a semi structured interview study. *IJERI: International Journal of Educational Research and Innovation*, (15), 73-81.
- Trembath, E.M., Szabo, A., & Baxter, M.J. (2002). Participation motives in leisure center physical activities. *Athletic Insight: The Online Journal of Sports Psychology*, 4(3), 28-41.
- Zahariadis, P.N., & Biddle, S.J. (2000). Goal orientations and participation motives in physical education and sport: Their relationships in English schoolchildren. *Athletic Insight: the Online Journal of Sports Psychology*, 2(1), 1-12.
- Vlachopoulos, S.P., Karageorghis, C.I., & Terry, P.C. (2000). Motivation profiles in sport: A self-determination theory perspective. *Research Quarterly for Exercise and Sport*, 71(4), 387-397.
- Wankel, L.M., & Kreisel, P.S. (1985). Factors underlying enjoyment of youth sports: Sport and age group comparisons. *Journal of Sport and Exercise Psychology*, 7(1), 51-64.