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Motor and psychological predispositions for playing football

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Abstract

Nowadays football is steadily developing around the world. Many sport theorists and practitioners pay a lot of attention to the search for the key factors determining high sports results. Players' comprehensive preparation seems to be essential in order to succeed in football. Therefore, the focus of this work was on the aspects of fitness and mental preparation. The authors aimed to define the basic motor skills and psychological conditions, designed to serve as predisposition to sports competition in an 11-person football. Among the motor factors, a special attention was drawn to the importance of endurance and speed ability in football. As far as the psychological conditions are concerned, the role of the psychosocial prototype of a high-performance sporting situation and psychological characteristics determining success in football were emphasized.

KEYWORDS: predispositions, football, motor skills, psychology.

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Introduction

Systematic development of one of the most popular sports in the world like football [21] encourages academics to search for specific conditions of a high

performance. These searches should be based on supplementing personal competences, including expanded knowledge about the results of the latest research, or gaining practical experience [1]. In addition, the increase in the dynamically changing conditions in football competition and the ability to comprehensively prepare and synergize many factors lead to the requirement of an effective functioning in football [21], including fitness and motor skills [9], as well as psychological skills [4]. The aim of this work was to describe the outline of the basic dimensions such as motor and psychological, which predominantly predispose to sports competition in an 11-person football, which is a dynamic system, where there is something that we can call as a relationship of competition between two club or national teams.

Motor skills

It is essential to have the required habits and a high level of development of motor skills to successfully achieve goals in football. Among them, an important role is played by the motor skills, which are defined as the features of human motility like speed, accuracy and durability of mastering skills. Furthermore, there is a group of factors which a high-class player should have. For instance, somatic structure, psychophysiological properties of a higher nervous activity [21], functional state of individual body systems, aerobic capacity and technical skills [14].

In theoretical terms, motor skills are physical features that we divide into basic motor coordination, endurance, speed, element of power and strength. Motor skills, which are significant in relation to the obtained sports

results [16], include: aerobic endurance, start and run speed, as well as high speed endurance. A rather convincing confirmation of this can be found in the works of Śledziwski, Kuder and Hübner-Woźniak [23], who specify that football belongs to a group of sports disciplines based on endurance and speed endeavors.

It is assumed that work in the first and second intensity range (based on aerobic endurance), takes about 60% of the total load of the player during the match unit [10]. Research shows that during one match a football player runs on average from 9 to 14 kilometers (studies Bojkowski, Śliwowski, Wieczorek, et al. [7] showed that at the World Cup in 2014, representatives of Germany beat in the match an average of 12.42 km), of which about 4-8 km are overcome in low and medium intensity [2, 15, 20].

Shaping oxygen-related efforts is also fundamental to the development of speed and strength, which are the basic parameters affecting the dynamics of the game [1]. Thus, we can't forget that one of the basic predispositions of a player to play football is the ability to repeat efforts in the circumstances of highest intensity range and variety of movements involving rapid speed changes. According to the results of a study conducted by Bradley, Sheldon, Wooster, et al. [8], the sprint takes about 0.6% of the player's working time during one football match. Mohr, Krustup and Bangsbo [19] estimate this period for 1.4% of the game's time. At the same time, it is determined that the average maximum speed of the run obtained by the representatives of the best football teams of the world during Fifa World Cup 2014 is approx. 8.34 m/s [6].

In conclusion, all the components provided above, especially a defined level of endurance and speed-strength abilities, may be one of the most important prognostics when it comes to performing technical-tactical performance during football competition [15], what we may train for example in small-sided games (where we inspire tactical creativity).

Psychological conditions

First of all, it is worth to start with the definition of the psychosocial requirements that rival competitors must possess. This description will be made on the basis of a psychosocial study of a psychosocial prototype of the sports situation in football [5], in which the main research tools were the Scale of Sports Situation Dimensions (SWSS) of the Gracz [12].

On the basis of research [5], it was determined that the most important dimension of the situation in football is the social perception (SPO), indicating a stronger

relationship of the player's actions with the behavior of viewers and the evaluation of its performance. Another requirement in the hierarchy is competitiveness (WSP), which means that in football, the ability to function in a dynamic situation of fighting and diverging interests of teams is a very important skill. The long-lasting training dimension (TRD) on the immunity to hardships associated with the many-year training process was further developed. The next dimensions in the hierarchy of prototype sports situation in football situations were: motor activity (RUA) related to the psychomotor sphere of the player and maximization of action (MAX), which is related to the activity on the border of own strength [5, 12]. This study also mentioned the existence of two groups of dimensions. The first group included: social perception (SPO), competitiveness (WSP), long-lasting training (TRD) and motor activity (RUA). In the second maximization of action (MAX), the significance of differentiation between two groups of dimensions was confirmed by the value of $H = 28.48$ ($p < 0.001$) [5].

What mental characteristics do coincide with the most important dimensions of the prototype sporting situation in football? Obviously, those that are associated, among others, with emotional resistance and the ability to react quickly during competition. As a result, it is indicated that the impact on sport predispositions may have certain levels of three temperamental features included in Relational Theory of Temperament (Relacyjna Teoria Temperamentu) [25]: low level of emotional reactivity (a characteristic characterized by a tendency to react intensively stimulus), a high level of briskness (a tendency to respond quickly and maintain a high rate of activity) and a high level of endurance (the ability to adequately respond to situations requiring prolonged or highly stimulatory activity) [22]. The significance of the mentioned temperamental traits in the sporting competition of footballers was pointed out in studies by Guszowska [13].

Other studies show that the selected personality traits described in the Big Five by Costa and McCrae [11] may also affect the success in sports. For example, the results obtained by Basiaga-Pasternak [3] show that selected football players are characterized by a definitely lower level of neuroticism (manifested, inter alia, in emotional maladjustment, states of anxiety, tension and shyness) compared to people from the another group. However, the results of Turosz and Storto [24] proved the fact that in the group of Polish football representatives, 50% of them scored a low mark on the neuroticism scale. The results of other studies [17] confirm that footballers and hockey players, i.e. players of team sports, display

higher activity levels and lower levels of neuroticism and anxiety (strong correlates of emotional reactivity $r = 0.64$, $p < 0.01$, briskness $r = -0.39$, $p < 0.01$ and endurance $r = -0.44$, $p < 0.01$) [26] in comparison with the students who have been subjected to comparative research.

Temperamental and personality traits seem to be very important when it comes to defining the player's individual predispositions for football competition for two reasons. First of all, they are primary and biologically determined formal aspects of behavior, which means that they are relatively constant (they do not change too quickly under the influence of short-term environmental factors) [25]. Secondly, with specific levels of temperamental and personality traits, they also correlate other features that may affect the predisposition to a specific competition. These include, for example, the assessment of stressful situations and the ability to deal with them (where temperament is a kind of moderator between the situation and the reaction) or the self-esteem of the player. As described in the Polish adaptation of the SES Rosenberg Scale [18], the relationship between emotional reactivity (FCZ-KT questionnaire) and self-assessment (tested by SES Rosenberg questionnaire) is negative and statistically significant ($r = -0.47$, $p < 0.01$).

Summary and conclusions

Modern football is more intensified and physically demanding than in the last ten years, so the role of fitness preparation of footballers is not questioned anymore. Nevertheless, many factors that result in success in sport could be distinguished. Therefore, it is assumed that only comprehensive technical, tactical, fitness and mental preparations as well as observance of rules and setting particular aims lead to optimal preparation of a competitor in the implementation of complex tasks.

This paper focuses on two aspects of preparing an athlete for football sports competition (where low number of goals scored during a single match is the features of present-day football activity) such as motor and mental. In both cases, the role of football-specific external factors is emphasized, creating specific competition requirements. In the motor aspect, these are primarily the requirements related to the long-term playing time and the dynamically changing requirements for movement in various intensity ranges. For this reason, it is emphasized that football is one of the sports disciplines characterized by endurance and speed requirements. However, in the field of football psychology, the social character of competition is indicated, the requirement of

competitiveness in the conditions of diversified contact with rivals or rivals (direct and indirect social distance), and long-term sports experience (often in conditions of limited or delayed gratification). In order to meet these requirements and dimensions of psycho-social competition in football, it seems necessary to skillfully determine the psychological criteria for selection for football, which will be the basis for treating them in terms of predisposition to effective football action.

Based on the conducted study, the following final conclusions were formulated:

1. The criteria for selection of predisposition to football competition should be dictated by competition requirements that a specific sport discipline sets for competitors.
2. One of the predictors of effective football competition may be specific motor skills and psychic features that help to function in conditions of chronic social assessment and dynamically changing game conditions.

References

1. Bangsbo J. Sprawność fizyczna piłkarza (Fitness of football players). Warszawa: COS; 1999 (in Polish).
2. Barros RML, Misuta MS, Menezes RP, Figueroa PJ, Moura DA, Cunha SA, et al. Zmienność profili wytrenowania motorycznego zawodników hokeja na trawie na wybranych etapach szkolenia (Variability of motor-training profiles of field hockey players on selected stages of training). In: Strzelczyk R, Karpowicz K, editors. Etapizacja procesu szkolenia sportowego. Teoria i rzeczywistość. Poznań: AWF; 2012. pp. 145-162 (in Polish).
3. Basiaga-Pasternak J. Analiza typów osobowości, poziomu lęku i głównych składników motywacji sportowej u juniorów – zawodników piłki nożnej (Analysis of personality types, level of anxiety and the main components of sports motivation in junior football). Zesz Nauk 80. Kraków: AWF; 2000 (in Polish).
4. Basiaga-Pasternak J. Poziom ryzyka a uwarunkowania osobowościowe młodych zawodników piłki nożnej (Risk level and personality determinants of young football players). In: Blecharz J, Siekańska M, editors. Praktyczna psychologia sportu: wykorzystanie koncepcji psychologicznych w sporcie. Kraków: AWF; 2009. pp. 133-141 (in Polish).
5. Bojkowski Ł. Psychospołeczny prototyp sytuacyjny w piłce nożnej (The psychosocial prototype of the sports situation in football). Rozp Nauk AWF we Wrocławiu. 2016; 55: 93-99 (in Polish).
6. Bojkowski Ł, Śliwowski R, Wieczorek A. Maximum locomotor speed of the best football players at the Fifa

- World Cup in Brazil. *Cent Eur J Sport Sci Med.* 2016; 4: 103-110.
7. Bojkowski Ł, Śliwowski R, Wieczorek A, Eider R. Analysis of the longest distances run by the best soccer players at the Fifa World Cup in Brazil in 2014. *Cent Eur J Sport Sci Med.* 2015; 3: 145-151.
 8. Bradley PS, Sheldon W, Wooster B, Olsen P, Boanas P, Krstrup P. High-intensity running in English FA Premier League soccer matches. *J Sports Sci.* 2009; 27(2): 159-168.
 9. Cicirko L, Buraczewski T, Twarowski K, Storto M. Współzależność pomiędzy poziomem rozwoju koordynacyjnych zdolności motorycznych oraz sprawnością ogólną i sprawnością specjalną młodych piłkarzy nożnych (Interdependence between the level of development of coordination motor skills, fitness and special efficiency of young footballers). In: Stuła A, editor. *Teoretyczne i praktyczne aspekty nowoczesnej gry w piłkę nożną.* Opole: Politechnika Opolska; 2009. pp. 111-122 (in Polish).
 10. Cometti C. *La Préparation Physique au Football (The physical preparation of football).* Chiron; 2002 (in French).
 11. Costa PT, McCrae RR. Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychol Assess.* 1992; 4(1): 5-13.
 12. Gracz J. Psychospołeczne uwarunkowania aktywności sportowej człowieka (Psychosocial determinants of human sports activity). Poznań: AWF; 1998.
 13. Guszowska M. Czym różnią się młodzi sportowcy od aktywnych ruchowo rówieśników? (What are the differences between young sportsmen and their active peers). In: Mikołajczyk M, editor. *Korelaty psychologiczne aktywności ruchowej i sukcesów w sporcie.* Warszawa: PTNKF; 2004. pp. 107-117 (in Polish).
 14. Helgerud J, Engen LC, Wisloff U, Hoff J. Aerobic endurance training improves soccer performance. *Med Sci Sports Exerc.* 2001; 33(11): 1925-1931.
 15. Kalinowski P. Analiza techniczno-taktyczna zespołów Herthy Berlin i Bayernu Monachium w rundzie jesiennej sezonu 2016/2017 (Technical-tactical analysis of the Hertha Berlin and Bayern Munich teams in the autumn season of the 2016/2017 season). *Asyst Tren.* 2017; 3: 24-27 (in Polish).
 16. Kalinowski P, Bezler A, Kubiak R, Zaporowski T, Szczepankiewicz M, Konarski JM. Efektywność a szybkość startowa młodych piłkarzy nożnych klubu Berliner TSC (Efficiency and start-up speed of young footballers of the Berliner TSC club). *Aktywność Ruchowa Ludzi w Różnym Wieku.* 2017; 2: 95-104 (in Polish).
 17. Kraft M, O'Sullivan D, Zuckerman M. Personality characteristics of male and female participants in team sports. *Personality and Individual Differences.* 1998; 25: 119-128.
 18. Łaguna M, Lachowicz-Tabaczek K, Dzwonkowska I. Skala samooceny SES Morrisa Rosenberga – polska adaptacja metody (SES Morris Rosenberg self-assessment scale – Polish adaptation of methods). *Psychol Społ.* 2007; 2(4): 164-176 (in Polish).
 19. Mohr M, Krstrup P, Bangsbo J. Match performance of high-standard soccer players with special reference to development of fatigue. *J Sports Sci.* 2003; 21: 519-528.
 20. Reilly T. *The science of training – soccer.* London, New York: Routledge, Taylor & Francis Group; 2007.
 21. Reilly T, Bangsbo J, Franks A. Anthropometric and physiological predisposition for elite soccer. *J Sports Sci.* 2000; 18: 669-683.
 22. Strelau J, Zawadzki B. The Formal Characteristics of Behaviour - Temperament Inventory (FCB-TI). Validity studies. *Eur J Pers.* 1993; 9: 207-229.
 23. Śledziwski D, Kuder A, Hübner-Woźniak E. Kompleksowa kontrola potencjału motorycznego profesjonalnych piłkarzy nożnych (Comprehensive control of the motor potential of professional football players). In: Kuder A, Perkowski K, Śledziwski D, editors. *Kierunki doskonalenia treningu i walki sportowej – Diagnostyka.* Vol. 2. Warszawa: AWF; 2005. pp. 69-73 (in Polish).
 24. Turosz MA, Storto M. Profil i struktura osobowości, agresji i motywacji sportowej reprezentantek Polski w piłce nożnej (Profile and structure of the personality, aggression and sport motivation of female representatives of Poland in football). *Sport Wyczyn.* 2002; 7-8: 33-40 (in Polish).
 25. Zawadzki B, Strelau J. Formalna Charakterystyka Zachowania – Kwestionariusz Temperamentu (FCZ-KT) (The Formal Characteristics of Behaviour – Temperament Inventory (FCB-TI)). Warszawa: PTP; 1997 (in Polish).
 26. Zawadzki B, Strelau J, Szczepaniak P, Śliwińska M. Inwentarz Osobowości NEO-FFI Costy i McCrae. Adaptacja polska (NEO-FFI Personal Inventory by Costa and McCrae. Polish adaptation). Warszawa: PTP; 1998 (in Polish).