Munir Talović[1], Izet Rađo[1], Eldin Jelesković[1]and Haris Alić[1]

The Effect of Basic Motor Abilities on the Success in Football Game of
Football Players Aged 13 to 15 Year-Old

[1]Faculty of Sport and Physical Education, University of Sarajevo, Bosnia and Herzegovina

Abstract

The aim of this research was to determine the influence of basic motor skills on the success in the game of football players aged 13-15 years. A large number of researchers dealt with this problem and proved a lot in this area, but what might be interesting in this study is the sample of respondents with their characteristics and age can always offer new and interesting facts. Age, which produces large changes in the body also, can cause a variety of phenomena. The sample of respondents in this study were youth football players, whose age was 14, 12 ± 0.93 years. All of them were members of youth school FC Krajina,Cazin and members of cadets selection, from which a sample of 120 respondents have been taken. The respondents were taken from the football school FC Krajina - Cazin, FC Jedinstvo - Bihac and FC Krajisnik - Velika Kladusa. The sample of variables in this study is the variables of basic motor skills as predictors (17) and the variables of success in the football game as the criterion (8). Based on statistical data - regression analysis determined the impact of individual motor variables. It turned out that the system of predictor variables, which consisted of basic motor abilities had a statistically significant association (p> 0.05) with the measured indicators of success in the game, so you may notice that the largest and statistically significant impact on the criterion variable has MKLSNL - slalom with two balls, with a significance level of .01. A variable that is allocated determines the latent dimension of coordination. In addition, we can certainly say that all movements and everything that happens during the game is determined by coordination skills, whether it is a game in attack or defense.

Key words: **impact, basic motor skills, success in game, football players**

Sažetak

Cilj rada je utvrditi uticaj bazično motoričkih sposobnosti na uspješnost u igri nogometaša uzrasta 13-15 god. Veliki broj istraživača se bavio ovom problematikom i dokazao mnogo iz ovog područja, međutim ono što bi moglo biti interesantno u ovom radu jeste uzorak ispitanika koji svojim karakteristikama i dobi može uvijek ponuditi nove i zanimjive činjenice. Dob koja proizvodi velike promjene u organizmu i koji mogu izazvati i različite fenomene. Uzorak ispitanika u ovom istraživanju su djeca nogometaši čija je uzrasna dob 14, 12 ±0,93 godina. Svi ispitanici su pripadnici omladinske škole FK Krajina Cazin i članovi kadetskih selekcija. Iz toga je i uzet uzorak od 120 ispitanika. Ispitanici su uzeti iz škole nogometa FK Krajina – Cazin, NK Jedinstvo – Bihać i NK Krajišnik – Velika Kladuša. Uzorak varijabli ovog rada su varijable bazično motoričkih sposobnosti. kao prediktori(17) i varijable uspješnosti u nogometnoj igri kao kriteriji(8). Na osnovu statističkih pokazatelja – regresionom analizom utvrđen je utjecaj pojedinačnih motoričkih varijabli. Pokazalo se kako sustav prediktorskih varijabli koji se sastojao od bazično motoričkih sposobnosti ima statistički značajnu povezanost (p>0,05) s mjerenim pokazateljima uspješnosti u igri, te se može primjetiti da najveći i statistički značajan utjecaj na kriterijske varijable ima MKLSNL – slalom nogama sa dvije lopte, sa značajnosti na nivou .01. Varijabla koja se izdvojila determinira latentnu dimenziju koordinacije. Pa sa sigurnošću možemo raći da sve kretnje i sve ono što se dešava za vrijeme igre je determinirano koordinacionim sposobnostima, bilo da se radi o igri u napadu ili odbrani.

Ključne riječi: **utjecaj, bazične motoričke sposobnosti, uspješnost u igri, nogometaši**

Introduction

Modern football requires players to express a high fitness level, technical and tactical efficiency, football universality and talent in order to achieve better and more efficient results. The development of football and football players' skills, as widely understood as a social phenomenon is connected with the development of sports results. (Michels, 2002). Nowadays, a tendency for constant proof and achieving results is present and the fact that limits of human capability are constantly moving ahead. Football is one of the polystructural sports activities, it is characterized by cyclical and non-cyclical movements' type, where the movements' habits are very rich, variable and complex, and require the player of specific and general skills. For example, during one match, top players make on average between 1200 and 1400 various changes of activities, changing them every 4-6 sec (Verheijen, 1998) and all these movements are applied in terms of cooperation between teammate and opponent's team players.

Basic motor skills are called one man's ability involved in solving the cause of motor tasks and require a successful move, regardless of whether they were acquired by training or not, (Malacko & Radjo, 2004). During a football match, football players run, change directions of movement, run into duel and jump. All of these require exceptional basic mobility base, based on which we can say that motor skills predict results of success in football, what is also proved by many researches made (Verdernik, 1981; Jerkovic, 1986; Molnar et al., 2007; Rienzi et al., 2000; Reilly, et al., 2000; Real, 2000; Corluka, 2005; Osman, 2007; Jerkovic, 1986).

The success in the game, players realize by manifestation of a large number of skills and knowledge, their structure and level. Mentioned skills and qualities are called the factors of success, based on previous research by (Talović, 2001) there are hierarchically three groups of factors for success in a football game: The first group consists of factors that are manifested through basic anthropological characteristics and abilities of players, primarily referring to health status, motor skills, functional skills, cognitive and conative factors as well as morphological characteristics. The second group of factors for success in a football game consists of the specific theoretical knowledge, technical and tactical capabilities, specific motor skills, etc.
The third group consists of situational factors of success and effectiveness of results achieved in the competition. So, many studies have already proven, despite the influence came to the

conclusion that tests of these abilities can be a remarkable tool for the selection and control of readiness of players during the training process. The main goal of this scientific research is to determine the influence of basic motor skills on one side, and success in the game for players aged 13-15 on the other side. It is therefore a primary objective to determine the impact predictor system of basic motor skills on the success of football players during a football match at the age 13-15 years as the criterion, and thus to determine which abilities-tests predict the criteria.

Methods

Sample of the examines
The subject sample in this study were youth football players aged 14, 12 ± 0.93 years. All of them were members of youth school FC Cazin Krajina and members of cadet selection from which the sample of 120 respondents were taken from the football school FC Krajina - Cazin, FC Jedinstvo - Bihac and FC Krajisnik - Velika Kladuša.

Sample of the variables
The pattern of variables (Kurelić et al., 1975) in this study are the variables of basic motor skills. As predictors (17) and situational variables of motor abilities as a criterion (11). Basic motor skills: The variables to estimate the speed, MFE20V - running at 20 meters - high start, MBFTAN - foot taping MBFTAZ - taping the foot against the wall; Variables for assessment of explosive strength, MFESDM – foot long jump MFESVM – foot high jump, MFETRO - triple jump; Variables for estimation of repetitive power MRESKL - push-ups (body lifting), MRCDTS - raising the body from lying; Variables for assessment of balance, MBAU1O - standing on one foot lengthwise on the bench for balance, MBAU2O - standing on two feet longitudinally on the bench with eyes open, MBAP2Z - cross standing on a low bench with two legs and eyes closed; variables to estimate coordination, MKLSNL - slalom with two balls, MAGKUS - side steps, MKTOZ - agility in the air; Variables to estimate flexibility, MFLPRK - forward bend on the bench, MFLPRR - Bent-discrepancy, MFLBOS - lateral string.

Estimation of the success in football games were carried out by three independent assessors using a technique of matches observations, which are based on subjective impression rate separately for each participant scores in the range of 1-5. Criteria of evaluation were consistent. Independent assessors have had the appropriate qualifications to work in football. Data were entered into the jury list. Variables: are the following: SNNAP - performance management game in the attack; SNOBR - evaluation of performance management game in the defense; SNTEH - evaluation of performance management techniques; SNSTV – evaluation of creativity; SNODG – evaluation of responsibilities; SNANG - evaluation of engagement; SNPON - evaluation of conduct; SNUSP – evaluation of general performance management in the football game.

Procedure
Time and measurement was in accordance with soccer cells placed in a circle. A special care was also taken into the account of breaks that were adequate and long enough in order not to distort the work of the next test. Testing was always carried out by the same group- experts, professors of sport and a job of managing and the author performed monitoring. Dates of testing were 10:30h to 15:30h during day.

Data analysis method
Certain predictive values were evaluated by regression analysis (Dizdar, 2006). The following factors were calculated:

1. Standard errors in forecasting (Std. Error of estimate)
   2. Multiple correlation and coefficient of determination RO and RO2,
   3. Correlation among the predictor variables and criterion variables - PART-R,
   4. Coefficients that are standardized and non standardized predictor variables,
   5. The value of the F-test – used to perform testing of statistical significance of multiple correlation F
   6. Non standardized regression coefficient of predictor variables,
   7. The level of coefficient multiple correlation importance,
   8. The standard errors of regression coefficients of predictor variables $ß_e$,
   9. The level of significance of regression coefficients of Pß,
   10. The importance and value of the test t, role and importance of the regression coefficients of t.

Results and Discussion
Having an insight into the regression analysis in the area of criterion variables of success in a football game we can notice sufficient information about the impact of applied basic mobility variables on the criterion variable that determines the success in a football game (Table1).

Correlation of predictors with the criterion variable was R = .57, and explained 33% of common variance with the criterion. Such a relationship is at level .01.

The analysis of the impact of individual mobility variables (Table 1), one can see that the largest and statistically significant impact on the criterion variables has MKLSNL - slalom with two balls, with significance level .01, The variable with the largest statistically significant effect determines the latent dimension of coordination.

To successfully play in attack or defense, at any position in the team, significant players` motor skills are: speed, coordination, flexibility, explosive and repetitive strength. Successful action in the attack phase requires creating space for himself and teammate, dribbling, which is conditioned by coordination, running speed, change direction, reaction time speed whether the player possesses a ball or not. When we join all these movements to a player during the match who possesses the ball which he has to control, it is clear how much the game is complex and what requirements are placed in front of a player who needs to make quick and appropriate decisions in situations that are in a football game ever new. (Michels, 2002) Football technique involves biomechanical performance, proper and effective structure of its motions that are inseparable contents of a football game. For players with a high level of technical ability and pace, the rhythm of movement is highly rational and consistent. Some of the movements also have their own rhythm and duration without violating the integrity of the movement. The movements of players are characterized by great precision and certainty, where an excess of attention can be focused on the new flow of movement and action that follows dribble, kick the ball,etc.(Dujmović,2000)

Therefore, this is another confirmation that it is necessary for children of this age to adapt training process. This variable is an indicator that there will be no transformation without training and the training process itself if game is not adapted to this age. What

Table 1. Regression analysis in the area of criterion variables of success in a football game

		Part-R	β	βe	B	Be	t(101)	p-level
		R = 0.57, RO² = 0.33, F(13, 100) = 2.92, p < 0.00, Std.Error of estimate: 0.62						
	Intercpt				2,14	2,98	0,71	0,47
1.	**MFSDM**	0,07	0,09	0,12	0,00	0,01	0,76	0,43
2.	**MFETRO**	- 0,01	- 0,01	0,13	0,00	0,00	- 0,13	0,88
3.	**MFESVM**	- 0,12	- 0,10	0,08	- 0,01	0,01	- 1,20	0,22
4.	**MFE20V**	0,05	0,05	0,13	0,13	0,34	0,38	0,72
5.	**MBFTAZ**	0,09	0,09	0,11	0,04	0,04	0,79	0,45
6.	**MBFTAN**	0,21	0,22	0,12	0,08	0,04	2,02	0,06
7.	**MKLSNL**	- 0,35	- 0,41	0,12	- 0,09	0,04	- 3,59	**0,00**
8.	**MAGKUS**	0,12	0,13	0,11	0,15	0,12	1,20	0,23
9.	**MKTOZ**	- 0,13	- 0,15	0,11	- 0,24	0,17	- 1,40	0,15
10.	**MRESKL**	- 0,16	- 0,21	0,12	- 0,02	0,02	- 1,60	0,12
11.	**MRCDTŠ**	0,12	0,15	0,13	0,01	0,01	1,18	0,24
12.	**MFLPRK**	0,07	0,07	0,12	0,03	0,03	0,59	0,58
13.	**MFLPRR**	0,00	0,00	0,12	0,00	0,01	0,04	0,97
14.	**MFLBOS**	- 0,13	- 0,13	0,12	- 0,02	0,02	- 1,21	0,24
15.	**MBAU2O**	0,05	0,05	0,10	0,02	0,04	0,48	0,64
16.	**MBAP2Z**	- 0,02	- 0,02	0,11	- 0,02	0,09	- 0,15	0,89
17.	**MBAU1O**	- 0,01	- 0,01	0,09	- 0,01	0,07	- 0,10	0,92

is the role of a football game proves the fact that regardless of the conditions and place, the best that can be experienced at this age is that they constantly practice a game with a competitive spirit. The game offers and performs all known movements in football: Radosav, Jerković, Talović and others are the authors who have dealt with this issue and sought to determine the impact or association of basic-motor abilities on the success of the football game which is defined by variables of football games: assessment techniques, evaluation of the tactics of attack and defense, the assessment of creativity, responsibility and conduct in the game. All data obtained showed the dominant influence of coordination and other skills such as speed, dynamic strength, which has greatly helped to improve the selection and control of training players.

Conclusion

In order to have a dance in the XXI century, it requires a specific and high skill level but also knowledge. All the activities of players in the game or out can be estimated on the basis of a distance run at different pace and based on the number of performed technical-tactical elements.

Psychosomatic status, which includes all the features and performance capabilities of a man, changed by its physical activity, is multidimensional and always responds in a systematic or random influences from the environment as a whole. Although the effects

of physical activity were largely reflected in the motor area, necessarily and inevitably there will be changes in other circuits.

References

Bajramovic, I. (2008). Levels of the transformation of motor abilities and performance in football players under the influence of programmed work, Master thesis, Faculty of Sport and Physical Education, Sarajevo.

Corluka, M. (2005). Effect of basic motor-skills on the success of soccer players aged 12-14. Master thesis, the Faculty of Sports and Physical Education, Sarajevo.

Dujmovic, P. (2000). School football. Zagreb.

Dizdar, D. (2006). Quantitative methods. Faculty of Kinesiology, University in Zagreb.

Jerkovic, S. (1986). Relationships between morphological and motor abilities with efficiency in football for players aged 12-14. Doctoral thesis, Faculty of Physical Education, Zagreb.

Kurelić, N. (1975). Structure and development of morphological and motoric dimensions of youth. Institute for Scientific Research, Faculty of Physical Education, Belgrade.

Michels, R. (2002). Team Building the Road to Success. Reedswain.

Mikic, B. (1999). Testing and Measurement in sport, the Faculty of Tuzla.

Molnar, S., Popović, B., & Smajić, M. (2007). Relations between basic mobility and individual variables specific motor skills of boys in a football school. Original scientific papers and "New Technologies in Sport 2007", Faculty of Sport and Physical Education, Sarajevo.

Radosav, R. (1990). Choosing the boys for football based on longitudinal monitoring and directing the development of basic and specific motor characteristics and abilities. Doctoral thesis, Faculty of Physical Culture, Novi Sad.

Rienzi, E., B. Drust, T. Reilly, J. Carter, and A. Martin. (2000). Investigation of Anthropometric and work-rate profiles of elite South American International soccer players. J. Sports Med. Phys Fitness. 40: (2) 162-9.

Reilly, T., Bangsbo, J., & Franks, A. (2000). Anthropometric and Physiological predispositions for elite soccer. Journal of Sports Science, 18, 669-683.

Verdernik, Z. (1981). Relationship nekaternih latent manifest in psychomotor spremenjikov of success v football game. The master deed, Faculty of Physical Education, Zagreb.

Verheijen, R. (1998). Conditioning for Soccer, Spring City, Reedswain Publishing.

Real, J. (2000): Special endurance of players and its effect on TE - TA abilities of young players. Master thesis, Faculty of Physical Education, Zagreb.

Correspodence to:
Assist. Eldin Jelešković, M.Sc.
Faculty of Sport and Physical Education, University of Sarajevo
71 000 Sarajevo, Bosnia and Herzegovina
Phone: +387 33 668-768
E-mail: jela_13@hotmail.com