

## Study on the content of sports training young football players 17 -18 years, in private sports clubs

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### Abstract

Theoretically, this paper offers a complementary, applied scientific research, regarding the development of juniors specific speed, one of the more important aspects to be considered in current soccer game conditions. In soccer, speed directly affects the player's ability to move his body in the shortest amount of time and for the optimal distance. Thus, the player's speed has the same physiological and biochemical mechanics and the same underlying particularities as every other manifestation of speed. Still, there are aspects that concern the soccer player's speed in particular, as we have previously shown, there are specifics that separate this type of speed from that of the athlete or of the volleyball player. From a professional point of view we can clearly state that speed has different qualities depending on the type of sport in which it is used. In consequence it is a subject of high interest for all branches of the sport world, and has a decisive impact when trying to achieve performance. The purpose of this paper is to investigate the means of improving the game speed of junior soccer players between 16 and 18 years of age, who are already in an advanced state of training, through a set of given tasks. The reason for choosing this subject is based on the need of finding and testing a model of developing speed in juniors of that age so that better results in their training can be obtained.

*Keywords: speed, development, experiment, performance*

### Rezumat

Prezenta lucrare oferă, considerăm noi, o completare pe plan teoretic a cercetărilor științifice cu caracter aplicativ, prezentând unele aspecte cu privire la dezvoltarea vitezei specifice a juniorilor, fapt deosebit de important în condițiile jocului de fotbal actual. În fotbal, viteza reprezintă aptitudinea jucătorului de a-și deplasa corpul sau un segment în minimum de timp. Deci, viteza jucătorului de fotbal are același mecanism fiziologic și biochimic, același substrat comun tuturor formelor de manifestare a vitezei. Totuși, viteza fotbalistului are anumite particularități, așa cum am arătat anterior, un specific care îl deosebește de forma concretă a vitezei atletului, voleibalistului etc. Din punct de vedere sportiv, subliniem că viteza este specifică fiecărei ramuri de sport. De aceea, ea reprezintă un interes deosebit pentru toate ramurile sportive, aportul ei în realizarea performanțelor fiind determinant. Scopul acestei lucrări este să investigheze modul în care putem să îmbunătățim viteza de joc în fotbal, la juniorii de 16-18 ani care se află într-un stadiu avansat de pregătire, prin aplicarea unui set de exerciții. Motivația alegerii acestei teme are la bază și dorința de cunoaștere a unui model metodic pentru dezvoltarea vitezei la juniorii de această vârstă, care să aducă rezultate pozitive în instruirea tinerilor fotbaliști.

*Cuvinte cheie : viteza, dezvoltare, experiment, performanță*

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## Introduction

The present paper offers, we believe, a theoretical addition to applicative scientific research, presenting some aspects relating to specific speed development in juniors, which is particularly important in the context of the current football game.

The reason for choosing this theme is based on the desire to develop a better knowledge of a methodic model for speed development in 16-18 years juniors, which would bring positive results in training young footballers. [1-3]

In football, speed represents the player's ability to move his body or a segment of it in minimum time. Thus, the speed of the football player has the same physiological and biochemical mechanism, the same substrate common to all forms of speed manifestations. However, the footballer's speed has certain particularities, as we have shown above, particularities that distinguishes it from the concrete form of, for example, the athlete's or the volleyballer's speed. [4, 5]

Speed as psychomotor ability is stable, being very little perfectible, as it is genetically fixed. However, improvements can be made by developing and perfecting other psychomotor abilities, especially strength, but also skill, endurance and muscle flexibility, joint mobility, as well as other factors such as simplified execution technique, reactive processes etc.

Native speed of players, specific for each individual, is a result of alternating contraction and relaxation of muscles in general. Its existence determines the selection of a player, because training cannot develop speed sufficiently if the native level is not adequate. [6-8]

Individual speed of handling the ball (taking over, control and passing the ball). Speed training must be organized and conducted by the coach with the aim of developing game speed with the ball. As the ball travels faster, the game speed is higher, which is a feature of the modern football.

Tactical speed of the team's game is equally important, and, to this end, the speed training must be organized and conducted by the coach with the aim of developing game speed with or without the ball. [9,10]

## Aim

The aim of this paper is to investigate the methods of improving game speed in football, in 16-18 years old juniors, which are in an advanced state of training, by implementing a set of exercises.

In terms of sports, we emphasize that speed is specific to each sport branch. Therefore, it is of particular interest to all sport branches, its contribution in achieving performance being decisive.

## Material and method

The application of a methodical model of specific speed development in junior footballers, 16-18 years old, will result at the end of the experiment in raising the general and specific speed indicators compared to a witness group, as well as in increasing the game efficiency.

The conception of the specific speed development model took into account the specific effort of the football game, as well as the characteristics of the motor actions with and without the ball.

Reaction speed:

- Running in 4/4 tempo in a variable limited space of 10/10m to 15/15m, in a variable time, between 5 and 10 seconds.
- Driving the ball in a limited space, in a 4/4 tempo, with randomly placed poles in the space, with the player feinting and passing by the poles in a random advancement.

## Execution speed

Shooting 5 balls arranged at 16m in line towards the goalpost.

## Repetition speed

Running 10-60m in 4/4 tempo starting in different positions

Driving the ball for 10-30m in 4/4 tempo

Repeating simple game actions in 4/4 tempo, 3-4 times, in limited spaces.

The experiment was held in Timisoara and the training and game process took place on the FC Poli Timisoara sport grounds. The experiment lasted for a year, starting on 01.05.2005 and ending on 15.05.2006.

The experiment consists in studying 15 players belonging to the 1<sup>st</sup> junior group of FC Poli Timisoara, born between 1988 and 1989.

The witness lot is constituted of the equivalent group of CSS Timisoara, also 16-18 years old juniors.

The control tests used within the experiment to evaluate the efficiency of the suggested specific speed development model include:

Speed running "round-trip" on 10m distance  
Speed running on 20m distance

Speed running on 30m distance

Speed running on 50m distance

The respective distances were timed and the achieved times were registered in tables in seconds and hundredths of seconds.

## Results

### Speed running 2x10m

For this run, the evolution of the recorded times, more precisely the evolution of their arithmetic average, for both lots is presented in table I.

**Table I.** Speed running 2x10m results

FOCUS GROUP	TESTS		
	I	II	III
EXPERIMENTAL LOT	4.11	3.93	3.84
WITNESS LOT	5.05	4.95	4.92

A steady upward trend (in the sense of improved results) is observed for both lots, with the specification that a qualitative leap of over two tenths is noticed in the experimental lot compared to a tenth in the witness lot at the intermediary test and of a tenth in the final test in the experimental lot compared to only three hundredths in the witness lot.

Central tendency and dispersion parameters that were calculated within this test are presented in table II.

**Table II.** Speed running 2x10m results analysis

FOCUS GROUP	TEST	X	W	MDN	M
EXPERIMENTAL LOT	I	4.11	0.70	4.01	4.00
	F	3.84	0.65	3.75	3.75
WITNESS LOT	I	5.05	1.80	5.00	5.00
	F	4.92	1.79	4.88	4.88

Legend: X: initial, W: amplitude, MDN: medium, M: finale

These data demonstrate that the amplitude of the phenomenon decreases during the experiment for both lots, and more strongly in the experimental lot.

### Speed running 20m

The arithmetic averages of the results achieved in the three tests are presented in table III.

**Table III.** Speed running 20m results

FOCUS GROUP	TESTS		
	I	II	III
EXPERIMENTAL LOT	3.41	3.36	3.34
WITNESS LOT	4.17	4.07	4.05

A positive trend is noticed for both lots, stronger for the witness lot, even though the results are not as good as the ones achieved by the experimental lot.

Mathematical statistical indicators calculated for this test are as follows:

**Table IV.** Speed running 20m results analysis

FOCUS GROUP	TEST	X	W	MDN	M
EXPERIMENTAL LOT	I	3.41	0.75	3.40	3.43
	F	3.34	0.79	3.34	3.37
WITNESS LOT	I	4.17	1.47	4.25	4.00
	F	4.05	1.49	4.14	3.87

The phenomenon's amplitude for the experimental lot is decreasing in the final test compared to the initial one, 0.80-0.71, while for the witness lot it increases, 0.82 – 0.85.

The median coincides with the module in the final test of the experimental lot - 4.32 – and in the initial test for the witness lot -5.10.

### Speed running 30 m

For this test, the arithmetical averages are presented in table V.

**Table V.** Speed running 30m results

FOCUS GROUP	TESTS		
	I	II	III
EXPERIMENTAL LOT	4.57	4.39	4.30
WITNESS LOT	5.11	5.02	4.96

A steady improvement is noticed for both lots, with better results for the experimental lot, which registers 4.30 in the final test compared to the witness lot, which registers a result of 4.96.

The parameters calculated during this test are presented in the table VI.

**Table VI.** Speed running 30m results analysis

FOCUS GROUP	TEST	X	W	MDN	M
EXPERIMENTAL LOT	I	4.57	0.80	4.60	4.50
	F	4.30	0.71	4.32	4.32
WITNESS LOT	I	5.11	0.82	5.10	5.10
	F	4.96	0.85	4.95	4.91

The phenomenon's amplitude for the experimental lot decreases in the final test, compared to the initial one, 0.80-0.71, while it increases for the witness lot, 0.82 – 0.85. The median coincides with the module in the final test of the experimental lot, 4.32, and in the initial test for the witness lot, 5.10.

### Speed running 50m

The evolution of the registered times (arithmetical average) for this test is presented in the table VII.

**Table VII.** Speed running 50m results

FOCUS GROUP	TESTS		
	I	II	III
EXPERIMENTAL LOT	6.99	6.79	6.49
WITNESS LOT	7.42	7.32	7.18

A more rapid improvement is noticed in the second test compared to the initial one, 6.99-6.79, in the experimental lot, its performance increasing towards the final test, 6.79-6.49, with three tenths. The same is noticed for the witness lot, 7.42-7.32, with a result of 7.18 in the final test, hence an improvement of 14 hundredths.

Central tendency and dispersion parameters that were calculated within this test are presented in the table VIII.

**Table VIII.** Speed running 50m results analysis

FOCUS GROUP	TEST	X	W	MDN	M
EXPERIMENTAL LOT	I	6.99	0.20	7.00	7.00
	F	6.49	0.20	6.50	6.50
WITNESS LOT	I	7.42	1.00	7.37	7.00
	F	7.18	1.10	7.07	7.00

The phenomenon's amplitude remains constant for the experimental lot, 0.20, while it increases for the witness lot 1.00-1.10; also, as an assessment, it is bigger for the witness lot.

### Conclusions and suggestions

The specific speed development model in football for 16-18 year juniors has allowed and supported the progress of the experimental lot to this end.

The results of the control tests shows the progress of both tested lots, with a plus in favor of the experimental lot.

The graphic representation of the achieved results indicate a significant progress in the 30m and 50m speed running tests; therefore, we draw the conclusion that the repetitive speed was developed mainly, as well as the development of the reactive and execution speed, in lower percentages.

A faster improvement of the speed can be noticed in the first part of the experiment, while in the second part, the evolution is slower.

The work's hypothesis has been confirmed by the better results achieved by the experimental lot compared to the witness lot.

We suggest introducing speed development exercises in the training, with unusual starting or intermediary positions, more difficult, but often seen in the football game, which, through a rapid and adequate execution, can "change the result".

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