3. The diets that are low in calories may reduce body weight on the long-term to a small extent, if they are not supported by physical activities.

4. The combination of diet and constant exercise are the most recommended because they guarantee the loss of weight and a decrease in the level of body adiposity, improving at the same time the respiratory functions of the body, improving the effort capacity and the specific motor abilities.

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EXPERIMENT ON THE TRAINING OF JUNIOR FOOTBALL PLAYERS UNDER 17 ACTING IN THE CENTRAL AREA OF THE FIELD

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Abstract

The central area of the field, also named the "laboratory" or the "brain" of a team, urged the experts to search for new training solutions for a high performance of junior players in competitions. The statistics show that it is in the central area of the field that the ball is mostly touched, and the domination of this area overwhelmingly determines who will be the winner.

In this context, our experiment has designed a differential training program, based on methods and means used to improve the physical and technical preparation by football specific means, that will finally lead to an increase in the number and efficiency of actions in the central area.

Keywords: training, football, central area, junior players.

Introduction

The latest statistics regarding the way of scoring goals, both in the last editions of the World Championship and in the strong European leagues, show the fact that teams have restarted working more and more intensely on the actions in the cetral area of the field.

This is mainly due to the playing system which uses players, whose dominant foot is opposite to the area they act in. The increase in the number of actions initiated and developed in the central area have lately led to new approaches regarding the training of junior players, who play in the national leagues, precisely to prepare their future evolution, from the perspective of their football training. For this reason, the coaches' way of thinking (F. Gaspar; J .Lopez; M. Mazzantini; S. Bombardieri; D. Apolzan; V. Stanculescu; G. Neta) as well as the players' have evolved, new solutions being a necessity, solutions to make them deal with the situations occuring during the game. In our country, the practitioner coaches (G.Manolache; A.Dragan; C. Ploesteanu; students for various bachelor degrees) have also discussed about the importance of the children, junior and young players' division. Important ideas resulted from these discussions:

-for junior players under 17, the modern training resembles the training of the first team; it aims at making junior players adapt to the professional concept of senior players.

- each training session is seen as a way of complying, as much as possible, with the content and the form of the game.

- during trainings sessions we must focus on differential training, according to the particularities of the player and the physical effort that is specific to the acting area for maximum performance.

Purpose of the study

It is intended to confirm the increase in the performance of junior players under 17, who act in the central area, by applying a differential training program.

Hypotheses of the study

1.Whether the implementation of the differential training program for the central area will lead to an increase in the physical and technical performance of players and implicitly of the team, with favorable results in the final results.

2.To what extent, the used means and methods influence the increase in the physical and technical preparation level of central area players.

Aims of the study

Design a training program to develop central area specific acting skills for junior players under 17.

Apply the experimental program according to the physical and technical resources of junior players under 17, to increase sports performance.

Materials and Methods

Research Organization:

This study took place during a return competition (January 2015- July 2015) and it included:

-Organize and coduct the tests. Periodize the research testings:

1- initial test – during 10th-15th January 2015, to see the initial values of the studied parameters;

2- intermediate test – during 6th-10th April 2015.

2- final test – during 26th- 31st July 2015.

The groups included in the research are the following:

- Experimental group : ASCM Dunărea Galaţi –junior players under 17, central midfielders, 7 players

-Control group: LPS Galaţi – junior players under 17, central midfielders, 7 players

Site of the experiment:

The experiment took place on „Dunarea 2" and „Siderurgistul" fields of Galaţi, where there is an artificial turf playing surface, so that the training of the two teams has not been influenced by weather conditions.

6 tests were applied in order to analyze the physical and technical parameters. The tests were conceived using the model of the **FRF**

Table 1. Qualities/Positions of players

PLAYER' POSITION IN THE FIELD	PHYSICAL	TEHNICAL	TACTICAL	MENTAL
CENTRAL MIDFIELDERS	Endurance (aerobics) Strength–duel Mobility	Defense techniques Pass Takeover and oriented control Dribbling to relaunch	Positioning and movement know-how Anticipation Delayed backing Pressing	Determination Modesty/Humblenes s Cooperation Will

The following tests were used:

Physical Tests:

1.Strength – vertical expansion

Measure the standing vertical expansion

MATERIAL: tape measure, sticker paper

SETUP: The first 4 meters of a tape measure are fixed on the wall by the use of sticker paper. The zero point is placed in the angle between the ground and the wall. We choose a smooth wall for this.

SEQUENCE:

a) The player stands up, facing the wall with the tape measure on it and raises arms as high as he can over his head, on both sides of the tape measure. The coach checks if:

- The player's tiptoes touch the wall;
- his feet are stuck to each other;
- his heels stay on the ground;
- the player stretches as much as possible (thighs, chest and forehead touch the wall; the coach can eventually press on the player's scapulas);
- the coach records the height level touched by the upper extremity of the player's fingers (level 1, measured by centimeters);

b) The player stands laterally to the wall, then jumps, from the sanding position, feet together, touching the tape measure as high as possible. The coach writes down the height (level 2, measured by centimeters). In order to ease the perception of this height, the player may mark his fingers with chalk.
ASSESSMENT: The coach calculates the difference between the two measured heights, the best jump, and the distance he gets represents the player's vertical expansion.
PENALTIES: The jump is not valid if: the player executes one or more standing jumps before the jump proper;
ATTEMPTS: 3, the best is recorded.

2. Strength – horizontal expansion
Standing long jump
MATERIAL: tape measure
SETUP: A tape measure is fixed on the ground (not on a very rough surface) (gym, grass, running track, etc). The start line must be marked by a line (e.g.: end line of a field – inside or outside). This line must be perpendicular on the tape measure and it must not be touched by players before or during the jump. The „zero" point of the tape measure is fixed on the closest side to the player.
SEQUENCE: The player must execute a standing jump, feet together, as far as possible.
ASSESSMENT: The jump is measured by centimeters, from the outer edge of the start line to the farthest point of the landing place.
PENALTIES: The jump is not valid if: the player executes one or more standing jumps before the actual jump; the player steps on the start line.
ATTEMPTS: 3, the best is recorded.
3.Endurance - 12 min running
MATERIAL: Stopwatch, paper, pencils, file.
SETUP: 300m or 400m athletics circular track if possible.
OTHER POSSIBILITIES:
- circular track around a football field;

SEQUENCE: On the command „ready", players go to the start line, without touching it. On whistle signal (or other acoustic signal) they go through the longest distance possible for 12 min.
ASSESSMENT: Timing stops the moment the runner's chest goes over the finish line. The distance is calculated by adding the number of complete laps and the extra fraction.
ATTEMPT: 1

Technical tests:
1.Heading the ball
Marking: A 5/5m square is drawn. The gate measures 5m.
Sequence: The player must perform 6 headings of a ball thrown by an assistant.
Rules:
- The first three headings are performed to score in the lower rectangle, the other three to score in the upper rectangle
- The player must be moving, behind the 5m line. A successful attempt = 20 points.
- The ball can touch the ground before entering that specific area.
- If the ball touches the tape and enters through the correct space = valid recorded attempt. The player is entitled to one practice attempt.

Result: No. of successful shots x 20 pts.
Attempts: Two, the best is recorded.

2. Long pass

Marking: The 5m square must be visible (space markers, cones)
Sequence: The player must execute 3 long passes in the 5m square, from a 25 m distance.
Rules:
- THE BALL is static. THE BALL falling on the square line = success.
- SUCCESSFUL LONG PASS = 40 pts.

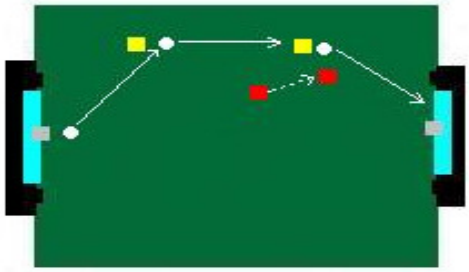
Result: Sum of the points.
Attempts: Two, the best is recorded. The players can have a practice attempt.

3. Shot at goal – precision.

Marking: A normal-sized square, ball placed at 11m away from the gate in the central area.
Sequence: The player executes 6 shots.

Rules: The ball must enter the gate by air (direct air trajectory).
Result: Sum of the points.
A SUCCESSFUL SHOT: 20 points → RIGHT, UPPER LEFT; 10 points → RIGHT, LOWER LEFT; 5 points → UPPER CENTRE

Experimental Program :
The experimental group worked according to a two-day per week schedule: on Tuesday and Thursday, a training session taking 90 minutes. A training program based on games and exercises specific to the central area was applied. Actions and games were practised under active conditions starting with 1x1, 2x1 and developed up to 5x5 or 6x6, with exact tasks resulting from the concept of play.
Types of exercises
1x1 Game
In the 20x20m square, with goalkeepers.
An area close to that of a regular field. The goalkeeper gives the ball to his teammate, who must finish very quickly. The defensive player tries to prevent him from scoring.

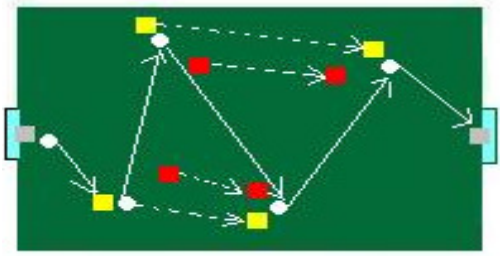


2x1Game One gate, on areas specific to the combinations in the field (Mc+At x Fc)

The player with the ball leaves away 40m from the gate, and the defensive player leaves the end line. The purpose is the same as that of the square game, but the finishing happens in the game.

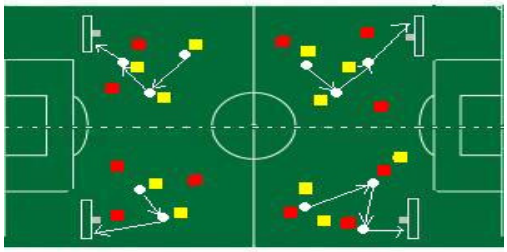
2x2 Game

In the 30x25m square, two gates with goalkeepers.
In the areas the players act during the official matches.



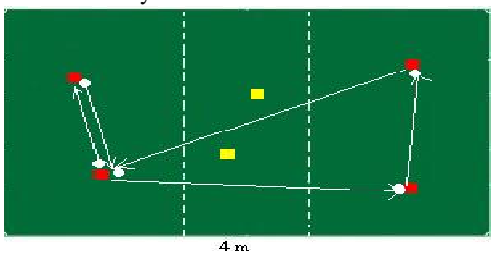
3x2; 2x3;3x3 Game

With finishing on one gate, in different areas. They play in the areas the players act during the official matches. Methodical issues – free number of touches 3,2,1 touches. The players must find solutions as such situations may arise both on attack and defense sequences (numerical superiority, equality, inferiority). The basic weapons are the following: Dribbling; Speed of the combination; Finishing; Strength to fight. All players must experience all forms of the game.



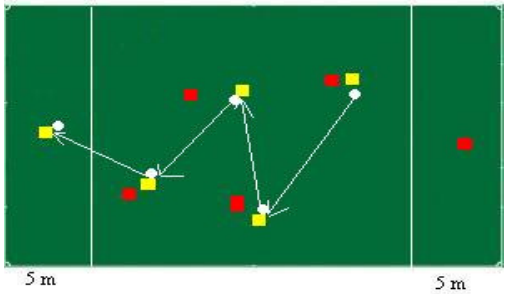
4x2 Game

In a 20x15m rectangle, with a 4m area in the middle.
The 2 players in the centre try to prevent the other players from passing the ball among them. Single touch play. The players in the centre cannot enter the other areas and vice versa.
We record the number of times the opponent players manage to pass among them. The players next to the line may be helped by 2 players that can move only within the central area.



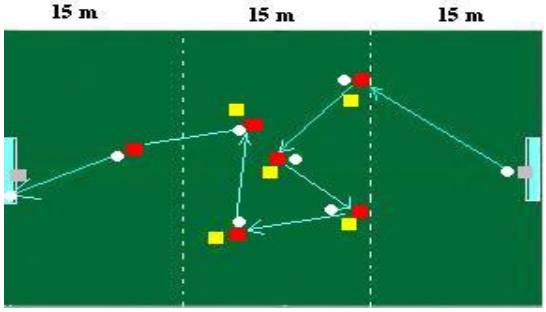
5x5Game

In a 40x30m square, 4 players in the centre and one player from each team on the side. They are supposed to pass the ball to the teammate in the delimited area.
The pass in the area can be executed after a certain number of successive passes. The players in the centre can play of 3,2,1 touches, and the ones on the side 1 or 2 for the long pass.



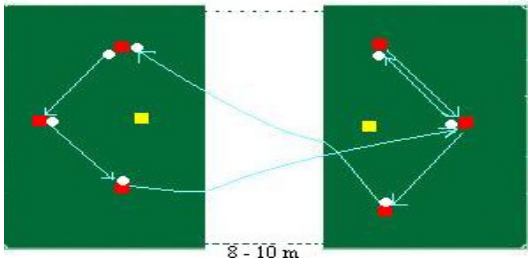
5x5 Game

In a 45x30m square, at 2 regular gates with 2 goalkeepers. They play in the middle of the square to be able to dribble in narrow spaces. After a certain number of passes, a midfielder who has dribbled an opponent may enter the finishing area in a 1x1 situation with the goalkeeper.



6x2 Game

In 2 squares of 20x15m an 8-10m distance between them.They play three against one in each square. They play by one touch. After 3-4 passes they use the long pass from one square to the other. If the player in the middle takes the ball back, the one who passed the ball in a worng way goes in the centre.



5x5 or 6x6 game

Game in the 16m square, on one gate, with a goalkeeper and players on the sides, towards the center of the field, one for each team. The game sequence is the following:

- The ones on the side pass only to their team, from one or from two touches only if they change the game by long pass;
- The ones in the middle play: 3, 2, 1 – touch;

5x5 or 6x6 Game

The same positioning as the above exercise only that two gates are placed in the extremity of the corners.
One regular gate and two small gates (5/2m) with goalkeepers.
The playing area varies according to the number of players.
The players who attack the big gate get 1 point – if they score from an individual action or shot at goal from a distance, 3 points if the score from head cross.
The players attacking the small gates can only score by heading the ball.

The Control Group trained using a program truly representing the content of the game globally, by all its offensive components.
Statistical Methods used. According to the established purpose, data was collected and then processed, so that we could get, in an appropriate statistical manner, the information proving the veracity of the experiment. The differencies between the control group and the experimental group were examined using the t *test (Student)* and the *Man-Whitney test for the two independent parts.*
The statistical tests, comparing the average and the ranking values were used through *SPSS for Windows* programme, variant 15.
Findings and Results

The results of the research have confirmed the validity of the training programs that are specific to the central area, showing a special progress of the experimental group compared to the control group. Statistically important differences ($p<0,05$) were obtained at the final test for the experimental group, on both physical and technical tests.

Results of the physical tests.
Initially, between the two groups there was no significant difference regarding the performance ($p > 0,05$); this was, in fact, one of the pre-experimental conditions. But at the intermediate and final test, **the differences between the two groups were statistically significant** ($p < 0,05$). At the intermediate test, the average

performance of the athletes in the experimental group (318.75 points – total score for physical tests) was significantly better than the average performance of the athletes in the control group (293.75 points – total score for physical tests). Furthermore, at the final test, the average performance of the athletes in the experimental group (433.75 points – total score for physical tests) was significantly better than the average performance of the athletes in the comtrol group (361.25 points – total score for physical tests).
The results mentioned above are illustrated in the summary table of the statistical test and the diagram of the average results, as follows.

Table 2- Total score – physical tests. t test for two independent groups (MC) on successive tests

Test	group	average	Difference between average values	T score	p
Initial test	EG	223.75	-7.50	-0.590	0.577
	CG	231.25			
Intermediate test	EG	318.75	25.00	2.626	0.039
	CG	293.75			
Final test	EG	433.75	72.50	6.206	0.001
	CG	361.25			

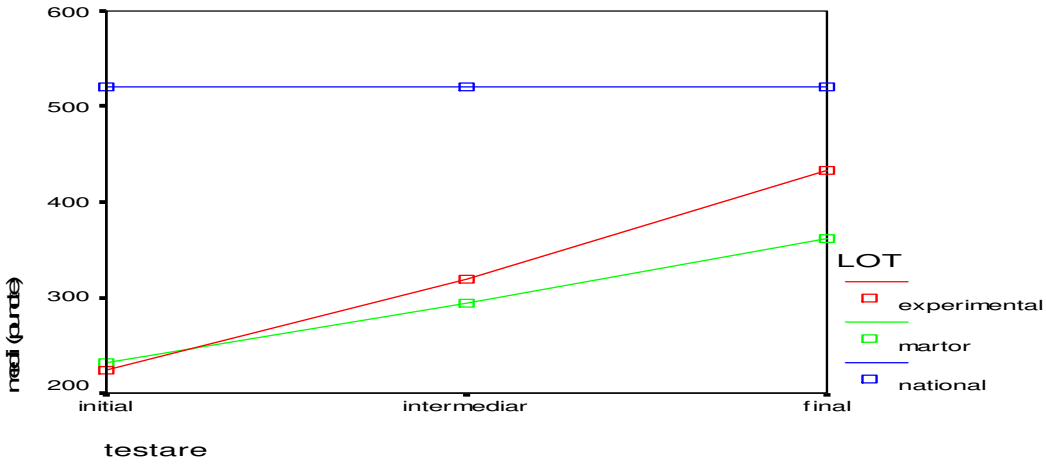


Fig 10- Evolution of the average of the *Total Score (physical tests)* between successive testings. Comparison between the two groups.

The *average diagram* shows the evolution of the total score for physical tests between successive testings, compared on the two groups (MC) and **by comparing them to the score of the national team**. For both groups the distribution curve is ascending, reflecting an increase in the performance. A better performance is more visible for the experimental group.
On comparing the results with those of the ***national team***, we notice that results are slowly getting closer to the national average, that is 520 points. On final testing, for the MC group of the experimental group, the average performance (433.75 points) got quite close to the national average; for the MC group of the control group, the average was lower 361.25 points.

Results of the technical tests.
Initially, there was no significant performance difference between the two groups ($p > 0.05$); actually, this fact was one of the preconditions of the experiment. At the intermediate testing the situation was the same, although the total score of the athletes in the experimental group was higer than the score of the athletes in the control group (the result may be greatly explained by the small number of subjects in each group).
But at the final testing, **the differences between the two groups were statistically significant** ($p < 0,001$); the performance of the athletes in the experimental group (286.14 points on average) was significantly greater than that in the control group (246.57 points on average).
The discussed results are illustrated in the summary table of the statistic test and the diagram of the averages, as follows.

Table 3- Total score – technical tests. t test for two independent groups (MC) on successive tests

Test	group	average	difference between averages	T score	p
Initial test	EG	131.14	2.71	0.371	0.717
	CG	128.43			
Intermediate test	EG	212.43	15.14	1.716	0.112
	CG	197.29			
Final test	EG	286.14	39.57	4.919	0.000
	CG	246.57			

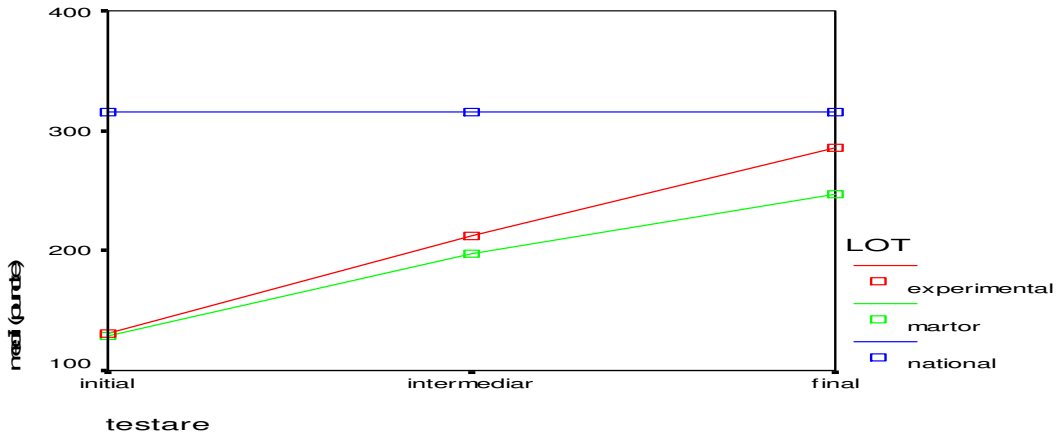


Fig 11- Evolution of the average of Total Score *(tehnical tests)* between successive tests. Comparison between the two groups

The *average diagram* shows th evolution of the total score at technical tests between succesive tests, through comparison between the groups and **by comparing them to the score of the national team**. For both groups the distribution curve is ascending, reflecting an increase in the performance. A better performance is more visible for the experimental group.
On comparing the results with those of the ***national team***, we notice that results are slowly getting closer to the national average, that is 315.2 points. On final testing, for the MC of the experimental group, the average performance (286.14 points) got quite close to the national average; for the MC of the control group, the average was lower 246.57 points.

Conclusions and Recommendations
The results we obtained require new approaching conditions for the training of junior players under 17 acting in the central area and not only.
The conclusions of the paper result from the basic experiment, proving by numbers the hypotheses of the research.
Recommendations for practical activity (coaches), after the experiment and the results:
-the application of the training program should be done after assessing the players' level of preparation;
-the necessity of using the differential training, on positions and acting areas, in the coaching process;
-training junior players must be structured on guiding and adjusting, according to the intensity of response and body accommodation of the athlete during the training
-for each area of the field, the assessment system must point out the physical and technical qualities of the players.
- the end of the junior period must represent for a player the physical, technical and tactical game settlement, according to the basic and additional acting area;

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ASCERTAINING STUDY ON THE OPTIMIZATION OF THE PERFORMANCE CAPACITY FROM THE PERSPECTIVE OF IDENTIFYING AND FIGHTING AGAINST LIMITING FACTORS IN JUNIOR II PLAYERS IN FOOTBALL

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Abstract
Besides the data provided in the literature of specialty, this study aims at getting a large amount of data and information, by the survey and questionnaire method, regarding the opinions of licensed coaches related to the limiting factors and ways of fighting these factors in the football game on junior II level football.

Keywords: training, football, limiting factors, junior players.

Introduction
The impressive increase in the performance, as well as in the number of highly trained players, imperatively requires the permanent improvement to the highest level, of talented junior players' training.
This permanent improvement consists of forming a system of skills, qualities, attitudes, behaviours etc, that contribute to the optimization of the performance capacity. Still, this optimization is negatively influenced by the fact that we do not know the limiting factors which define the quality of a junior player and the ways of limiting their effects, by creative and effective solutions to problematic situations.
Keywords: performance capacity, limiting factors, football, junior players.
The purpose of the study is to identify the effects and influences of the limiting factors in junior II players who practise football and to discover ways of fighting them.
The tasks of the study involve the elaboration, application and analysis of the licensed coaches' answers to a series of questions related to the identification and fight against limiting factors in junior II football players.
Materials and Methods
50 qualified coaches licensed by U.E.F.A., working with children of the age group included in the research, including the coaches of the national junior teams, have been questioned. According to the procedure, we have formulated a set of 10 open questions, the subject/coach having to choose one of the multiple answers. Each question had a precise aim, being focused on getting veridical data about how to solve the problems related to the limiting factors in the football game of junior II players
The recorded results gave us an impressive quantity of information and helped us identify a wide range of limiting factors that influence the performance capacity and find ways to fight them.

QUESTION 1.
On question 1. „*What are, in your opinion, the main determining factors of the performance capacity ?*", 36% of the questioned subjects opined that aptitudes constitute the main determining factor of the performnace capacity, 32% opted for training, 18% for attitudes and only 14% considered the environment a main factor.