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USING THE MEANS OF TRAINING HAPPEN WITH DIFFERENT PREDOMINANT INFLUENCE COMPARED WITH NARROW SPECIALIZATION IN THE PREPARATION OF 14-15 YEARS OLD MIDDLE-DISTANCE RACE RUNNERS

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Abstract
The results obtained from the runners included in the experiment demonstrates the superiority of the workout with influence mainly different compared with narrow specialization in preparation of the 14-15 years old middle-distance race runners along a competitive year. Best results obtained by the Group experiment is due to higher volume and work assigned to multilateral means of physical training compared to those of narrow specialization. Statistical calculation showed that the differences obtained at the experimental group level and between the control groups and experiment are significant, appropriate some thresholds of significance ($p< 0,05$; $p<0,01$; $p<0,001$).
Keywords: *the physical effort, the physical training, the sports training, the strength training.*

INTRODUCTION

Physical preparation is, from the perspective of sports training, the necessary support of manifestation of all components of the training [Ardelean T. 1990/ Bompa T. 2001/ Dragnea A., Teodorescu S.M..2002, Gagea A. 2006/ Pradet M. 2000]. The high level of performance in sport is due, to a large extent, increased the complexity of the methodology of training, in particular through greater efficiency of the design and planning of teaching [11, Bompa T. 2001/ Barbu C. 1998].

Physical preparation is, from the perspective of sports training,the necessary support of the manifestation of all components of the training [Gârleanu D. 1991/ Ivan P. 2012]. The high level of performance in sport is due, to a large extent, increased the complexity of the methodology of training, in particular through greater efficiency of the design and planning of teaching [Colibaba Evuleţ D. ş.a. 1998].

Taking into account current outcomes in tests of middle-distance race we realize that training for these tests were split off from the training for background tests,the middle-distance race becoming more and more a "prolonged sprint" [Mihăilescu L. (2010)].

The majority of specialists in sports training appreciate that programmes for the strength preparation is necessary to achieve the performance in these tests, needs to target the specific physiological needs and, nevertheless, they are still inadequate,are used methods and means of training in bodybuilding and weightlifting.

Scientific researches [Atanasiu C.L. 1998/ Bompa T.O. 2002/ Pandele L. 1969] shows the fact that educating the workforce in various working regimens is not harmful to children of 8 to 9 years, age at which can begin the preparing for its development.

The fastest growing workforce it produces using of explosive methods of solicitation,eccentric or pliometric with high load peaks, through recruitment-optimization get quick improvement of neuromuscular performance without hypertrophy [Niculescu M. ş.a. 2008]. Usually, these methods are used in "blocks training" for three weeks.

Many researchers have experimentally demonstrated that the development of speed-strength qualities and power-speed is appropriate since childhood or adolescence [Filin V.P. 1971/ Filin V.P., Maslovschi E.A. 1971/ Filin V.P. 1987/ Gagea A. 2006/ Thompson J.R. 1993/ Winckler G. O 1993]. Conducting strength training in different regimes of force, from the age of 8-9 years, enforces to respect some methodical rules: at 11-13

years old will work with loads of up to 30%; between 13-14 years old with loads of up to 70% and only after this age more than its own weight. In the opinion of [Bompa T.O. 2002], the sports performance is improving only through constant physiological adaptation, through increased training volume of training. Quantitative changes applied to the volume of the workout, depends on the level of training of the athlete, as well as their performance increase.

PROBLEM STATEMENT

The scientific statement consists in inadequate use of some varied methods and varied training forms in the sportive training process which permits noticing improvements of force training indicators of 14-15 years old runners.

The study object is represented by training planned process of force, the optimization technology of acting regarding force training process of 14-15 years old runners materialized in the objectives and the curriculum of experimental program, during yearly cycle of training.

PURPOSE OF STUDY

The purpose of study consists in scientific improvement and argument of efficiency of force training process for 14-15 years old runners by using the training methods with different preponderance influence in comparison with those of narrow specialization in preparing 14-15 years old runners during yearly cycle of training. From the results obtained after the used experiment it is possible to notice the weak and strength points from forced training of runners and on which should make changes for obtaining the competitive results for contemporary performance.

The hypothesis of study: The start point is the premise of force training process of 14-15 years old runners, it would contribute at improving the effort capacity and the level of general physical preparing during the started competitive year, but which represents the base of obtaining high performance in the following years.

METHODS

The analyze of scientific methods in the study; the cross-examine based on questionnaire and interview: in the study was used this method for obtaining in a short time a lot of information regarding the coaches` opinions from Organized Sportive Clubs from the country, about the level of forced training of 14-15 years old runners. The received answers permit to understand the concrete references in developing the training process, the level of physical training of 14-15 years old runners easing more the achievement of experimental program by selecting suitable methods; teaching observation: measuring and testing method. It was applied a set of tests which could reflect the level of force training of 14-15 years old runners The indicators of force training: pushups, stand in hanging, lifting the body from lying dorsal position against time, lifting the legs from lying dorsal position against time, lifting the body from lying face position against time, long jump off place, détente , pentajump.

The teaching experiment: every and each experiment presupposes the creation of a new situation by implementing some changes at the level of a factor (which represents the object of study), the other factors (conditions) remaining unchanged (as in the case of standard activity- the witness group). In this way, it is underlined the action (the influence of the modified factor over the results of the full process. The first phase (ascertaining experiment) was done over the young team of thirty runners (14-15 years old) from C.S.S. Galati and from C.S. Ceahlaul Piatra Neamt for testing the athletes regarding physical resistance. All results permitted the selection the most efficient in terms of force training. The second phase was over the basic experiment which permitted the evaluation of efficiency of proposed training program with different preponderant influence in comparison with those specialized of narrow training of 14-15 years old runners.

Statistical and mathematical methods of calculation and interpretation of results: It was realized the statistic processing and interpreting of results using Microsoft Office Excel 2007, using the Student test for independent sample and interpreting the recorded information.

Develop experimental program

In developing experimental program, it was taken into account the determination of training which was structured using the competitive calendar. Thus, the training was structured into two periods of time, autumn-winter, spring-summer, after pre-competitive period (winter-summer) and a transitive period (winter-spring). The general program of developing force was planned in the same period of time with the start of training period, autumn-winter, and to develop compact during 12 weeks. The first four weeks was realized the habituation of the body, and the rest of 8 weeks they worked constantly for developing the force.

Nr. crt.	Means of preparation	The months of anual cycle												Total anual
		10	11	12	1	2	3	4	5	6	7	8	9	
1	PFG (ore)	6	7	4	2	-	5	6	2	1	1	2	-	36
2	S.S.A.A. (ore)	3	3	6	1	2	5	5	4	4	4	1	-	38

3	Descent running (ore)	-	4	7	-	-	-	7	12	-	-	4	-	35
4	Long jumps (km)	-	3	6	-	-	-	5	5	-	-	2	-	21
5	Short jumps	-	-	-	200	100	-	-	-	150	100	80	20	650
6	Running on varied field	70	60	60	-	-	70	30	30	-	-	-	-	320
7	Abdomens (nr)	1200	1200	1200	800	1200	1200	800	1200	-	1000	-	-	9800
8	Total time reserved to the strength preparation and speed-preparation	18	20	16	6	6	17	25	17	7	8	9	2	159

Analyzing the data in the table results in the following: preparation of General Physics predominates in the macrocycle of autumn in higher percentage than in the macrocycle of spring-summer of half-year. In macrocycle of autumn-winter force in the regime resistance will grow in general physical training phase (PFG) after which it will follow to maintain maximum force in the special physical training phase. In winter the competitional stage aims to increase strength in regime of speed, also to maintain the force in regime of resistance. In macrocycle of spring-summer both maximum strength and strength in regime of strength are increasing in the stage of basic preparation. In precompetitional stage it aims to maintain maximum strength and to increase the strength in regime of resistance and speed. In the development phase of the sport procedure and the preparation for sports competitions it will insist on maintaining the values obtained for maximum strength,for the strength in regime of speed and also for strength in regime of resistance.

Methodical requirements that i kept in mind in selecting the preparation methods are the following: the technical analysis of the various elements of the step launched by middle-distance race and launched the start and launch at start-up, the determination of kinematic chains involved in the contest and use of exercises which require kinematic chains involved in the test of the contest. The selected exercises on the reminded criteria were: the specific arms movements as in the running of the stand, pushups, hiperextensions-extensions of the body from lying down,raising the feet from lying down, squats, pushing the legs backwards, squats, the exercises with jumpings on place, the special exercises. The exercises were performed with and without to weight in normal conditions or to weight. The recovery of the interval strength training kept in mind the energy source required of training and the ability of recovery of the athlete. Strength training has been planned according to the technique and tactics training.

FINDINGS AND RESULTS

The table below express the results recorded after the implementation of the experimental programme, accompanied by student test values and significant thresholds for student. In the case of the initial tests, the differences between the average values of obtained performances of the two batches are insignificant (values of t corresponds to thresholds of significance $P > 0.05$ for all tests used). These results confirm that the initial stages of preparation of the two lots at the beginning of the experiment are perceptible equal, as are not major differences of physical training among the samples, which can affect the argument of the final results. For the final tests, at the entire set of tests, the experimental group achieved higher average values of witness group, with significant differences (values of t corresponding to thresholds of significance $P < 0,05$).

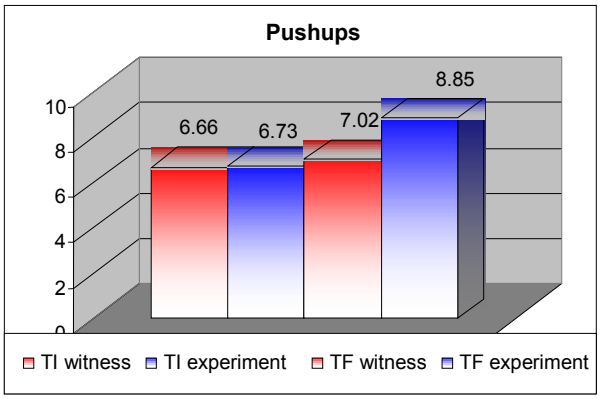
At the evaluating of strength in regime of resistance of upper limb through the pushups the witness group obtains a final value of 6,73±0.68 lower than the average value of the experiment group of 8.85 ± 0,60 resulting in a difference of 2.08 repetitions. The significance of the difference is expressed by t = 2.08 value > 2,048, the difference being significant ($P < 0.05$). At the maintained test in hung the witness group get at the final test of a medium value of 13,61±1,81 lower average value of experiment group of 20,48±1.94 resulting in a difference of 6.87 sec. The significance of the difference is expressed by t = 2.11 value > 2,048, the difference being significant ($P < 0.05$). At the test of raising the body from the dorsal lying the witness group get a final value of 19,53±0.66 lower average value of the experiment group of 22,67 ± 0,56, resulting in a difference of 3,14 repetitions. The significance of the difference is expressed by t = 2,06 value > 2,048, the difference being significant ($P < 0.05$). At the legs lifting test from dorsal lying the witness group get a final value of 11,56±0,44 lower average value of the experiment group of 12,98 ± 0,38, resulting in a difference of 1,42 repetitions. The significance of the difference is expressed by t = 2,10 value > 2,048, the difference being significant ($P < 0.05$). At the raising of trunk from facial lying the witness group get a final value of 27,20±1.99 lower average value of the experiment group of 35,99 ± 1,73, resulting in a difference of 8,79 repetitions. The

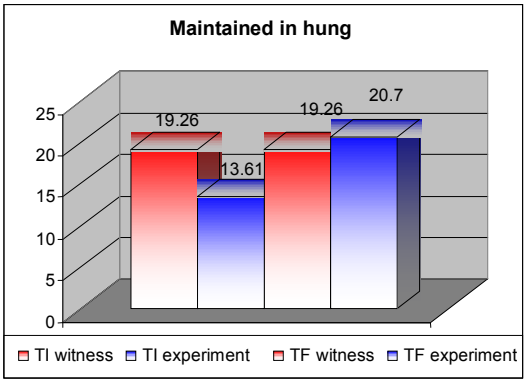
significance of the difference is expressed by t = 2.12 value > 2,048,the difference being significant (P < 0,05). At the long jump on place the witness group get a final value of 187,50±1,58 lower average value of the experiment group of 193,97 ± 1.44, resulting in a difference of 6,47 cm. The significance of the difference is expressed by t = 2.13 value > 2,048, the difference being significant (P < 0.05). For détente,the witness group get a final value of 38,66±0.96 lower average value of the experiment group of 42,24±0,91, resulting a difference of 0,8 cm. The significance of the difference is expressed by t = 2.09 value > 2,048, the difference being significant (P < 0,05). For pentajump, the witness group get an average final value of 898,33±12,81 lower average value of the experiment group of 946,08 ± 12,14, resulting in a difference of 10,09 cm. The significance of the difference is expressed by t = 2,14 value > 2,048, the difference being significant (P < 0,05).

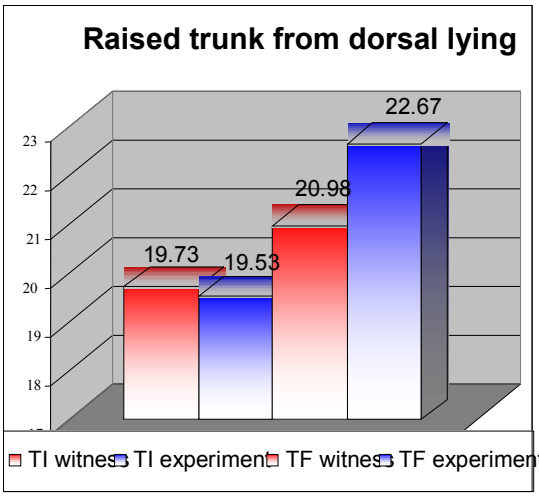
Table 1. The significance of the difference between the initial and final tests between experiment group and control group

Nr crt.	Test name	Witness group n=15	Initial test Experiment group n=15	t	P	Witness group n=15	Initial test Experiment group n=15	t	P
		$\overline{X} \pm m$	$\overline{X} \pm m$			$\overline{X} \pm m$	$\overline{X} \pm m$		
1	**Pushups (nr.rep.)**	6,66±0,66	6,73±0,68	0,07	> 0,05	7,02±0,65	8,85±0,60	2,08	**<0,05**
2	**Maintained in hung (sec.)**	19,26±1,98	13,61±1,81	0,08	> 0,05	20,70±1,97	20,48±1,94	2,11	**<0,05**
3	**Raised trunk from dorsal lying (nr. rep.)**	19,73±0,62	19,53±0,66	0,22	> 0,05	20,98±0,60	22,67±0,56	2,06	**<0,05**
	Raised legs from dorsal lying (nr. rep.)	10,80±0,47	11,56±0,44	1,19	> 0,05	11,74±0,45	12,98±0,38	2,10	**<0,05**
5	**Raised trunk from facial lying (nr. rep.)**	26,53±1,98	27,20±1,99	0,24	> 0,05	30,52±1,91	35,99±1,73	2,12	**<0,05**
6	**Long jump on the place (cm)**	187,50±1,58	187,50±1,58	0,07	> 0,05	189,47±1,55	193,97±1,44	2,13	**<0,05**
7	**Détente (cm)**	38,60±0,98	38,66±0,96	0,04	> 0,05	39,46±0,97	42,24±0,91	2,09	**<0,05**
8	**Pentajump (cm)**	897,20±12,78	898,33±12,81	0,06	> 0,05	908,42±12,75	946,08±12,14	2,14	**<0,05**

n – 15, f – 28: P - 0,05; 0,01; 0,001.
t - 2,048 2,763 3,674




Maintained in hung
25
20
15
10
5
0
19.26
13.61
19.26
20.7
TI witness
TI experiment
TF witness
TF experiment


Raised trunk from dorsal lying
23
22
21
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19
18
19.73
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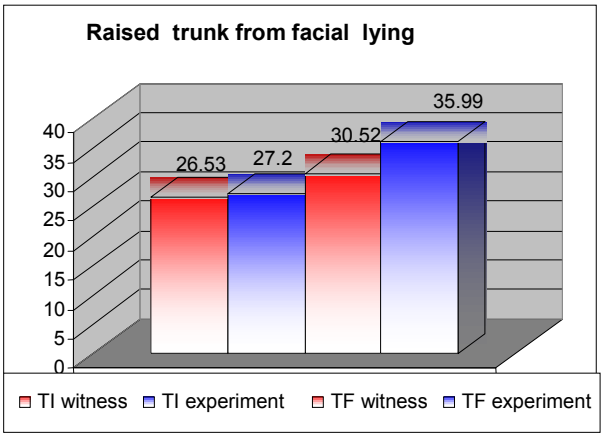
TI witness
TI experiment
TF witness
TF experiment


Raised trunk from facial lying
40
35
30
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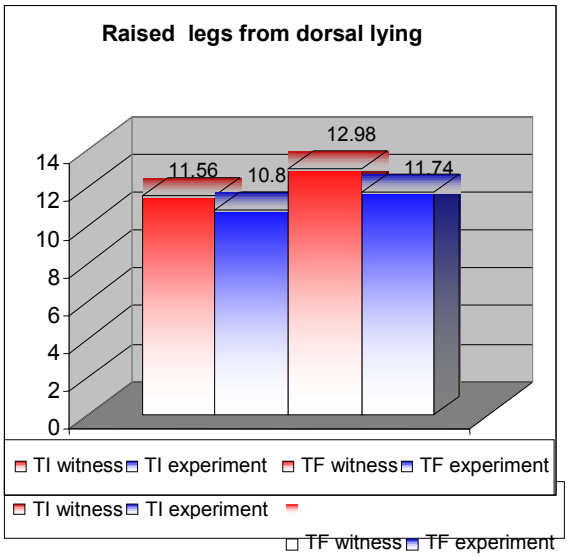
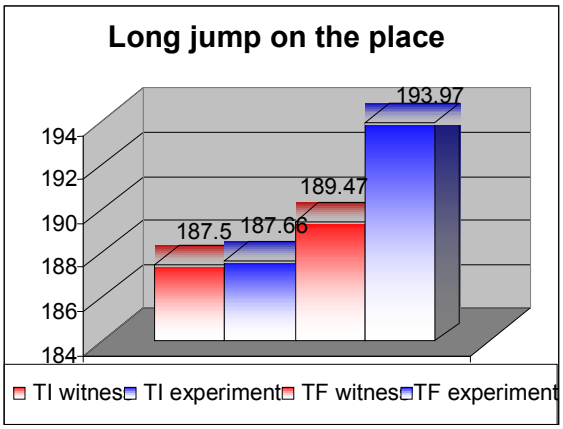
26.53
27.2
30.52
35.99
TI witness
TI experiment
TF witness
TF experiment





CONCLUSIONS AND RECOMMENDATIONS

The set of tests used was very diverse to capture as many forms of its manifestation and combinations: static strength, dynamic strength, strength for endurance and strength for speed. The development and the application of the experimental programme has resulted in getting the best results from the experimental group in terms of preparing the force of the 14-15 years old middle-distance race runners. The increasing values of the indexes manifestation of the force is put in evidence through the use of the "Student's t " criterion tested at the beginning and the end of the experiment, which demonstrates that it is significant at all tests.

The application of strength training on cumulative blocks which tracks the anatomical adaptation as well as several groups of muscles involved in motric actions specific to the middle-distance race had positive effects on the results of the tests of force applied in the experiment.

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SCIENTIFIC ARGUMENTS IN SUPPORT OF THE AEROBIC GYMNASTICS AS A MEANS TO FIGHT STRESS

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Abstract
In a studio created at Arizona State University, it has been shown that aerobic exercise is the most appropriate to fight depression and anxiety. It seems that physical exercise acts in the same way as the antidepressant medication, increasing the levels of the neurotransmitters: serotonin, dopamine and nor-epinephrine. Moreover, these two states can negatively influence the quality of sleep, self confidence, interrelation, but also the mental health of the practicing individuals.
The purpose of the research is that of finding out the degree of stress of the female economics students, in the conditions in which their activity has an accentuated intellectual character, being well known that the accumulation of an increasingly bigger volume of theoretic knowledge is required in the educational process. We started from the premise that the degree of stress will decrease by practicing aerobic gymnastics during the physical education and sport class.
Keywords: *Aerobic gymnastics, stress, students;*

INTRODUCTION

Aerobic gymnastics (maintenance) is accessible to anyone, no matter the sex, age, physical condition because it contains exercises from all body activities, from exercises and various steps from classic ballet, medical exercises, stretching exercises, yoga exercises to combination of influences from street dance, hip-hop, jazz, afro dance, lation, etc. That is why it is a discipline that attracts a large number of female students, and even male students, in practicing this type of movement.
While female students' has a proficient intellectual character, being known that in the process of education it is required an increasingly volume of theoretical knowledge, aerobic gymnatics is fit to remove the stress.
Our duty, the teachers', is to explain why, what for and how to practice these forms of actioning, starting with understanding the immediate benefits and late ones.
Systematic practicing of aerobic gymnastics leads to:
- balancing nervous system, by inducing those "wellness" moods, amusemend and well being, necessary to relaxing students after having focused on lectures and even fighting depression moods, tense moods and stress in general.
- educating the artistic and aesthetic, by the fact that aerobic gymnatics is executed by musical accompaniment, by the fact that it utilizes steps from classic ballet school or dancesport, by aesthetics itself, grace and beauty of the movements.
- many benefits on psycho-social plan, adhering to a group, developing collaboration feelings, selflessness, fair-play and the wish of self-improvement.
It can be stated that aerobic gymnatics, through the benefits it is bringing, it directly contribuites to the process of transforming and modelling students' personality and their integration to the modern world.
The purpose of the research is that of finding out the degree of stress of the female economics students, in the conditions in which their activity has an accentuated intellectual character, being well known that the accumulation of an increasingly bigger volume of theoretic knowledge is required in the educational process. We started from the premise that the degree of stress will decrease by practicing aerobic gymnastics during the physical education and sport class.

RESEARCH METHODS

Bibliographic information study method; pedagogic observation method; investigation method; experimental method; statistic- mathematical method.