

INTERPRETING CORRELATIONS BETWEEN EVALUATIONS FORMS USED IN CHECKING THE LEVEL OF PHYSICAL TRAINING OF THE 14-15 YEARS OLD MIDDLE-DISTANCE RACE RUNNERS

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Abstract

The paper discusses how to improve the process of physical training of the 14-15 years old middle-distance race runners; the stage coincides with deep-seated transformations at the puberty age where the processes of growth are uneven and unpredictable. In this matter, scheduling of training must be done in full accordance with the influences that made it over the body sportswomen, insisting on affordable and attractive means that depending on the chosen dosage facilitates the registration of certain beneficial effects in terms of objectives.

Keywords: *the exercise parameters, the physical effort, the physical training, the sports training*

1. INTRODUCTION

The evolution of performance in sport has made a good number of specialists and authors of papers to find that physical preparation plays an important role in preparing the athletes performance. [Harre 1973]

Physical preparation, as a factor of sport training, has a complex sphere. From the majority of the authors [Triboi, Păcuraru, 2013, Alexe, 1993, Șiclovan, 1970] physical preparation is the support for all other components of the training, forming the basis for the whole process of preparation. Physical preparation includes a whole system of measures that ensure the functional capacity of the body, through the high level of development of motor skills and specific, optimal values of morfofunctional clues, full keeping of used exercises and a perfect condition of health. [Ozolin 1971, p130]

Training on various planning stages, plus permanent modification of the parameters of the exercise will determine the various demands on the body that result in the phenomenon of progressive adaptation to different impulses as a degree of application, setting up the long-term adaptation. Determination of physical effort in the puberty period is a difficult and very important action in terms of beneficial effects on muscular and Osteo-articular apparatus, effects that in later stages are increasingly blurred (bone structure, thickness and their resistance, resistance to pull-ups and pressures, reinforcing the ossification process can be accelerated by effort, motion, provided the establishment of optimal loads). [Rinderu&Rinderu, 1997]. The motric qualities or biomotric skills have a strong genetic determination and meeting it into practice, especially in the form of combinations: strength-speed or strength, speed strength, strength-endurance. [Bompa, 2002, Alexe, 1993] The motric qualities form the base on which then can be constructed motric learned skills. [Manno, 1992, Tudor, 1999, Rata&Rata 2006] As far as the

general place of physical preparation is concerned in training macrocycles, this has an important role at the beginning of the preparatory period, in order to ensure the development of basic motric skills and increasing in general the body's functional possibilities. [Dragnea, Teodorescu, 2002] As far as it's growing in preparation his weight grows less letting place for the specific preparation. Specific physical preparation is defined as "the process of selective processing of major functions and disorders according to the effort characteristics of the specific sport, according to the performance requirements". [Mitra, Mogoș, 1972].

2. PROBLEM STATEMENT

The scientific difficulty consisted in insufficiency of some varied training forms in the process of sport training which permits visible improvement of the physical training indicators of 14-15 years old runners.

The research subject is represented by the predetermined plan general physical training, the optimization of movement technology regarding the process of general physical training for the 14-15 years old runners materialized in the goals and the experimental plan contents during the yearly training.

3. PURPOSE OF STUDY

The purpose of study consists in the scientific perfection and reasoning of the training process efficiency through training ways with a different performance influence in comparison with those of narrow specialization in preparing the junior team (14-15 years old) during the new training yearly cycle.

The hypothesis of study: by studying the relationship between all evaluations forms that construct the examinations set used, we considered we could obtain useful information regarding positive and negative transfer between the movement skills addressed. The result could afford

a good planning of physical training means of 14-15 years old runners.

4. METHODS

Studying specialized literature was an activity which was permanent during the whole study, for creating us an image about complexity of studied task.

Survey based on a questionnaire and interview. In the study was used this method for achieving in a short time a numerous information about coaches from Sportive Clubs in Romania in connections with level of physical preparing of 14-15 years old runners. The received answers encouraged the understanding of the playground where the training is developing, the preparing level of the 14-15 years old runners, easing more the realization of experimental program by selecting suitable study methods.

Teaching observation is a method for scientific knowledge, based on methodic contemplation and intentional of an object, a process or a phenomenon for describing and interpreting, essentially being the first moment of study. It is a method of finding, but also it is a method of valuating those observed, supposing a systematic examine of studied phenomenon for collecting relevant information about these, without affect through personal intervention in didactic process.

Testing and measurement method. It was used a set of tests which could reflect the level of physical training of 14-15 years old runners. The set is formed by 14 tasks for force, speed, resistance, coordinative capacity. The tasks, which was used for the witness and experimental group refers to the general physical training and movement quality at the junior III middle-distance race runners (14-15 years old) (14). [Niculescu 2006, Stan 2009].

Indicators of physical training: 50 m running. It is executed individual with start from a stand-up position, a start to whistle, straight and on a flat ground, it is measured from the first movement in seconds and tenths of a second; it is executed only one time; *the nave 5x 10m.* At the signal, the performer (situated behind the line) runs with the highest speed to the nest line situated at 10m by the first line. It is executed for 5 times, at the last one the run is continued to the end without reducing speed. The test is executed for one time. The time is measured in seconds. It is necessary a nonskid ground and equipment; the pushups: from lying face position leaning with arms by the gymnastics bank, the arms and body stretched, it is executed bending arms until approaching the chest to the bank after that it is returned to the initial position. The number of executed repetition is noticed; *maintaining in hanging:* with bend arms by a bar, plug in pronation or supination, the palms apart depending by shoulder height. The examiner helps them until the chin exceeds the bar. It is maintained that position as mush as possible, without supporting the chin by the bar. The timer starts

when the subject has his Chin above the bar is not supported and it stops when the position can no longer be supported. It can be used a bench or a crate to arrive more easily at the bar. It is to avoid rocking body. The time is expressed in seconds and tenths of a second; *lifting the body from dorsal lying contretemps (30").* From the dorsal lying with palms down to the nape, knees bent at 90°, the soles fixed on the ground, lifting the trunk touching your knees with your elbows and return to original position. Palms remain at nape throughout the entire period of the test. It records the number of repetitions; *lifting the legs from dorsal lying contretemps (30 ").* From the dorsal lying with palms down to the nape, the performer raises the legs stretched out from vertical and returns to its original position, without hitting the ground. It records the number of repetitions; *lifting the trunk from facial lying contretemps (30 ").* From facial lying with the arms outstretched in lengthening the body, taking a stick from both heads, the legs fixed to the ground, the lifting and the extension of the trunk, the head and the arms above the level of the gymnastic bench. It records the number of repetitions; *the long jump standing.* From sitting with feet apart behind the starting line, bending the knees leading forward the horizontal arms, long jump with detachment from both feet and landing without loss of balance on a mark achieved on the ground. It is given two attempts, recording the better one. It measures the distance from the peaks (the starting line) up to the first point of contact of the heels with the ground; *détente: sitting sideways on the wall with arm raised,* it marks the maximum height that can be reached without lifting with the sole the ground, then it makes a maximum jump, on two legs, with the achievement of the wall at the highest point possible. It measures the distance between the two points. Two tests shall be done. It is recorded the best success; *pentajump:* it consists from performing of five jumped steps, having a leg fixed on the ground behind the starting line. After the soar sport it will be executed five successive jumped steps (that must to be performed without stops and stands) with landing on one leg. It is measured the distance from the starting line till the heel of the leg that landed after the performing the last jumped step. It is given two attempts, recording the better one. It is measured the distance from the peaks (the starting line) up to the first point of contact of the heels to the ground. Also, the results are registered in inches; *Coxo-femoral mobility in the sagittal plane (anterior-posterior).* From sitting on a stand with the feet at its edge, it takes place the flexion (bending) of the trunk forward with knees fully stretched, with fingers slipping on the peaks of a ruler with 0 gradations up and with the support of 50 cm. The position is holded 2 seconds without being permitted number of archings and it reads the number of inches that are added at the gradation 50 from the base. It is given two attempts, recording the better one; *the scapulo-humerus mobility.* From

sitting with a stick held far back with both hands (palms in pronation), the perfect arms are stretched out in front of the trunk. It takes place the position of the arms perfectly stretched above the head toward the back, until the stick touches the pelvis. Then the movement is carried out in reverse, which it's returning at the initial position. It is repeated the movement until gradually approaching the palms on the stick, this can no longer be carried out correctly and italic. It measures and records the distance in inches between the distance of the palms from the last correct execution (without bending the elbows); *the running resistance 1000 m*: the running is one time. The result is expressed in minutes and seconds; *the running resistance 3000 m*: the running is one time. The result is expressed in minutes and seconds; *the running 800 m*: the running is one time. The result is expressed in minutes and seconds; *the running resistance 1500 m*: the running is one time. The result is expressed in minutes and seconds.

The pedagogical experiment. Any experiment involves creating a new situation through implementation of changes to the level of a factor (which constitutes the object of research), the rest of the factors (conditions), while remaining fully intact (as in the case of the standard task-group). In this way, the action is highlighted (the influence factor is modified on the results of the entire process) [Epuran, 1994]. The first phase (training

$$r = \frac{\sum_{i=1}^n (x_i - \bar{x}) \times (y_i - \bar{y})}{n \times \sigma_x \times \sigma_y}$$

Where:

x_i, y_i = the values of the two variables;

\bar{x}, \bar{y} = the mathematic average of the two variables

n = number of cases

σ_x, σ_y = the standard deviations of the two distributions

5. FINDINGS AND RESULTS

All the results of the correlation between tasks are shown in the next graph, the weaker, medium or strong intensity links are detailed below.

experiment) was carried out on the 30 group of junior III middle-distance race runners (14-15 years old), set up two groups of 15 athletes (witness group), and 15 athletes (experimental group) of junior III (14-15 years old) at C.S.S-L.P.S. Galati and C. S. Ceahlăul Piatra Neamț- having in view the athlete's physical testing. All the data obtained allow choosing the most effective means in terms of general physical preparation and avoiding forced training at this stage of training. The second phase focused on the basic experiment (formative or itself) that allowed assessment of the effectiveness of the proposed training programme, with the predominant influence different compared with narrow specialization in the preparation of junior III middle-distance race runners (14-15 years old).

Statistical and mathematical methods of representation and interpretation of results: The used formulas and the manner of analysis of the derived indicators were extracted from the specialty literature [Tüdosi 1993, Gagea, 1999]. The correlation coefficient (r) establishes the intensity of the relationship between two variables "when this relation is linear". The more the result tends to extremes ± 1 , the bond strenght between the x and y variables are stronger, and as the result are close to 0, the strenght of the bond decreases. The correlation coefficient (Pearson) for parametric phenomena was calculated in the SPSS programme and has the formula:

High correlation (high intensity of the link) is obtained from the following tasks, where $r > 0,618$:

- 800m to 1500m running race.

- 3000m to 1000m running race.

Moderate correlation (average intensity of the link) is obtained in tasks where the value of r is in the range (0,500-0,617):

-1000m with 50m running speed;

-1000m with 50m running speed.

Nr. crt.	1 pushups	2 Maintaining in hanging	3 lifting the body from dorsal lying contretemps (30").	4 lifting the legs from dorsal lying contretemps (30 ").	5 lifting the trunk from facial lying contretemps (30 ").	6 Coxo- femoral mobility	7 the scapulo- humerus mobility	8 50 m running	9 the nave 5x 10m	10 the long jump standing	11 détente	12 pentajump	13 the running resistance 1000 m	14 the running resistance 3000 m	15 the running 800m	16 the running 1500m
1		0.332*	0.250	0.040	0.184	0.129	0.058	0.370	0.168	0.226	0.038	0.068	0.210	0.003	0.100	0.146
2			0.050	0.092	0.104	0.389*	0.122	0.132	0.041	0.077	0.076	0.171	0.161	0.264	0.332*	0.270
3				0.369*	0.053	0.094	0.176	0.031	0.011	0.149	0.055	0.350	0.306	0.180	0.160	0.148
4					0.165	0.087	0.123	0.300	0.096	0.046	0.166	0.155	0.393*	0.329	0.170	0.241
5						0.281	0.384*	0.047	0.328	0.279	0.036	0.196	0.334	0.350*	0.051	0.026
6							0.242	0.233	0.009	0.321	0.150	0.212	0.095	0.216	0.076	0.124
7								0.238	0.077	0.125	0.336	0.096	0.001	0.040	0.156	0.151
8									0.042	0.126	0.274	0.037	0.504*	0.450*	0.161	0.166
9										0.206	0.243	0.295	0.074	0.029	0.133	0.127
10											0.107	0.109	0.066	0.080	0.275	0.272
11												0.285	0.217	0.054	0.147	0.140
12													0.222	0.225	0.119	0.027
13														0.764	0.019	0.048
14															0.211	0.250
15																0.957**
16																

Notă: * Correlation is significant at the 0.05 level (1-tailed).** Correlation is significant at the 0.01 level (1-tailed).

Low correlation (poorly correlated) in tasks where: $361 < r < 499$.

-lifting the legs while lying dorsal with lifting of lying dorsal trunk;

-running 1000m with lifting legs lying dorsal;

-scapular-humeral mobility by raising the trunk from lying face;

-coxofemoral mobility with hanging maintained.

All the other tasks that were not mentioned does not correlate with each other.

Some of the good and very good correlations can be justified through the resembling nature of the tasks, through the same energy mechanisms and muscle groups required or coordination processes involved (see the good connection between all tasks of 800m to 1500m between 1000m to 3000m running race), there are many examples in which these arguments are no longer valid, being necessary to find another explanations. As an example, the good correlation between the race of strength and some speed running can be based on speed reserve, important in improving outcomes in strength tests.

In essence, the study of the correlation between the used tasks will allow the mutual understanding between the various forms of manifestations and combinations of motor skills. This favors the selection or design of means with influence largely different than those of narrow specialization in training junior III (14-15 years old) during annual cycle training.

6. CONCLUSIONS AND RECOMMENDATIONS

Because the experimental program included polyvalent nature drives, this has helped educate simultaneously driving skills, contributing to the increase of the physical level of the 14-15 years old middle-distance race runners.

The used battery test has been diversified, reflecting the development of various manifestations and combinations of motor skills, which led to an objective assessment of the strengths or weaknesses in the physical preparation of the 14-15 years old middle-distance race runners.

The higher results from physical training tasks in the experimental group are due to extensive work assigned to physical training with polyvalent nature compared to the ones with narrow specialization in training junior III (14-15 years old) during an annual cycle of training.

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