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## SPORTSMEN SELECTION AND PROMOTION IN SWIMMING ANATOMICAL, BIOLOGICAL AND PSYCHOLOGICAL CRITERIA

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### Summary

*Present paper aims to establish which are the most important selection criteria for 5<sup>th</sup> grade sportsmen of the LPS Braila. These criteria can help the specialists in the field to perform a thorough selection, based on concrete experimental data. Also, the paper highlights a variety of factual data that specialist in this field can use in the ongoing process of selection.*

**Keywords:** selection, promotion, anatomical criteria, biological criteria, psychological criteria

Selection concept was originally used into a socio-economic action, scientifically fundamented in the earliest twentieth century for precocious diagnosis of the professional skills and the orientation of the talented ones towards a profession or another, based on tests and methods meant to reveal manual dexterity skills, accurately and fast reception and learning of motive schemes.

By extension, the selection concept was assumed by sport activity in the third decade of the twentieth century, to designate a similar action, of detection motive abilities for performance in sport. Being a indefinite concept, selection suggested only the beginning of sport training action which, over the years, knew various expressions recorded in the specialty literature.

The most frequently used expression was *early specialization*, which expressed the concern for child orientation towards a test or sport's branch since early age. Later, in the 60's, *precocious initiation* expression show up, which represent the sport specialization orientation towards a preliminary and preparatory process of the future consecration from an early age. Afterwards was used (and the expression was mantained) *primary selection*, which represents the moment of the child entrance – based on certain criteria – in specialized sport establishments.

But, when the *The national system for selection and training* was elaborated, another expression, more appropriate, was established. First

of all, the selection act isn't isolated and doesn't represent, in any case, a purpose in itself because, once completed, causes a preparation process that leads to another step of the selection. So, the selection is a process carried on until the upper limits of performance are reached.

### THE IMPORTANCE AND NOVELTY RATE OF THE THEME

The swimming favorable impact on the body is underlined in great majority of speciality literature. Some authors which tried to compile a classification of the physical exercises depending on effort, frequently poses swimming on the first place.

Changes occurred on the organism of those who practice swimming shows at the level of organs or systems isolated viewed, but also over the general process of growth, hardening and strengthening the body resistance, of increasing the general effort capacity.

### RESEARCH GOAL, WORK HYPOTHESIS

Structure and content of sport training lessons in swimming should provide technical possibilities of work regarding participation at competitive activities.

Instruction process within training lessons it is mostly set up regarding sportsmen participation in competitive activities. But it has several aspects

that precede, among them being the **selection activity** of most talented ones, aspects that depends on coach's and others assistants possibilities and theoretical and technical speciality knowledges, such as the permanent improvement tendency of the sportsmen team with qualities and knowledges, abilities and motive disponibilities which will lead to activities with high level results in competitions. Pointedly, the leading sportsmen team it is established on value criterion, from the all of the components, the basic group being a team of so called „peaks”.

This fact requires the application of principle of permanent correlation of selection criteria with the one of sport efficaciousness and determins the conclusion that the swimming sportsmen training could be organized into groups, but only on the value criterion. Periodically, at the beginning, during and at the end of every competition cycle, based on sustaining some control tests, and other criteria which will be approached in this study, sportsmen will be evaluated as objectively as possible.

In conclusion, **the goal** of this paper is to take notice of the most important aspects regarding the selection criteria for swimmers evaluation in the matter of their promotion and to remarq those criteria that are most adequate with age and level of training of sportsmen from this branch.

Starting from these considerations, the hypothesis of this paper are:

1. From all the selection criteria that exists it could be choosed those which, at the value level which we refer, could present the real abilities of childrens more conclusive.
2. If global estimations (through selection criteria corrobation) reflects the health status, anthropometric parameters for this age, general motive potential and the one which is specific for swimming, psychic potential of aimed sportsmen, reflected by the obtained results at established tests and measurements, then the results of these tests, maybe, will lead to the idea that selection action was well thought and selection criteria was eloquent and well chosen.

## **SUBJECTS AND RESEARCH ORGANIZING**

The research was conducted at the swimming complex L.P.S. Brăila, during one year. The working conditions were good, the pool having 25 m in length, well equiped gym, with all the necessary devices to conduct a training lesson; medical office, were the massage after training is done, has all that it needs. It must be mentioned that Sport Program Highschool from Brăila has, in each year, from 15<sup>th</sup> May to 1<sup>th</sup> September, the outdoor swimming pool of olympic size.

We agreed with the coach-teacher that research activity to be carried on in the two classes of children in fifth grade.

For a most accurate appreciation of children potential there were applied five selection criteria: anthropometrical measurements, motive tests, specific swimming tests, functional tests and psychological tests.

When the research activity started (middle of October), we collected data regarding initial testing of pupils from their teachers records.

The five selection criteria included the following tests:

A. Anthropometrical measurements:

Height, weight, arms lenght, palm length, foot plant length

B. Motive tests:

20 meters speed running, standing long jump, 10 x 5 meters to and for running, resistance running

C. Specific swimming tests:

15 meters back float with feet stroke, 50 meters free style, 50 meters breaststroke, 50 meters backstroke, 50 meters butterfly and 200 meters medley

D. Functional tests:

Vital capacity and „Ruffier” test

E. Psychological tests:

„Porteus” labirinth and „Bourdon” test

Initial anthropometrical measurements were made at the beginning of the school year, between 15<sup>th</sup> and 22<sup>th</sup> September 2011, so the data was gavered from the teachers's record notebooks.

Motive tests had been covered in June 2011, as result of the graduation „exam” in 5<sup>th</sup> grade. The exams had been appreciated with marks, according with The Ministry of Education and Research and Romanian Swimming Federation rules.

Following my request, pupils sustained at the end of October 2011, at school medical cabinet, two functional tests, in order to establish their degree of adaptability at effort of the two major body functions: respiration (through vital capacity measurement) and circulation (through „Ruffier” test application).

For the initial psychological testing of children we appealed to a psychologist from Braila County Center of Resources and Educational Assistance, which applied two tests (between 1<sup>th</sup> and 5<sup>th</sup> October 2011): one for determining the level of attention concentration capacity („Porteus” labirinth) and other for checking fatigue resistance („Bourdon” test).

Final tests took place between 18<sup>th</sup> and 25<sup>th</sup> May 2012, pupils going through the same tests in order to establish their rank in the hierarchy. Action was carried for establish which are the pupils with future possibilities, to what tests they could compete in future and to which would get good results. Also, were taken into account the results of other

children, who are considered with „perspective”, taking into account the applied selection criteria.

### CONCLUSIONS

1. Selection is an organized and repeated process for the early detection of child and youth inborn availability, using a complex system of criteria (medical, biological, psychological and motive) for practicing and further specialization in a sport discipline or test.

2. Selection requires an conceptual and organizational extensive action of evaluation at various levels (case history, health diagnosis, the growth and physical and functional development level, mental availability etc.) of large collectivities of children and youth.

3. Therefore, the organizational framework needs a set of criteria and indicators, namely a operational model in choosing the gifted ones for a certain type of sport effort. Number of criteria, their structure (biological, motive, psychological and sociological), application sequence, measurement and unitary interpretation methods of the multiple number of data arisen from the test subjects generated a general system as well as custom subsystems for each sport discipline.

4. First, it must be made clear that both in terms of teaching as well as operational, biological and sporting it is recommended the three levels (stages) selection approach.

– *primary level (primary selection)* lasts from 4-5 years of age and up to 8-10 years (depending on the sport discipline or test);

– *secondary (secondary selection, pubertal)* between 10-14 years, also with variations depending on the sport test, but at a 3-5 years period from the first stage;

– *final selection (of national or international performance)*, which marks, in fact, the transition to professional sport, dominated mainly by sporting value criterion. Inside these steps is taking place the training process, which determines the following relationships effect.

5. *Secondary selection (10-12 years)*, that was the object of our research, took into account the children who swim for at least 3-4 years and have learned proper the 4 swimming techniques, having a smooth and harmonious physical and mental development;

▲ high or medium to high waist, relatively overweight;

▲ large scale (5-8 cm more than the hight);

▲ big palmar circumference and foot area;

▲ vital capacity at very good level;

▲ both good and very good aerobic and anaerobic power for speed contest;

▲ good attention concentration capacity and mental fatigue resistance, Labirinth and Bourdon tests

6. The five selection criteria used in research (anthropometric measurement, motive tests, specific tests, functional tests and psychological tests) were relevant for checking the paper hypothesis.

7. Measurements (anthropometric criteria) have highlighted that there are children in the two groups that fit the requested parameters of swimming specific activity that is with a proper development for this sport discipline.

8. Motive tests have shown the availabilities of some of them, which are necessary for the further practicing of swimming. The tests have targeted the following motive qualities: speed, strenght in speed mode and endurance.

9. The specific tests shared children on the five different swimming contests, as in a future specialization; so it could be done a clear hierarchy of their performances and their early guidance for certain tests.

10. Functional tests have highlighted the children's availability to practice performance swimming.

11. Psychological testing has targeted the ability to focus attention („Porteus” labirinth) and physical fatigue resistance („Bourdon” test), so necessary to little swimmers.

### PROPOSALS

1. Investigation may increase its sphere by using other criteria:

▲ length of the both upper and lower limb;

▲ biacromial and bitrohanterian diameter;

▲ the thorax perimeter and the pulmonary elasticity;

▲ joint mobility, at the level of tibiotarsiana, scapular-humeral joints;

▲ motive coordination and the dynamic balance in motive ability;

▲ muscle strenght (lombar, scapular-humeral).

2. Also, the number of tests can be increased for so many times as it takes in order for the teacher to have a clearer evidence of his pupils and in order to be able to begin sportsmen specialization on certain tests.

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