

# **ABSTRACT OF THE DOCTORAL THESIS BY MS. ELEONORA ZAGREAN**

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Thesis Title: **CONTRIBUTIONS TO THE STUDY OF THE IMPORTANCE OF PSYCHOMOTOR TENACIOUSNESS IN SPORTS PERFORMANCE**

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## **Justification**

The proposed theme "", though little discussed in scientific literature, is in the interest of the Physical Education and Sport field as it brings new information that can improve the fund of know-how.

Tenaciousness, seen in its basic sense, is related to stability, constancy, perseverance, and all these features are found in the motive behaviour of the athletes and they are essentially fundamental aspects for the evolution of sports practice.

## ***The topical interest and the importance of the theme***

We believe that the proposed theme for this research it is very actual, because it is not sufficiently addressed in the present (according to the available information to us at the moment), and the present technology allows solving this problem. Motivated by issues relating to sports performance, but also by our own orientation, we believe that the proposed theme may bring new information and also provide reliable data for future research.

## ***Purpose and objectives***

The aim of the paper is to establish and justify the importance and the role of psychomotor tenaciousness in sports training.

Another aspect is to establish useful benchmarks of the tenacity test for future research and practical applications, especially in the primary selection. The scientific approach has as final aim the shaping to a new perspective in terms of psychomotor skills.

*Research objectives* are chronologically assigned in the order of their determinative importance.

They aim the developing of the strategy, the steps, the selection of the methods and operational means for performing the proposed tasks.

## **THE PILOT EXPERIMENT**

The pilot experiment was composed of 12 subjects. We specify that the subjects have been practicing organized motive activities at the level of high performance and their experience in the practice of sports is vast and determining.

### ***Premises and work assumptions***

In the pilot experiment we have tried to motivate and verify the practical quality of the test, the algorithm of the experiment, the way of training in using the device and not least working conditions and related logistics.

### **The starting assumptions had been the following:**

The testing of tenaciousness with the device consisting of a sensitive dynamometer for the flexing muscles of the palm can bring new useful information about the state and the evolution of the subjects during practical activities.

The obtained values after the tenaciousness testing can be considered as aiming point in assessing the psychomotor skills, with the amendment that the measured value is indeed psychomotor tenaciousness.

### **The conclusions of the pilot experiment**

- The pilot experiment confirms the starting hypothesis; the test provides useful and relevant information both in terms of psychomotor tenaciousness and the evolution of subjects in the two tests.
- Comparing the results obtained by calculating the index of the tenaciousness reflects that it is an improvement of maintaining the degree of stability and the mechanical pressure on the algorithmic compiler of the device.

## **PERSONAL CONTRIBUTIONS TO THE STUDY OF THE IMPORTANCE OF PSYCHOMOTOR TENACIOUSNESS IN SPORTS PERFORMANCE**

### **THE RESEARCH ASSUMPTIONS**

It is well known the fact that, as an unanimously accepted premise, the athletes who are tenacious and have an appropriate constellation of psychomotor skills, get better results, have

longevity in higher performance and better resist stress and stressful factors even when they are defeated.

Working hypotheses:

- As provisional response to the question whether the evidence of tenaciousness described in this paper reflects and measures the psychomotor tenaciousness, we consider that the parameters of the tenaciousness test such as: strength, effective time, preliminary time are stable for athletes, with the amendment that their mental function had not been subject to strong emotions or stress before the test.
- Regarding the sensitivity of the test, we consider that the changes of the main tenaciousness indicators can differ significantly (depending on the psychological state and the degree of tiredness induced by physical effort).
- Also hypothetically speaking, we appreciate that the usual statistical indicators can be benchmarks for homogenous groups in providing physical efforts and improve sports performance, especially with regard to static voluntary effort. Through tenacity testing we try to identify benchmarks, viable milestones for future scientific research.

## **THE EXPERIMENT PROTOCOL**

The experiment was conducted at the Centre for Interdisciplinary Research of the National Academy of Physical Education and Sports, the experimental group consists of 62 subjects, 31 male athletes and 31 female athletes.

Centralized data statistically processed later are the ones obtained from the tests: initial, intermediate and final, in which the experimental group participated. We would like to mention that the tests do not reduce only to the three tests; during the experiment there had been a number of records to see the subjects' consistency and the degree of the task awareness.

### ***Conclusions on the theoretical part of the research***

- ⇒ The study of scientific materials stresses on the low number of information on the proposed theme, but there are sufficient theoretical benchmarks to make connections, to search for relevant issues and arguments regarding psychomotor skills. We can say that tenaciousness is reflected in this sphere of psychomotricity, being a psychomotor skill by definition.
- ⇒ Thoroughly studying the scientific literature we had access to, we may conclude that tenaciousness is a genotypic psychomotor and para typical skill that modulate the maximum capacity of the neuromuscular effort. This psychomotor skill acts as sub unitary factor, with the vector origin in the volitional sphere.
- ⇒ We consider that the tenaciousness determines the improvement of personality features, self-awareness training of the individual and can lead to accumulation on multiple plans: physical, psychological, psychomotor.
- ⇒ The tenaciousness shows persistence and stability over time, rather hard-bitten over persuasion agents, because its base is a variety of processes and mental qualities.

### ***Conclusions regarding the practical part of the research***

- ⇒ After the experiment, we can conclude, relating the achieved data with intensive documenting, discussions with the experts and last, but not least with personal experience, that the tenaciousness test concerns both psychological and the neuromuscular functions involved in the effort.
  
- ⇒ The experiment results, substantiated by statistical tests, entitle us to say that this skill, related to other psychomotor skills provides very useful information about the athlete's state, and not least about the level of performance achieved in a well stated moment.
- ⇒ According with the main hypothesis, the conducted experiment argues that the tenaciousness test indicates a degree of longitudinal stability remarkable even if changes had been recorded at the three times of testing: initial, intermediate and final.
- ⇒ The results obtained from the three tests, initial, intermediate and final, indicates that the central values for homogeneous groups are not changed significantly, and individual values vary within reasonable limits in the moment of practical application of the test.
- ⇒ The results obtained in the final testing of the effective time, both for right hand and left hand for girls, show us a normal distribution of the values as the normality Anderson-Darling test, clearly indicates  $P\text{-value} > 0.05$ . The test indicates that the data distribution is normal, meaning that the batch is homogeneous.
- ⇒ The graphs give a clear image of the obtained values and confirm the initial assumptions and the fact that the objectives of this scientific report, initially pointed, were completed and fulfilled.
- ⇒ As a corollary, we believe that the sample of psychomotor tenaciousness represents a step forward on the search of more comprehensive and accurate ways of testing psychomotor skills.