

**ABSTRACT OF THE DOCTORAL  
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**THESIS TITLE:  
THE PSYCHOLOGICAL  
CRITERION OF SELECTION IN  
HANDBALL: TRENDS AND  
PRESENT TENDENCIES**

**Key words:** sports, selection, puberty, psychological criterion

Childhood represents, in the human development, the most active life stage, from the physical point of view, and not only. Children's main activity is playing, they take part in physical activities and sports and – with certainty – they are keen on competitions.

Parents, instructors, coaches and sports managers are looking for the best training programmes that increase the children's sports potential. Coaches often become role models, and children dream to exceed the achievements of well-known sportsmen.

Success, in any sports arena is usually, the result of planning, sustained effort and dedication, and sports training is no exception to this rule. All successful sportsmen are individuals prepared to excel in a specific physical activity and who regularly followed, for many years, a well designed training programme, in the long term. In sport, training is a process by which exercises or the respective and progressive thing causes the improvement of the potential to achieve the best performance. For sportsmen, this means long-term training programmes, that adapt their body and mind to the conditions specific to the competition and which lead to excellence in performance.

The reasons I have chosen this topic were determined by: the seven year experience in teaching, the activity done as a performance sportsman and coach, my current professional concerns - member of the university teaching staff - staff teacher at the Sports Games Department (Handball) but

especially the complexity, generosity and timeliness of this topic, concerning the requirements that may exist between the motor abilities, the emotional intelligence and the motor intelligence.

The importance of psychic factors in physical and sports activities increases as the instructive-educative process becomes more organized, taking place with specialized teachers/ educators and with more exigencies in regard of its normality and efficiency.

It is known that a certain behaviour of the human subject depends, in its structure and forms of manifestation, on the nature and characteristics of the stimuli which provoke it, but also on the peculiarities of that person. It is therefore important, that the full effect of the instructive-educative process to depend on the dimensions and dynamics of the personality of the subject, in whose structure the psychomotor skills play a very important role.

*Personality is the dynamic organization within the individual of those psychophysical systems that determine its characteristic thinking and behaviour.* (G. Allport, 1991)

Selection and sports performance in handball, in all their aspects, are in constant evolution and change. Handball is a complex game, which records an accelerated dynamics of training, based on elements of progress, improvement, some of which are news while other are updated and adapted to the higher parameters.

The training process is recognized as a complex process, whose aim is to increase the players' performance capacity. For efficiency, fairness and for a real and objective insight into performance, particularly important is the manner in which the training of beginners is done, the methodological orientation of training and the way in which the training means are chosen.

After a brief introduction, the thesis is divided into three distinct parts. **Part I** "The Theoretical Substantiation of the Research" presents the general framework of selection, the current situation in Romania and of the Romanian Handball Federation.

**Part II** entitled "Preliminary research regarding the sports selection in handball" presents the admission criteria for handball classes in vocational schools on the model of the Ministry of Education in collaboration with the Romanian Handball Federation.

After analyzing the results of the preliminary experiment, the assumptions and hypotheses for further research are presented.

**Part III** "Personal research on optimizing selection in handball" is the fundamental part of the thesis, in which it is presented, in addition to the specific of the evaluation within the admission in the handball classes, all data of the organization of the teaching experiment (premises, subjects and

methods, periods and the actual development of the actual research, a brief presentation of the work methods used).

Measurement data for the tests set and the data obtained at the psychological examination for each subject are presented.

At the end of the thesis, the main conclusions and perspectives are presented on three distinct categories (with a methodical and methodological nature, resulted from the evaluation study, perspectives and implementations).

**The subject of the doctoral thesis** presents a priority issue, with particular practical importance, presenting an important tool for knowledge and mastery of the selection process in handball.

This problem is of great interest in view of the development of sports in general and handball in particular, allowing specialists analysis, synthesis, diagnosis, prognosis and a scientific control of the formation of the personality of future performance sportsmen.

### ***Research hypotheses***

*The selection process and training supported by the cognitive-behavioural psychological testing can lead to the improvement of the subjective anxiety, rational belief formation and the increase of sports performance.*

*The efficiency of selection can bring an increase by including in evaluation psychological tests aimed at assessing the sportsman's personality.*

*The presence of psychological indicators in the selection process, may lead to facilitating the efficiency of training specific to handball.*

In research, we plan to increase sports performance by applying psychological tests to the experimental group, which to help us shape the personality of each subject.

### **Objectives and tasks of the research**

The general objectives from which we started in conducting the research were related to the optimization of trainings, emotional management and the development of an effective competitive behaviour, by applying cognitive-behavioural psychological tests, detailed below.

#### ***Within the objectives and tasks of research we propose:***

1. Making the best environment for the performance of the teams which include the research subjects, regarding the coach-sportsman relationship, and also the sportsman-sportsman relationship.
2. Changing extremely negative expectations and the reinterpretation of performant situations.
3. Development of self-confidence, confidence in the ability to handle competitive situations.

4. Analysis of the effectiveness of cognitive-behavioural psychological tests in performance sports.
5. Analysis of the relationship between emotional regulation and improvement of the sports result, following the application of cognitive-behavioural psychological tests.

### **Subjects and research methods**

*The sample of subjects:* The subjects from the experimental group

*Age:* Students aged between 14 and 16 years.

*Location:* Sports High School of Bistrița, district of Bistrița-Năsăud.

### **Research organization**

The research was conducted in the period between 2012-2013, in the following sequence:

- *Phase I* (June 2012) represented data collecting following the development of aptitude tests of candidates (62 in number) registered for admission in the handball classes within the Sports High School from Bistrița

- *Phase II* (September 2012, April 2013) in addition to the specific training objectives in handball, it was interfered in the experimental group, both at group and individual level, with the drawing up of some evaluation sheets for the personality of each subject participating in the research.

- *Phase III* (May-June 2013) the final testing of the two groups with the sports aptitude tests within the admission and the demonstration of the fact that the independent variable affects or influences the dependent variable.

### **Research development**

The research was developed during the 2012-2013 school year. In addition to the sports aptitude tests, within the admission session, to the experimental group were applied psychological tests from the **Cognitrom Assessment System Psychological evaluation Platform**, in collaboration with the psychologist of the Sports High School, psychologist accredited by the Romanian College of Psychologists, specialist in educational psychology and psychotherapy, with the informed consent of the subjects investigated.

#### **TEST**

##### **1. Spatial aptitude**

- Form perception
- Reaction time in taking decisions

##### **2. 2KPQ**

- impulsivity
- anxiety
- aggression

– sociability

### **t TEST**

The t test, verifies the research hypotheses, namely if the independent variable (the mental preparation) affects the dependent variable (the results of the sports tests).

#### **a. Handball distance throwing**

**Table 28. Group statistics**

	<b>Group which includes the research subjects</b>	<b>N</b>	<b>Average</b>	<b>Standard deviation</b>	<b>Standard average error</b>
<b>Handball distance throwing (m), Final test</b>	<b>Experimental group</b>	<b>31</b>	<b>8,4149</b>	<b>1,4089</b>	<b>0,2530</b>
	<b>Control group</b>	<b>31</b>	<b>6,0645</b>	<b>1,5903</b>	<b>0,2856</b>

#### **b. Long jump**

**Table 29. Group statistics**

	<b>Group which includes the research subjects</b>	<b>N</b>	<b>Average</b>	<b>Standard deviation</b>	<b>Standard average error</b>
<b>Long jump (cm), Final test</b>	<b>Experimental group</b>	<b>31</b>	<b>8,0968</b>	<b>1,3255</b>	<b>0,2381</b>
	<b>Control group</b>	<b>31</b>	<b>6,2903</b>	<b>1,5534</b>	<b>0,2790</b>

**c. 30 m dash with upright start**

**Table 30. Group statistics**

	<b>Group which includes the research subjects</b>	<b>N</b>	<b>Average</b>	<b>Standard deviation</b>	<b>Standard average error</b>
<b>30 m dash with upright start (cm), Final test</b>	<b>Experimental group</b>	<b>31</b>	<b>7,6452</b>	<b>1,6237</b>	<b>0,2381</b>
	<b>Control group</b>	<b>31</b>	<b>6,7097</b>	<b>1,9697</b>	<b>0,2790</b>

Based on the data, we want to see if the previous psychological training affects the results from the sports tests, quantified into marks in the final test. In other words we are interested to see if the independent variable affects or influences the dependent variable.

We can not directly manipulate the independent variable, at most we can invoke it to divide the subjects into groups (the experimental group and the control group). The number of subjects in this case is equal for the two groups.

We made a distinction between sports results from the three practical tests, as previously shown, from those in the control group, who have no psychological training and those in the experimental group, who have a previous psychological training.

Thus we can see the average grade of the marks from the three practical tests, at the final tests, in the experimental group and control group. The average grade is higher in the experimental group, as a consequence there is significant difference between the two groups.

There is a greater variation of marks for those in the experimental group, than for those in the control group.

Levene's test tests the equality of variables of populations from which our samples result from.

Levene's test scored with F, tests the null hypothesis, which states that the variable of the population from which the two samples result, are equal.

Since the Value of the Significance threshold is less than .05, the null hypothesis of the variable equality is rejected, so we can accept that the variables are not equal.

Relating to EQUAL VARIANCES NOT ASSUMED, namely in the situation when the two groups have different outcomes in the final test in the

three sports tests. The experimental group has better results in all the three sports tests, than the control group, who have no previous psychological training.

Because in all tests, the significance threshold ( $p$ ) is less than 0.005, it shows that there is a 0.000 probability of error when we reject the null hypothesis. Research hypothesis is accepted with the same probability of error.

Conclusion: the statistical analysis carried out, allowed the identification of some significant differences between the results from the Final Test in all the three sports tests, thus demonstrating the fact that previous psychological training positively influences the results from the sports tests.

- ✓  *Cognitive-behavioural intervention of the Sports High School psychologist for: emotional management, reducing anxiety and learning problem solving and decision making skills*, through the reduction of distorted thinking with impact on the performance anxiety; developing problem-solving skills to efficiently adapt to competitive situations.
- ✓  The intervention protocol performed by the psychologist for each subject provides a plan designed for 20 sessions, including evaluation. Most sessions last 45 minutes.
- ✓  Based on the systematic observations made regarding the approach of trainings and competitions, of direct and indirect factors involved in the life of a sportsman, we identified some major issues involved in sports conditioning performance at school.
- ✓  The sports activity offers many opportunities to talk to ourselves.
- ✓ The performantial criterion being always present and along with it a constant state of stress, in the sportsmen's minds there are true scenarios running about the many possibilities present in a given situation . Analysis sometimes reaches unimaginable parameters, or is totally absent, most frequently resulting in the development of **performance anxiety**. These *inner monologues* are present all the time: in trainings, before, during and after a competition. The effects of some negative inner dialogues, pessimistic or improper, are anxieties and fears, which at the age of 16, take disproportionate dimensions to the actual level of threat.

## CONCLUSIONS AND PERSPECTIVES

The statistical analysis carried out, allowed the identification of some significant differences between the results from the Final Test in all the three sports tests, thus demonstrating the fact that previous psychological training

positively influences the results from the sports tests and from the competitions.

The results obtained from the research conducted, highlight the **importance and necessity of psychological tests in performance sports** and especially in school sports, where the foundations of great performance are created! Thus:

- The cognitive-behavioural tests applied have created the best environment both at group level and in private for each subject, necessary in order to meet the demands of sport;
- Dysfunctional and irrational cognitions can be identified and modified through extensive psychological testing within selection;
- The objective „win at all costs”, „in all ages”, replaced by developing the pleasure of playing, by the desire to become better, progressive and realistic targets, lead to success (and not vice versa);
- Motivation should be daily and cannot occur simply by pronouncing some monologues, no matter how persuasive they may be;
- The coach’s main premise should change from “I want to win this game” or “I must win this game” in “I want to win this sportsman”, changing the competition in pleasure, challenge and opportunity to become better and not a source of fear, concerns, frustrations and anxieties!

Increasing the balance of psychomotor training in the overall training process, through appropriate forms and means of training, enables the possibility of a solid training of future performance sportsmen.

The tests applied, allowed us to obtain important information regarding certain sides of the personality of sportsmen, and how they perceive the relationship with their coaches in the psycho-educational process but especially in competitions.

In the experimental group, a positive group climate was maintained, allowing the exchange of useful information, overcoming the critical moments and maintaining a high mental status in training.

Suggesting some procedures and methods of training and selection for the 14- 16 year old students, as psychological intervention.

No doubt that there are outstanding issues or issues only partially resolved. At the same time, the possibility of generalizing based on small sample, is controversial. However, despite the difficulties or obstacles, we have the belief (and research findings support it) that the psychological intervention in sports practice, is not only a fashionable activity but an essential condition of success. In an effort to provide a clearer image and more rigorous data, we started from the specialized literature. As some **innovation elements and personal contributions**, we wish to mention:

A. *Work concept* –the hypothesis from which we started, was



based on the belief that the performant behaviour (in sports) depends not only on the correctness of the technical and tactical training, but equally on the psychological training;

B. *The manner of putting together and implementing tests, adapting them to the special conditions required by the sports activity;*

C. *The active participation, involvement of all sides involved in sports (selection, training, competitions, training periods);*

Therefore we believe that *each sportsman strengthened from a psychological point of view, each team rationally supported, each coach who recognized the advantage of the adaptive thinking, shall facilitate the creating of a winning mentality in the future.*

Therefore, ***in our endeavour to select the future champions, let's not forget, and even more, deliberately propose ourselves to form balanced personalities above all!***

There were statistically substantiated benefits of participating in the psychological training programme and it was demonstrated that the cognitive-behavioural testing has a significant role in achieving positive results and that the restructuring of dysfunctional and irrational thoughts provides a functional cognitive level; the results obtained, from the research conducted, highlight the importance and necessity of the psychological intervention in the performance sport and especially at selection level where the foundations of great performance are set and in team sports, where difficulties are more complex and diverse, complicated by their huge variability!

Based on the considerations above, we believe evident the ***hypothesis checkout*** which directed the cognitive-behavioural approach implemented at school sports: *The selection and training process supported by the cognitive-behavioural psychological testing, can lead to the improvement of the subjective anxiety condition, rational belief formation and growth of the sports performance.*

*Finally we believe that, the wider and more rigorous the information about this complex field, which is sport, the more reduced are the chances of error and the possibility to create champions increases. By corroborating data from the psychological research of the sports phenomenon with knowledge specific to the sports field, the quality of the selection process increases and as an indissoluble consequence, performance will be achieved.*