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PhD. THESIS SUMMARY

**THESIS TITLE: PSYCHOMOTRICITY – DETERMINANT FACTORS IN  
ACHIEVING THE INITIAL TRAINING OBJECTIVES IN FEMALE'S  
ARTISTIC GYMNASTICS**

**SCIENTIFIC ADVISOR: Professor VASILICA GRIGORE, PhD**

**Keywords:** *psychomotor, psychomotoric skills, goals, objectives, tests and evaluation tests, initial training, sociological investigation, experiment.*

### **Motivation for choosing the topic**

The PhD thesis is the corollary of the work done so far, as an athlete, coach and as university professor.

Currently, in the field of female artistic gymnastics has been registered a need for revival to lead both to clarify *the objectives and content* of initial training as well as *the increase of the quality* of the educational and training process, and *the quality of the evaluation*, which will determine the maintenance of a large number of sportswomen involved in the performance specific activity.

In the first place, the issue of *psychomotricity* should occupy a central place in the female artistic gymnastics, where psychomotoric skills are deeply involved in technical training since the initial stage.

Secondly, we consider that currently in this sport branch the initial training is not based on a solid methodology system, where the *objectives* should play the most important roles.

The new methodology is based on the reconsideration *psychomotricity* the decisive factor in achieving the objectives of the initial training by introducing new methods that focuses on the development of the following psychomotoric

components: *segmental and overall coordination, balance (static and dynamic), body scheme, laterality and ambi-laterality, spatial and temporal orientation, rhythm and tempo, kinesthetic differentiation.*

### **The purpose of the research**

- Validation of the determinant role of psychomotricity in the initial training of the future performance gymnasts, by synthesizing the basic concepts of the research: *psychomotricity, psychomotoric skills (qualities), initial training, initial training objectives;*
- Explain the psychomotricity issues through the specific content of feminine artistic gymnastics;
- Practical application of personal vision, stated in psychomotoric development strategy.

### **Research Objectives**

- Providing an synthesis regarding the issue of psychomotricity of the gymnasts, age 5-7 years;
- Delimitation of duration and age appropriate to initial training in female artistic gymnastics, as a result of the conclusions drawn from the research;
- Develop the bio-psycho-motric main features panel and the social and educational aspects regarding the research subjects included;
- Setting the *objectives* of training in the first stage of the gymnasts activity and the initial training system, focusing on psychomotoric training;
- Determining the content of initial training;
- Establish activities, methods and means by which it can intervene in this area of interest by experiencing a *Psychomotoric development program*, which has as main tasks educating the components of dynamic capacity, raising awareness of specific dynamic acts and actions of gymnastics, its role and the extension of their dynamic repertoire of the selected subjects through education and / or improving psychomotoric components mentioned above.

## **Research hypotheses**

- **General hypothesis:** *approaching from a current perspective the role of the psychomotricity and of the main psychomotric components is essential in sports training of beginner gymnasts.*
- **Specific hypothesis (work hypothesis):**
  - *early psychomotric training of the gymnasts influences and determines to a large extent, the initiation objectives fulfillment on beginner athletes;*
  - *the level of psychomotricity's various components necessary for practicing female artistic gymnastics is important for the accuracy of attaining the dynamic's specific content;*
  - *early education of the psychomotricity components in preschool gymnasts it is fundamental to the future evolution in sports;*

## **Research methods used**

- Reference study
- Pedagogical Observation
- Questionnaire-based survey in two stages:
  - preliminary investigation;
  - basic investigation;
- Experiment in two phases:
  - data collection approach;
  - actual experiment;
- Methods of analysis and data interpretation:
  - statistical and mathematical methods;
  - graphical method.

## **Research stages**

### **1. Preliminary research** consisted of two studies:

1.1. *Study no. 1 - sociological survey* that was conducted during January-February 2010 and followed that through the opinions sustained by the specialists in the field, to highlight the role and place of psychomotric education in achieving future performances in female artistic gymnastics.

1.2. *Study no. 2 - data collection activity* was carried out during April-June 2010, and pursued the discovery of the benefits of equipment and devices connected to the computer use, the evaluation, involvement and improvement of psychomotric skills of beginner gymnasts.

## **2. Proper research** consisted of:

2.1. *Basic survey* (15.09. - 31.10.2010) was intended to set the decisive role of psychomotricity during the initiation period in female artistic gymnastics, based on coaches perception regarding its importance.

2.2. *Basic experiment* lasted two years and was divided into two stages: stage I (08.11.2010 - 15.04.2011) and stage II (31.10.2011 - 06.04.2012), both for the purpose of *methodology psychomotric development and psychomotric evaluation* during the initial stage in accordance with the current requirements of female artistic gymnastics.

1-st Phase consisted of applying an established set of tests and special activities designed for assessing the psychomotric and psychological main components and the application of *Psychomotric development program* to increase the psychomotric ability level at the beginner level in female artistic gymnastics.

II-nd Phase consisted of applying a set of tests specially designed to assess the level of physical preparation, technical (the 4 competition tests), artistic and focused on the influences exerted by the program applied in phase I of the experiment, in terms of achieving the educational and training objectives of all components of the training of small gymnasts and also regarding the quality of the physical, technical and artistic.

**Place of research:** School Sports Club, Sibiu.

### Research variables

- dependent variables:
  - *psychomotric components, skills or abilities;*
  - *psychological components and skills;*
  - *specific motion skills and abilities;*
  - *elements and techniques specific to each type of competition;*
- independent variable: "*Psychomotric development program*" designed to improve the initial training of gymnasts.

### **Subjects investigated**

#### 1. *Preliminary research*

1.1. Preliminary investigation: 20 teachers / coaches in departments of female artistic gymnastics from around the country.

1.2. Data collection: 15 beginner gymnasts, aged between 4-7 years.

#### 2. *Basic research:*

2.1. Basic survey: 40 teachers / coaches in departments of female artistic gymnastics from around the country.

2.2. The experiment: 36 beginner gymnasts, aged between 5-8 years.

### **Conclusions drawn from preliminary research**

- The obtained data provided information on which base could be generated deductions regarding the approach of psychomotric phenomenon in female artistic gymnastics in general and especially at the beginning stage.
- In our opinion, the questionnaire was also a source of information, an instrument of raising the specialists awareness over the role of psychomotricity in the sports branch studied.
- The role of the first study, among others, is to create the possibility of developing a more accurate and realistic image regarding the importance of psychomotricity according to experts' opinion in artistic gymnastics, and also to verify the connections between the concepts discussed in theory and circulated in the study (psychomotric, psychomotric skills, body scheme, etc.) and their perception by those who apply them in practice.
- As a key element of the three phases of the study number 2, it can be said that these give the possibility of creating a more accurate and realistic image on the use of the computer resources in static balance training and neuromuscular control for upper and lower limbs.
- We consider that regular use of computerized tests (for assessment and / or training) facilitates directing the training of the athletes since the beginner stage, by offering objective data that allows coaches to make predictions on the gymnasts future performances.

### **Conclusions drawn from basic research**

- The basic survey highlights the assumption mentioned in the hypothesis according to which the place and role of psychomotricity and its components in sports training of debutante gymnasts is fundamental, the coaches interviewed emphasizing the importance of all aspects of the following concepts: training goals, objectives of psychomotric ability, body scheme, psychomotric skills versus motricity skills, development of psychomotric capacity and their reflection in motricity learning process.
- By applying the Intervention Program that consisted of *early psychomotric training* led to significant changes that have influenced the development of all other components of training (technical training, artistic and psychological), causing the *fulfilling of the initiation objectives to debutante athletes, in a great extent*. This fact confirmed the first hypothesis of the research.

- The final results and the higher progress level registered at the experimental group, in terms of motricity training, technical, artistic and psychological and the correlations of the results between different psychometric tests, technical and psychological, confirmed the hypothesis that *the level of various components of psychomotricity necessary for practicing feminine artistic gymnastics is significant for correct assimilation of the specific motricity content.*
- It was recorded that by monitoring the initial training of gymnasts, through periodic, complex and numerous evaluations, the early education of the main psychomotricity components, it emphasizes their level and thus may improve, becoming from predispositions to capacities. Based on this information it is obtained a better knowledge of athletes and it is identified the scarcities in order to plan the training to compensate them. As a result, are made the psychometric profiles and are made short-term predictions for athletic future development. All these confirm the final hypothesis of the applicative study according to which *early education of psychomotricity components to preschool gymnasts is fundamental to the future athletic evolution.*
- Corroborating the conclusions drawn from the survey with the results after performing the experiment, we recorded that psychomotricity is constituted in a key factor, determined in the initial training process in female artistic gymnastics.

### **Original contributions brought to the extension of knowledge area regarding the psychomotricity in initial training in female artistic gymnastics**

#### **1. Theoretical contributions**

The theoretical contributions materialized in the synthesis of the basic concepts of the research: *psychomotricity, psychomotoric ability (skills) and objectives of initial training.*

Definitely, we enumerate the necessary clarifications:

- Providing an overview of the psychomotricity issues during the age range 5-7 years;
- Summary of psychometric components according to the various experts of the field of Physical Education and Sports and of field of Psychology;
- Contributions regarding clarifying the psychomotricity issues, description and main manifestation of psychometric components involved in female artistic gymnastics in the age range 5-7 years: *laterality & ambil-laterality - ambidextrous, coordinative ability, balance, kinesthetic & own perception spatial-temporal orientation and rhythm & tempo;*

- Motric and psychomotric skills that preschoolers should have, differentiated on age range 4-7 years - *Portage guide for early education - improved*;
- Filling in the characteristics of sports training in female artistic gymnastics at the level of initiation, and also their synthesis;
- Theoretical considerations regarding motivation in the educational process of beginner gymnasts.

## 2. Practical and methodological contributions

- Contributions regarding the design of the objectives of initial training in female artistic gymnastics , on levels of training ,at each component of the training and in accordance to the objectives and skills provided by the early Curriculum for early education for children from 3 to 6/7 years (2008 ) ; emphasizing that have been adapted to female artistic gymnastics specific;
- Contributions regarding the content of initial training in female artistic gymnastics, resulted in specific skills to each component of athletic training;
- Preliminary research consisted of a sociological survey its purpose being in highlighting the psychomotricity's role as determinant factor in initial female artistic gymnastics training and of the research orientation;
- Preliminary study on the opportunity of using equipment and devices connected to computers, with which could be obtained useful information regarding the psychomotor ability of preschool gymnasts ;
  - *Study on the influencing static equilibrium at beginner gymnasts, by using the platform balance assisted by the computer*;
  - *Study on influencing the neuromuscular control at beginner gymnasts by using the portable device Move 1 Du, assisted by computer* ;
  - *Study on assessing the neuro- muscular quality of debutant gymnasts using the method "Miron Georgescu – Modified"*;
- Contributions to elaboration of a psychomotor development methodology during the initial training stage in female artistic gymnastics ;
- Development of a set of operational tests to verify the main psychomotric (components) skills, ( body schema, spatial orientation, coordination, general dynamics, etc.) involved in achieving specific female artistic gymnastics at the age of initiation, differentiated by years of training ;
- Consulting and acquiring from German literature, adapting and applying the test on preschool gymnasts " KTK " ( *Körperkoordinationstest für Kinder* ), "*Coordination capacity test / movement for children*";

- Development of a set of operational tests to verify the technical content specific for female artistic gymnastics , at the age of initiation, differentiated by years of training ;
- Development of a *Psychomotor development program* for debutante gymnasts, the program consists of training and educational operational structures to improve psychomotor components ( *body schema / laterality or knowledge, orientation and organize their body orientation, spatial and temporal orientation, ideo-motrical representation of motion, ocular-motrical coordination, balance ( static and dynamic ), general coordination (dynamic ), non-verbal communication ( motrical ) and social behavior ) and completed methodical recommendations.*

### **Direction of research theme development**

By valuing the research results aims to improve female artistic gymnastics training through a new vision of how to approach training at preschool age .

- We appreciate that research results lay the groundwork for the development of projects related to :
  - Improving and perfecting the curriculum for school sports clubs with the advantage of learning driving systematic and ( relatively ) easy to assess and certificate learning experiences that go beyond motility , shaping the personality of athletes and helping them to form legally psihomotric , intellectually, emotionally and socially ;
  - Improving sports programs classification developed by Romanian Gymnastics Federation regarding the objectives and content of initial training;
  - Promote a methodology that will create the premises for a qualitative *secondary selections* and improving performance in the studied sports branch.
- *Develop strategies to improve the proposed program* by improving and perfecting the sets of exercises or systems applied.
- *Develop strategies to improve the assessment of training* of "mini – gymnast" by improving the measurement tools, diversification of tests and of the assessment tests, improving the scoring scales and objectivity of interpreting the tests and / or trials ( with specific reference to the test" KTK " presented in the thesis ) .
- The training outlined in the study and based on the approach of *psychomotricity* in training beginner gymnasts may be suggested to the Romanian Gymnastics Federation, for possible generalizations.
- *Expressing new problems* or questions that will arise among specialists. For example, issues of psychomotricity manifestation (and not only) in the second stage of sports training in female artistic gymnastics.



- *Valorization of research results* by editing either a booklet or a methodological guide for coaches, either by publication in specialized journals of parts of the thesis. Also, could be organized training courses for coaches with themes focused on initial training in female artistic gymnastics.