



## THE IMPORTANCE OF SPORTS PRACTICED AT PRESCHOOL AGE AND THE IMPACT OF THIS ACTIVITY OVER THE DEVELOPMENT OF THE INDICES OF HARMONY IN THE FUTURE

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### ABSTRACT

**Problem Statement:** The present research aims to bring to the forefront a highly debated issue, but little approached in practice, regarding the impact of sports over children, while practiced during the preschool period, and the influence that this activity will have for the individuals, concerning the development of the indices of harmony (height-weight) in the future.

**Purpose of Study:** This research has been undertaken during the lessons of Physical Education and Sports, at the Petroleum-Gas University from Ploiești, on a group of 67 students: (36 subjects are students enrolled in the AMS specialty; 31 subjects are students enrolled in the ADP specialty), in other words, all students of the Letter and Sciences Faculty. We have to mention that these groups were randomly chosen, the sole criterion that was taken into account being to be enrolled at the same faculty (Letters and Sciences), in order to have the same preoccupations, aspirations and leisure time.

**Research Methods:** The bibliographic study method; The observation method; The enquiry method (discussion, questionnaire, etc.); The somato-metrical method; The statistical-mathematical method; The graphic-analytical method.

**Findings:** For this research, we have started from the hypothesis according to which the systematic practice of sports during the preschool period (ages between 5-12 years) will have a positive impact over the indices of harmony in the future.

**Conclusions:** Sports practices during the age interval of 5-12 years provide for the body a different harmonious development, in contrast to the sedentary individuals or to those who had no history of practicing motor activities, thus determining an increase with a positive impact over the indices of harmony in the future.

**Key words:** Indices of harmony, students, harmonious development, sports, future.

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## Introduction

“Children develop in a predictable manner according to the typical sequences of development” (Epuran M., Stănescu M. 2010, p.149), but three factors: heredity, environment, education, give a multi-factorial complexity to the human being at the end of the ontogenesis. Extremely complex, the three factors, in an unequalled trio, always influence the growth and development of the human being. We have to draw attention that in the present study we will take into account the growth of the organism which refers to the accumulations which can be expressed through length, weight, height, etc., because “... development is the sum of the growth processes ...” (Epuran M., Stănescu M. p. 150) and only this process will be the subject of our research. Not in an exclusive manner, and only from the desire to study as thoroughly as possible the phenomenon and to show that not only heredity, but also education, as well as the environment in which the child develops, may influence the indices of harmony. Through this study we aim to bring to the attention of specialists an event with a major impact over the growth process, namely the importance of parental education and their action of guiding preschool children to practice preschool sports.

We want to open another perspective, through the communication of the research undertaken for the younger generation and the future parents who will have children, thus knowing towards which activities to guide them.

From the finalised studies, from the undertaken researches and the reference literature, we emphasize a particularly interesting aspect, namely that sport practiced in early childhood may be crucial for the future development of the somatic indices, other natural factors interfering later in the ontogenesis, which reduce the proportion of genetic mechanisms, thus finding ourselves in the impossibility of changing or influencing anything for the future development of the indices of harmony.

## Purpose of study

We have the following objectives, according to the subject approached:

- The conceiving and implementing of a questionnaire which will provide us relevant data regarding the motor activity of subjects in their preschool period, and also over the schooling years, up to the starting moment of the research.
- The observation of the group and of its levels based on the implemented questionnaire;

- Choosing the somatic indicators for the measurement;
- Performing the measurements and recording the data;
- Identifying the differences occurred as a consequence of the existence of motor activities starting with the preschool age;
- Identifying the causes which led to the difference of the somatic indicators between the two researched groups.

## Research objectives

Presenting the objectives which formed the basis of our research:

- Identifying the differences occurred as a consequence of the existence of motor activities beginning with the preschool period;
- Identifying the causes which led to the eventual difference of the somatic indicators for the two researched groups;
- Analysis of the cases in which differences occur between the somatic indicators.

## Research hypothesis

For this research we started from the hypothesis according to which sports practiced in the age interval of 5-12 years, determine a visible increase over the indices of harmony in the future for the adult subjects, imprinting on the individual's physical appearance a superior harmonious development as a value for them and different from the one of the sedentary individuals or from those who had no history of motor activity.

## Operational approach and subjects involved

The research was undertaken during the lessons of Physical Education and Sports from the Petroleum Gas University in Ploiesti on a group of 67 female students: (36 subjects are students enrolled in the AMS specialty; 31 subjects are students enrolled in the ADP specialty), in other words, all students of the Letter and Sciences Faculty. We have to mention that these groups were randomly chosen, the sole criterion that was taken into account being to be a student, to be enrolled at the same faculty (Letters and Sciences), in order to have approximately the same preoccupations, aspirations and leisure time.

## Research methods

1. The bibliographic study method (we studied both local and foreign literature);



2. The observation method, the enquiry method, the questionnaire entitled "Subjects involved in the research";

3. The method of measurements and recordings – the somato-metrical method;

4. The statistical-mathematical method;

5. The graphic-analytical method.

### Results obtained and their interpretation

It is important to note before making the data analysis and interpretation, that the *prospect of maturity* described by Epuran M., Stănescu M., in 2010, and supported by A. Gesell, it is considered that "... the development process is controlled in a special manner by the internal factors (genetic), rather than by the external factors (the environment)" (Epuran M., Stănescu M. 2010, p. 152). Through the research conducted, however, we aim to contradict this statement, to argue that the children who are today's students, and who practiced sports during the preschool period at least 2-3 times a week, are taller and more proportionate in terms of weight, in comparison to their other colleagues, who are part of the same examined group and have not practiced any kind of sporting activity in the age range of 5-12 years.

We believe that through an early signalling of the phenomenon according to which the human body is subject to change, development and transformation, we may be able to help parents, teachers involved in the teaching process, but also those from the system interested, to understand the importance of sports of any kind practiced beginning with the preschool period. A good barometer for teachers and parents is represented by the somatic parameters, which could be an incentive for parents to become aware and to help children to engage in sports

today for the future! Reporting parameters to the indices of harmony in a comparative manner, we have a starting point and a positive signal for the didactic process with the purpose of popularization and encouraging children to practice sports since the preschool age.

### This research was separated into phases of development:

**Phase I** – or the phase of enquiry;

**Phase II** – the phase of implementation of the questionnaire;

**Phase III** – or the somato-metrical phase – was the phase of measuring the somato-metrical indicators – height and weight.

**Phase I** – was the enquiry phase both at a group level and individually. We have made this enquiry with the purpose of having as exact data as possible regarding the group, and with the intention that the subjects could be informed concerning the experiment undertaken.

**Phase II** – was the phase of implementing the questionnaire, which developed in parallel with Phase III, that of measuring and weighing students.

As a consequence of the enquiry and the implementation of the questionnaire, we have observed significant differences at the level of the researched group for the somatic indicators (see Table No. 1).

As a result of this analysis, the group split into two different groups:

- A number of 40 students, meaning a percentage of 59.71 % did not practice any kind of sports in their life;
- A number of 27 students, meaning a percentage of 40.29 % practiced sport in their preschool age (5-12 years) and later.

**Table No. 1 Statistical indicators recorded after the implementation of the questionnaire**

Questions for the group composed of 67 students at the application of the questionnaire	Answers %	
	Yes	No
1. Have you practiced sports prior to entering to school?	27 students - 40.29%	40 students - 59.71 %
2. Did you use to play in the park when you were kids?	Yes - 90%	No - 10%
3. Have you been brought into a sports club to practice a type of sport?	35 students - 52.23 %	32 students - 47.77 %
4. What sports did you practice prior to entering to school? Please list the sports you practiced.	Gymnastics, football, basketball, hockey, karate - 40.29%	No sport - 59.71 %
5. If you did not play in the park, which were your favourite activities?	57 students – Tag, football, volley-ball - 85.08 %	10 students did not answer - 14.92 %
6. Did you practice sports in the age range of 5-12 years?	27 students - 40.29%	40 students - 59.71 %
7. Have you practiced sports during the preschool period? What kind of sports?	27 students - 40.29% - answered football, basketball, hockey, karate	40 students - 59.71 % No – No type of sports



For the results analysis and interpretation, we passed directly to the second Phase, the first Phase, as mentioned above, was the enquiry phase both at a group level and individually, with the purpose of having as exact data as possible regarding the group, and with the intention that the subjects could be informed concerning the experiment undertaken.

We consider that the questionnaire, although being divided into seven items, contained sufficient items and that the answers obtained were relevant to our research. We have hidden trap questions in the structure of the questionnaire, to offer relevance to our research. The trap questions which confirmed the credibility of the responses were questions number 1, 6, and 7. These questions brought us to the forefront a group structured in two subgroups:

- Subjects who practiced sport in the age range of 5-12 years (40.29%);
- Subjects who did not practice any kind of sports (59.71 %).

**Phase III** – or the somato-metrical phase – was a para-clinical method, an objective method of observation for the physical development and the nutritional state, based on a set of benchmarks and calculations of the antropometrical indices, regarding the subjects involved in our research, already split into two subgroups, which we could name as following:

- Active subjects who practiced sports in the preschool period;
- Passive subjects, who were sedentary during their preschool period.

The somato-metrical method enabled us to calculate the following dimensions, which are of great interest for our research:

- Longitudinal dimensions (height - H);
- Dimensions of the somatic mass (body weight in – Kg).

For the third Phase, measurements have been made in parallel with the implementation of the questionnaire, which subjects were not obliged to sign, out of the desire that each subject would answer as sincere as possible to the questions from the questionnaire. Considering all these aspects, in this situation it would have been difficult to place the indicators measured and to identify the person with the completed questionnaire, so that at the end of the questionnaire we introduced a section for the somatic indicators, field personally completed by each student separately.

After completing the questionnaire, students were asked to come to be measured and weighed. The measurement and weighing operation was performed by the teacher after the implementation of the questionnaire. Then students were asked to complete the space provided in the questionnaire with the data communicated regarding the somatic indicators measured for each individual separately, under the supervision of the teacher. This was the manner of controlling the situation, the data from questionnaires and the measurements of somatic indicators equally, for each subject separately. The statistical indicators are presented under the

form of a mathematical average ( $\bar{x}$ ); the standard discrepancy (S), and the coefficient of variability (CV) as following:

**Table No. 2 Statistical indicators recorded for female students who practiced sport in the preschool period (5-12 years)**

Statistical indicators recorded	Somatic indicators recorded	
Testing type	Body mass in Kg	Height/H in m
Average $\bar{x}$	50.5	1.67
Standard discrepancy $S = \pm \sqrt{\frac{\sum (x_1 - \bar{x})^2}{n - 1}}$	0,64	0.63
Coefficient of variability	0.12 %	0.37%

$$CV = \frac{S \cdot 100}{\bar{x}}$$

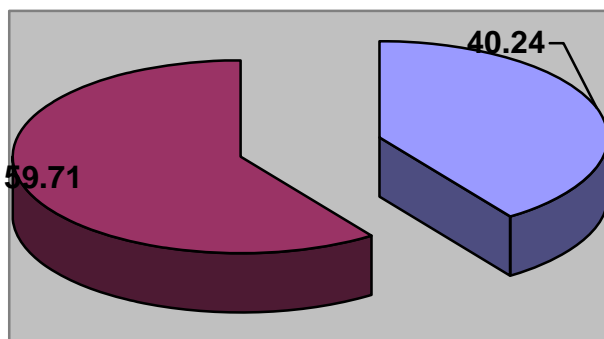
**Table No. 3 Statistical indicators recorded for female students who did not practice any type of sport in their life**

Statistical indicators recorded	Somatic indicators recorded	
Testing type	Body mass in kilograms (Kg)	Height/H in meters (m)
Average $\bar{x}$	58.2	1.61
Standard discrepancy $S = \pm \sqrt{\frac{\sum (x_1 - \bar{x})^2}{n-1}}$	5.00	0.52
Coefficient of variability $CV = \frac{S \cdot 100}{\bar{x}}$	0.86 %	0.32%

During this phase, we measured and weighed students from both groups, and we recorded indicators in tables. With the purpose of modifying mentality, of increasing the efficiency

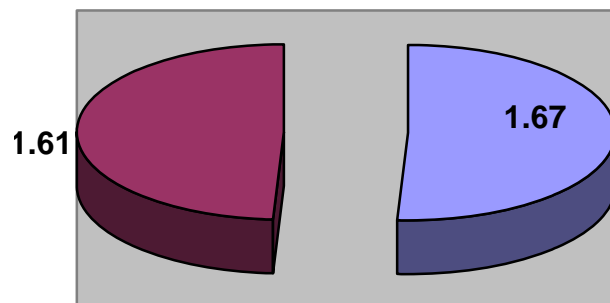
of training and of opening new perspectives of research, we recorded all results in Tables 2 and 3 and we represented them according to the graphic-analytical method in Graph No. 1.

**Students: practiced sport; did not practice sport during the preschool period %**



■ Practiced sport    ■ Did not practice sport

**Somatic indicators - X average – for height (in cm) for the two groups of students**



■ Practiced sport    ■ Did not practice sport

**Graph No. 1 Representative graph, presented in comparison for the two sub-groups of students: those who practiced sports; those who did not practice any type of sport in the preschool period**



All the obtained results tend to show that the average height is different for the two studied groups. The statistical indicators recorded after the enquiry for active students, who practiced sport during the preschool period, following the average: of height -  $X = 1.67$  m and weight -  $X = 50.5$  Kg indicate that the first are taller and more slender, as compared to students who were sedentary during their preschool age, who have an average height -  $X = 1.61$  m and weight -  $X = 58.2$  Kg, indicating that they are shorter with 7 centimetres and heavier with 8.3 Kg than their colleagues.

Therefore, these data mean that the presence of sports during the preschool period (5-12 years), led to the apparition of taller and more slender individuals (see Tables 2, 3, and Graph No. 1). The modifications of height and weight indices confirmed the hypothesis according to which there are significant differences in the somatic development, with a positive impact over the indices of harmony, and for the development of these indices in the future, for students who practiced sports during their preschool age. The absence of sports imprints another physical appearance, with a smaller physique and a higher body mass (see Tables No. 2 and 3, and Graph No. 1) for individuals who were sedentary or who did not practice any type of motor activity.

### Conclusions

➤ Sports practiced in the age interval of 5 - 12 years determines a development with a positive

### Bibliography

- Alfred, A., 2006 The Psychology of the Difficult to be Educated Pupil, I ri Publishing House, (Chapter 2), Alfred Adler, 2006
- Biltac, Gh. and Călin, D. (2008). Inter-human Communication in Physical Education. Craiova: Universitaria Publishing House.
- Colibaba, E.D. (2007). Praxiology and Curricular Project in Physical Education and Sports. Craiova: Universitaria Publishing House.
- Dragnea A.( 2000). Theory of Physical Education and Sports. Cartea Școlii Publishing House, Bucharest, p. 208.
- Epuran M., Stănescu M.,( 2010), Motor learning – applications in body activities, Discobolul Publishing House, Bucharest, p.149, 150, 152.

impact over the indices of harmony in the future, imprinting over the physical appearance with a harmonious development, different from that of their colleagues, who were sedentary and who did not perform any type of motor activity;

➤ Between the somatic indices for active subjects who practiced sports during the preschool period, and their colleagues who were sedentary during the same period, both adults and students, there are significant differences, which occurred, in our belief, due to the lack of physical activity;

➤ The somatic parameters are a benchmark for all the teachers in the development of future activities, and a comparative research of these parameters could be a correct starting signal for the instructive-educative process;

➤ The presence of sports during the preschool period (5-12 years), led to the apparition of taller and more slender individuals (see Tables 2, 3, and Graph No. 1).

➤ Indices of harmony are modified in the future, statement argued by students who practiced sports in their preschool period, as for them the height and weight indices are superior, in comparison with indices of their other sedentary colleagues, thus confirming the hypothesis;

➤ The absence of sports imprints another physical appearance, with a smaller physique and a higher body mass (see Tables No. 2 and 3, and Graph No. 1) for individuals who were sedentary or who did not practice any type of motor activity during the preschool period.

Gevat C, Larion A.,( 2009). The capacity to maintain the 50mp trial maximum running speed, Ovidius University Annals, Series Physical Education and Sport/ Science movement and health, vol.IX, issue 1, 2009, ISSN: 1224-7359 (p.. 36-39) (revistă indexată în baze de date: Index Copernicus Journal Master List, DOAJ, EBSCO, SportDiscus with full text, Socolar, Caby, Gale CengageLearning).p.36-39.  
<http://analefefs.ro/anale-fefs/2009/v2/i1/PAPAER%20ABSTRACT%20AND%20FULL%20TEXT.pdf>

Gevat C., Larion A., Sabau E., Niculescu G., (2012). Identify the physical abilities of 11-12 years old students from middle school, Ovidius University Annals, Series Physical



- Education and Sport / Science, movement and health Vol XII, issue 2 suppl/2012, p. 331-336, ISSN 1224-7359, (revistă indexată în baze de date: Index Copernicus Journal Master List, DOAJ, EBSCO, SportDiscus)
- Ion Negreț-Dobridor, General Theory of the Educational Curriculum, Polirom Publishing House, Iași, 2008, p.189,190, (Chapter 12.4).
- Lupu, E., (2005), The design of the research of cognitive, affective, psychomotor objectives in the activity of physical education. Bulletin of Petroleum-Gas University of Ploiesti. Education Sciences Series. No. 1/p.51-57.
- Lupu, E., (2006). Teaching Physical Education and Sport Methodology, European Institute Publishing House, Cursus Collection 18, Iași, 18-49 (Chapter 3,4).
- Stoica M., Pedagogy and Psychology, Gheorghe Alexandru Publishing House, Craiova, 2001, p. 84-87
- Thomas, R. Thomas R. – Jerry & Nelson, K., Jack, Research Methodology in Physical Activities . Vol I SDP r. 375-377, 1996; vol II SDP R. 386-389, 1997. The Research Centre for Sport Issues, 99-197.
- Tudor V., 2001, Evaluation in Physical Education, Printech, Bucharest, p. 34-5.7

with full text, Socolar, Caby, Gale Cengage Learning), p. 331-336  
<http://analefeffs.ro/anale-feffs/2012/issue-2-s/pe-autori/10.pdf>