

EDITORIAL

General Notions About the Integrated Computer System for Researching Biomotricity Parameters at the Young Population from Romania – Biometric

National Institute for Sport Research, Bucharest

Correspondence: NISR (e-mail: office@sportscience.ro)

Between 1970 and 1980, the project “The biometric potential of the school population” started, in which Alexandra Foşneanu, Virgil Mazilu, Virginia Paraschiv and Nicu Alexe (coordinator) participated and whose purpose was to assess the state of health, the average values of the evolution of the waist, the level of the weight of the youth and the level of the motor qualities determined by the biological and functional substrate. To carry out this fundamental research, unique at European level, the C.C.P.S team determined and collected every 10 years the anthropometric measurements and the basic motor values from a total of 100,000 subjects from primary, secondary and high schools.

In 1969-1996 period, a “Comparative study of the biometric potential of the school population” was carried out in three stages (1969 -1972; 1980-1984 and 1991-1996) for preschoolers, students in grades I-IV, students in grades V-VIII, students from grades IX-XII. Thus, three comparative studies appeared at an interval of about 10 years.

Based on these studies, the “unitary system for checking and assessing the level of physical training of students” (SUVA) was taken over and applied by the school programs for grading students and subsequently transformed into “the unitary system for checking and assessing the level of training physics of students and the detection of talents for performance sports activity “(SUVAD) as a unique selection system, final battery, in order to improve the content of sports activities and to make the profile activity more efficient in the educational units. Its data were taken over and used by the sports federations on sports branches and included in the methodical guidelines of the sports federations. They were also used by school sports clubs, children’s and junior sections.

Numerous works from European and US countries have been the basis of modern studies: the AAPER test, Barow’s physical fitness test, the “Indiana” fitness test, and after 1988, the new battery of motor tests is applied in all European countries. EUROFIT, which presents physical capacity as an important component of physical education and sports and equally of health, health education, ensuring general well-being. The difficulty with which the primary information was obtained from the territory and then processed to obtain significant results, difficulty found in all three comparative studies mentioned, can be overcome today by computerizing the process and creating a communication network and a high-performance processing base, as it is presented below.

The interpretation of the data of each edition and the conclusions of each previously mentioned paper were known by the factors interested and involved in the field, mainly by the physical education teachers and by the decision-makers at ministerial level, at the end of each edition. Periodically, new conclusions were drawn about the evolution of the biomotor potential, or the causes were analyzed to justify some decreases in the results of some tests, which also attracted changes in the school curriculum.

After 1990, there is a regression of the biomotric potential of pupils in I-st and II-nd years, a situation with major implications in terms of health in the medium and long term. The poor results recorded in 1992-1996, for the third edition in grades V-XII, deter-

mined the continuation of investigations on other samples of students, making recordings with a new battery of measurements and motor tests, whose processing with reference tables of the intervals of values for grades IV, offers the possibility to quickly evaluate, follow for short periods of time, the progress of students, from one stage of preparation to another.

The third stage of the study of the biometric potential of the school population, completed in 1996, brought special information about the biological and motor evolution of the young population in Romania, with possibilities for use in medium and long term forecasts.

In this third stage, the regression of the biometric potential of the pupils from I-st and II-nd years is ascertained, a situation with major implications in terms of health in the medium and long term. The poor results recorded in 1992-1996, for the third edition in grades V-XII, determined the continuation of investigations on other samples of students, making recordings with a new battery of measurements and motor tests, whose processing with reference tables of value ranges for grades IV, offers the possibility to quickly evaluate, track for short periods of time the progress of students, from one stage of preparation to another.

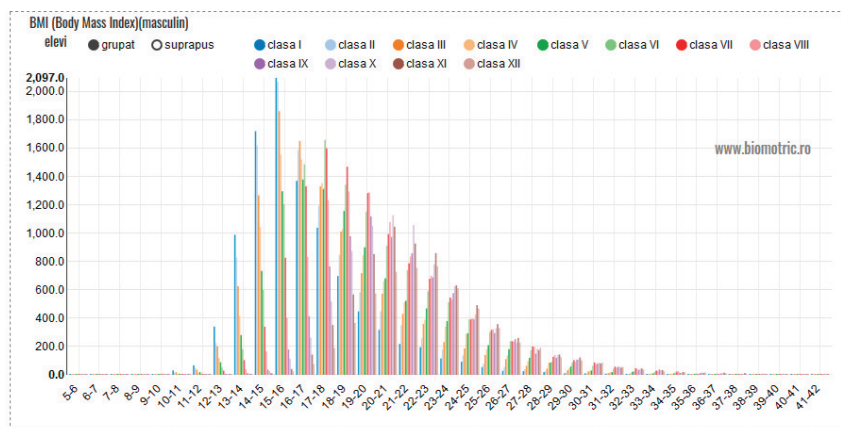


Fig. 1. Graph representing the BMI of a group of students (boys) evaluated, from all classes, generated by the biometric programme.

Starting with 2016, the steps regarding the National Biomotor Program are resumed, and an agreement was signed between the Ministry of National Education and the Ministry of Youth and Sports regarding the application of this program.

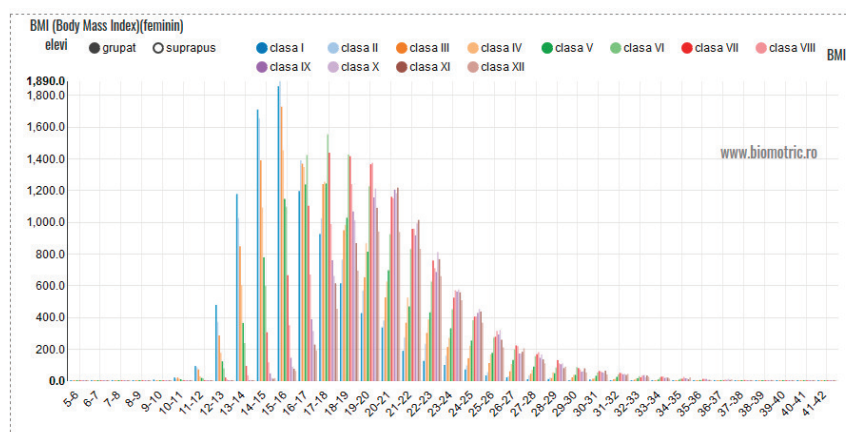


Fig. 2. Graph representing the BMI of a group of students (girls) evaluated, from all classes, generated by the biometric system.

In the 2016-2017 school year, the pilot stage is carried out, which proposes a number of 10 anthropometric measurements and 10 motor tests.

As an evaluation of the possibility of applying the battery of anthropometric measurements and motor tests, based on the information provided by teachers, as well as for the alignment of measurements and tests to the school curriculum, a number of 6 anthropometric measurements were selected (height, weight, sole length, trunk / back height, waist circumference, arm span) and respectively a number of 7 motor tests (mobility, long jump, trunk lifts, balance, touching the plates, speed running, endurance running).

In the 2017-2018 school year, the first stage of anthropometric measurement and motor testing is performed at national level, using an integrated computer system for data collection and processing, offering all stakeholders an extremely important and useful

database in terms of the level of somatic development or of some qualities or deadly habits among the school population in Romania or in different counties / localities. General data and information can be accessed on the website: <http://www.biomotric.ro/>, and by creating a user account, it has access to much more detailed data or numerous search or comparison filters.

This test was attended by over 3000 teachers from Romania and the technical support and the interface is administered by the team of specialists of the National Research Institute for Sports, Bucharest.

We consider this programme of crucial importance for physical education and sports teachers, for coaches but also for government authorities to have a useful database in order to adapt and improve policies in the education and health system, that may be influenced by physical activity of the population.