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Effects of Fitness Practice on Somato-Functional Parameters

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Effects of fitness practice on somato-functional parameters

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Abstract

This paper proposes, from several sources in the field studies, to promote and justify the fact that weight training can play an important role in improving physical health and mental and emotional disturbances mitigation. Increasingly more in recent years studies have shown that weight training benefits are many and especially beneficial for young people. Weight training has a very large potential benefits that can be used both to maintain and improve health and to prevent loss of this status. Nowadays it is concluded that weight training is able to preserve a long well -being by maintaining bone density, ligament system, ordering and maintaining body schemes functional parameters of cardio-respiratory device at an optimal level.

Keywords: *training, muscular fitness, results*

Today more and more people are becoming aware of the benefits of the movement. Propaganda done by all possible means causes modern man to act in this direction and so we see more and more people running, playing tennis, basketball, football, badmington, cycling, rollerblading or swimming.

It is proven that active people with more fulfilled lives are stronger, more resistant to disease and are permanently in good physical shape; they are much more confident in their own strengths, much less depressed and often, even in old age, they are very energetic, with a zest for life and eager to carry out new projects.

Recent research in the medical field has shown that the lack of full health is correlated with the absence of physical activity. It would be extraordinary if by all possible means a large-scale promotion of the promotion of movement, any kind of physical activity were made so as to raise awareness of the fact that health is the most precious gift and that health care should be one of the main goals of worldly life.

It seems that the current enthusiasm for movement is not only a fashion issue, more and more people have realized that they can prevent the installation of a large number of diseases induced or favored by inactivity (sedentary), seeking to be as active as possible. not just for a while, but for the rest of your life. Our ancestors never faced such health problems, generated by a sedentary life, because they were forced to move a lot to survive, to support themselves and to feed themselves.

The installation of the revolution The contribution of fitness to the development of industrial sports performance replaced raw, manual labor with that of machines, and thus people became less and less active, thus losing their endurance and natural instinct for movement.

1. Research premises

Increasingly frequent health problems have raised many questions and made people aware of the importance of exercising, slowly, slowly rediscovering the joys and benefits of an active and healthy life.

Exercising invigorates the body, maintains a high physical and mental tone, makes us more self-sufficient and creates a warm and friendly atmosphere among those with the same concerns. The literature demonstrates that the experience of body movement acquires relevance both by its volume and by its variety, each era bringing with it other forms of employment in activities of great diversity.

This experience, limited in essence, can manifest itself as a personal and social requirement, designating today the cultural status of a practitioner. The delimitation between the psycho-intellectual and the corporal aspect, between thinking and doing, between the culture of the spirit and the physical culture, is no longer so radical, because the daily activities require an ambivalent conduct, with both physical and mental demands.

Thus, the human body is no longer considered an inert structure, a packaging, but a condition of existence itself, an efficient or refined tool, whose motor potential is the essential condition of its functionality.

This study aims to identify the dynamics of somatic, functional and psychological parameters (by carrying out an exercise stage), in young students, using certain means of fitness content, summarized as follows:

-fitness has become a priority optional discipline both for physical education and sports courses, as well as in free time;

-the diversity of morpho-functional and motor peculiarities of the practitioners forces a differentiated approach to the content of the lessons, load, volume of repetitions, effort dosing, recovery, requiring a permanent adjustment for each subject, so that the administered stimuli lead to the expected effects;

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-the correlation between the active lifestyle and the state of health, as well as the influence of the organized physical exercises for the amelioration of some physical deficiencies or of some pathological states induced by sedentarism;

- ways of objectifying the morpho-functional demands established by the different categories of means specific to fitness;

-participation of subjects is voluntary by optional enrollment in this course.

2. Research hypotheses

1. due to the means used in the content of the fitness discipline, the complex effects related to the somato-functional and psychological sphere will be obtained for the subjects subject to research;

2. exercising with weights and with a certain intensity of effort will lead to the improvement of body aesthetics, highlighted by improving the values of body composition;

3. the analytical programs with weights and the aerobic regime depending on the particularities will lead to the improvement of the cardiovascular functions;

3. The purpose of the research

Identifying muscle fitness programs so that they lead to positive effects in terms of somato-functional parameters and self-image.

4. Research objectives

1. Knowing the particularities of the two groups of subjects (experimental and control), age, physical condition, baggage of motor skills and reaction to specific effort;

2. Compilation of training models, in the form of annual programs for staggering learning units, as well as balanced distribution of resources for the programmed thematic components;

3. Determining the somato-functional and psychological aspects, with the help of initial tests;

4. Monitoring the subjects with the help of the pulse-tester to check the level of demand of the programmed means;

5. Determining the somato-functional and psychological aspects, with the help of the final tests;

6. Establishing the differences regarding the progress rate at the two experimental groups;

7. Framing the intensity of the effort in the optimal area and the most precise knowledge of the heart rate parameters, determined by the exercises applied to the main and secondary muscle groups;

8. Finding possible connections between the independent variable (means used, the level and nature of the demands induced by them) and the dependent variable (effects obtained in somato-functional and psychological plan).

5. Indicators used

- body weight, body mass index;
- ruffier test, percentage of adipose tissue, heart rate in exertion;
- subjective perception of effort.

6. Organization, methodology, period and location of the research

The research sample included a number of 20 subjects, from the first and second year of college aged between 18 and 25, clinically healthy, with various minor ailments that do not affect physical exercise with difficulty and do not involve contraindications, each with a favorable medical opinion. .

The average age of the experimental group is 21.5 years, and of the control group 20.2 years. All subjects enrolled voluntarily in the fitness course at the beginning of the 2017-2018 school year.

The research took place during a university year, starting with 2017, ending in the second semester, 2018. During this period, the previous stages of elaboration of the work plan, documentation, design of the experiment, its development, as well as the analysis and interpretation of the results.

The training activity, as well as the taking of data regarding the somatic, functional aspect and the investigation of the self-image appreciation took place in the bodybuilding and fitness room inside the University of Petroșani, having the necessary material and logistical endowments.

The bodybuilding and fitness room benefits from modern equipment (helcometers, scales, presses, accessories), 2 treadmills, 2 stationary bikes, dumbbells, dumbbells, discs with various weights, individual mattresses, Polar pulse tester, Braun sphygmomanometer, electronic scale , compass for determining Fresenius envelopes, electronic timer PC 90.

The lessons took place once a week, the schedule alternating the semester schedule as follows:

Academic year 2017-2018

Semester I - experimental group between 08-10;

- control group between 10-12.

Semester II - control group between 08-10;

- experimental group between 10-12.

7. Methods used in the research

Fitness is the activity that mainly aims at modeling and strengthening the entire muscular system. The purpose of fitness is like a system special exercises, performed with different weights, dumbbells, dumbbells or apparatus, devices and accessories based on pulleys and levers, to develop a healthy body, vigorous, strong, aesthetic and harmonious, with well-defined and highlighted muscles.

The exercises are performed from different positions for their effect on training proportional to the body and increase muscle strength to be as large as possible and for eliminate all negative consequences. In fitness training, it is put special emphasis on:

- alternating muscular effort with rest;
- rational nutrition;
- a moderate lifestyle;
- strict maintenance of personal hygiene.

1. Methods of data collection: bibliographic study (specialized sources and related fields; psychology and pedagogy); pedagogical observation (assuming the intentional contemplation of the group of subjects, during and after the application of the experimental variable); the experiment (the independent variable was applied to the experimental group, causing complex adaptive phenomena, under the conditions of a standardized training); questionnaire-based survey (on the perception and valorization of the physical aspect, questionnaire for self-description of the physical aspect - "Physical self - descriptive questionnaire" PSDQ); standardized tests (BMI, Ruffier test, determination of adipose tissue envelopes, level of stress on the help of the pulse tester, investigation of the subjective perception of the difficulty of physical effort and self-image - Borg Scale - PSDQ questionnaire);

2. Methods of statistical-mathematical processing (median, standard deviation, mean deviation, dispersion, amplitude, variability coefficient, STUDENT t-TEST, difference of means, ANOVA test).

8. Content and organization of the experiment

Physical condition defines the quality of a system to be prepared, adaptable, adjustable, to meet imposed standards.

The training of each athlete will require a special individualized program, depending on the motor capacity of the individual, but also on the proposed purpose; this presupposes that the subject chooses the programs corresponding to his level of preparation, but also according to the proposed purpose.

The inclusion of physical training in the training program aims at multiple benefits, both physically and mentally, providing reliable resources in their own strength.

Through fitness, a rigorously planned and organized activity, significant progressive changes are obtained in terms of the development of mental function, athletes having the ability to analyze situations, solve certain problems, make decisions and act.

Thus, it is found that the plan of cognitive development (attention, thinking, memory, creativity) and the plan of affective development (interests, motivations, attitudes, values) are equally influenced.

The study acquires the coordinates of an experiment to verify or confirm the influence of the particularities of complex fitness training on the somato-functional and psychological components of the subjects.

For the experimental group, we opted for a longitudinal monitoring of the evolution, for a training focused on the most appropriate selection of means, simultaneously with the monitoring of the intensity of the effort, and for a programming correlated with the pursued operational objectives. Exercise structures have been designed for each lesson, which correspond to a certain functional load, evaluated with the help of the electronic devices mentioned above.

The control group performed the same volume of exercise during the lessons, benefiting from the same material conditions, with the difference that the programs did not involve permanent monitoring of cardiovascular function, correlated in real time with the exercises performed.

Examples of operational structures used in the two groups:

- joint mobility.
- resistance;
- coordination;
- force;

The development of a dominant biomotor quality can have a positive or, less frequently, negative transfer effect. When an athlete develops strength, he may experience a beneficial change in speed and endurance. In other words, a strength training program designed to develop only maximum strength can negatively affect the development of aerobic endurance.

Thus, a training program preferentially focused on the development of aerobic endurance can have a negative transfer on strength and speed.

Taking into account the fact that strength is an essential sports quality, its training is done as a rule together with the other qualities.

9. Conclusions from the experiment

1. Following the application of the independent variable, respectively the approach of specific training contents aimed at meeting the operational objectives of the somatic, functional and psychological sphere of the subjects, the idea emerged that the representative parameters under investigation marked statistically significant progress in the experimental group. The results confirm the improvement of health indicators.

2. Adipose tissue, through the percentage obtained by the experimental group, shows us that the independent variable also produced effects on the body mass index (BMI), the value of 41.45%, confirming the normal weight of the experimental group and the attempt to overweight control group.

3. Weight (BMI) recorded favorable results (tending to the normality parameters required by the standard), for the experimental group (11.27%), and for the control group. Thus, the subjects of the experimental group were mostly in the category of overweight, while in those in the control group, the weight leaned towards the category of overweight.

4. The applied program, through the obtained results, pleads in favor of confirming its viability, having hypothetical value, both by content and by the applied training methodology. Therefore, the subjects subjected to this experimental program showed their satisfaction together with the opinions, suggestive and ameliorating, the constructive attitudes, being of real use to them.

5. The post-exercise cardiovascular regulation capacity of the experimental group, deduced by the Ruffier test, demonstrates that the systematic aerobic effort leads to the preservation of a cardiovascular potential, meaning a functional economy both during exercise and at rest, activism manifested for a long time without the installation of fatigue or a state of discomfort. The control group in turn highlights optimal adaptive reactions to the final tests, confirming that dynamic fitness, respectively endurance efforts, create the premises for a good long-term cardiac adaptation.

6. The ratio between body weight and the percentage of adipose tissue, highlighting the body composition, is a significant parameter for assessing the state of nutrition. Thus, in the experimental group, it can be said that, apart from the subscapular and suprailiac envelopes (in which the differences between the control and the experimental group were zero or in favor of the experimental one), the other envelopes were statistically significantly reduced, with good results obtained in the thigh and abdominal region (40.29% and 65.33%, respectively).

7. The statistical data show an easier adaptation of the subjects of the experimental group, to the efforts from the beginning of the exercise considered heavy. In the control group, there was a decrease in the perception of effort intensity compared to the experimental one (from 75% subjects who perceive the effort as very very easy and very easy, to 43% who perceive the effort as very easy and easy) can be interpreted as a result of an insufficient content of means correlated with a predetermined level of effort or even with the neglect of the exercise in effort.

10. Recommendation

In other words, we can conclude that fitness completes and polishes the training process, completing the range of means absolutely necessary to obtain the best sports performance.

Outstanding results have never been achieved if the training has not been structured in such a way as to contain physical training. We could say that raw physical training is the basis on which all the qualities and skills specific to the sport practiced are "built".

Physical condition defines the quality of a system to be prepared, adaptable, adjustable, to meet imposed standards.

The training of each athlete will require a special individualized program, depending on the motor capacity of the individual, but also on the proposed purpose; this presupposes that the subject chooses the programs corresponding to his level of preparation, but also according to the proposed purpose.

The inclusion of physical training in the training program aims at multiple benefits, both physically and mentally, providing reliable resources in their own strength.

Through fitness, a rigorously planned and organized activity, significant progressive changes are obtained in terms of the development of mental function, athletes having the ability to analyze situations, solve certain problems, make decisions and act.

From the long experience in the field, we allow ourselves to make some suggestions regarding the improvement of the effects of these programs:

1. Correlation of the functional capacity of effort of the subjects, with the pre-established individual objectives and by mutual agreement;

2. The structures of exercises by their elaboration to bring efficiency and attractiveness at the same time;

3. the means of work to be staggered over periods of time, ensuring both the installation of adaptive changes and the avoidance of monotony and stagnation of the evolution of different motor qualities;

4. Obtaining a significant and immediate response that allows the adjustment of the training strategy;

5. Ensuring the most favorable conditions for expressing opinions about the programs, the effort made and required in the lesson, the musical background, as a process of lesson interactivity, in terms of constructive dialogue or even the conduct of sequences of lessons by students.

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