

THE AWARENESS OF THE BENEFITS OF PHYSICAL-EFFORT TO THE HUMAN BODY

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Abstract: *This paper is aimed at evaluating and making students understand the importance of the benefits of physical effort to the human body. For this purpose a questionnaire has been applied to all students of all specialties in our faculty. The questionnaire contained a number of questions addressing the students' knowledge and understanding of the benefits of physical effort to the human body. The survey results have been transformed in percentage, interpreted and graphically represented. This study proposes, also, four exercising programs with different accessibility degrees and instruction level of those opting for the implementation of one of them.*

Key-words: *physical-effort, benefits, physical-exercise.*

1. Introduction

As a result of social evolution and the enormous science and technology progress, physical exercise has overcome the empirical stage and is now governed by scientific norms and rules aimed at an harmonious development of human body. In the nowadays society the health-care policies provide a centre-stage role to the importance of physical exercise to maintaining a good health and increasing the span of active life.

The different forms of physical exercises contribute, through their specific means, both to the personal development of young people and to the prevention and control of their motor deficiencies. At the same time, physical exercises meet, to a great extent, the youth's natural recreational and emulative needs.

Physical exercises, in general, and aerobic gymnastics, in particular, are extremely extensive and diverse. They are not a regular part of daily activities being specifically designed and performed in accordance with the equipment involved and their specifics (floor-exercises, portable apparatus exercises, fix apparatus exercises, aerobics, etc.).

By definition the aerobic sports imply the ability to perform specific complex exercises, with intensity, flexibility and strength, utilising the seven basic steps. The exercises are demanding for the cardiovascular and respiratory systems.

The first use of the term "aerobic" was by dr. Kenneth Cooper of Texas who gave this name to his own exercising system aimed at preventing the cardiac problems (Ferrario & Aparaschivei, 2004, p.34).

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The main goal of aerobic gymnastics when applied to students is the harmonious body development and strengthening, enhancement of a correct body posture, maintaining a good metabolism and the development of basic motor abilities and organizational skills for independent exercising. This is also aimed at invigorating the muscular system, increasing the flexibility and, as a result, preventing, over time, the deficiencies of the muscular and skeletal systems.

Since, it brings up the scientific arguments in support of doing physical exercises on a regular basis, during the students' practical activities, a particular importance has been attached to the theoretical training. The students have been made aware of the benefits of sports activities performed over extended periods of time. This could be accomplished using the sport facilities, climbing stairs, jogging, dancing or simply through daily walks.

Including sport activities and healthy eating in the modern persons' life ensures a higher consumption of body energy compared to sedentary people.

Numerous studies show that physical exercises increase the metabolic rate and body energy and oxygen requirements. Acceleration of the heart-rate results into a faster oxygen and macronutrients transfer to the cells for body energy creation.

Practically, *“the physical activity could be seen as an energetic transformation, the transformation of the potential chemical energy contained in food in mechanical energy and heat.”*(Bota, 2000, p.41).

At the same time, an increased heart-rate fortifies the heart muscles, improves the heart pumping capacity and reduces the pressure on the blood vessels. The result: a lower risk for cardiovascular diseases.

Also, we cannot speak about sports and health without addressing the extraordinary effect of physical exercise on the human brain: memory improvement and euphoric mood, relaxation after physical effort, creativity in applying the knowledge acquired during various motor activities (Beneficiile sportului asupra organismului uman).

In their book, Teodorescu and Bradu (2004) propose some aerobic programs based on generally applicable objectives, with a content meant to suit different requirements. He considers that the aerobic exercises improve the health of the cardiovascular system, the heart muscle becoming stronger (as any other body muscle), pumping a greater amount of blood and thus providing the body muscles with the oxygen needed for an harmonious growth. The aerobic activity burns the calories and fat making the trainee feel slimmer, lighter and more alert.

Physical exercises, regardless the purpose they are performed for (spare time or professional sports), have a significant impact on one's psycho-behavioral profile. According to the specialized literature those who do physical exercises under any form:

- a) are more disciplined;
- b) have stronger character and self-control;
- c) can better control their emotions;
- d) have a better short and long term memory;
- e) have a better focused and distributive attention;
- f) have a better general and motor intelligence;
- g) have an elevated ethical and civic spirit;
- h) have well developed personality.

We can say that performing physical exercises is also an activity that generates pleasure, occupying our spare time pleasantly but, especially, usefully. Besides, some sociologists mentioned that physical exercise done systematically and on a regular basis

has also a social value contributing to the social integration and reintegration of people (regardless their age). Situations where street violence has been effectively channeled, under strict regulatory conditions, towards useful physical activities (such as fighting sports) and in this way generating human and sportive values, have been also brought into discussion. We strongly advocate for any type of physical exercise (jogging, badminton, roller skating, football-tennis, table tennis, swimming, football etc.), putting a special emphasis on the outdoor sports.

Those mentioned above are just a few of the many advantages of exercising; certainly we can find many more arguments but what is really essential is to make all the necessary efforts for adopting an active lifestyle, sport and physical-exercise oriented. Finally, the benefits are those related primarily to our health, a long term investment whose main benefit is a significant increase in life expectancy and quality of life.

A well physically-educated person, in accordance with modern physical-pedagogy activities, is:

- in a good physical condition;
- aware of the importance of exercising, throughout the entire life, for maintaining and strengthening his/her health;
- eager to exercise and enjoying physical effort (Gallahue as cited in Kulcsar, 2000).

Through doing physical exercises certain competencies, acquired along the way, through theoretical and practical activities, are acknowledged. Thereby, Neacsu and Uta (2015, p.119) define these competencies as presented in table 1:

Competencies developed through physical exercises

Table 1

Categories of contents, activities and effects	Competencies/ values to be developed
The effort-rest relationship	a) to know the role and objectives of a selective work-out on the locomotor apparatus; b) to know the role played by exercises for after-effort recovering of the main physiological function indicators; c) to have the necessary competencies for acting in the two aforementioned situations.
The positive effects of physical exercises on human body	a) to be aware of the positive effects of physical exercises on health and body improvement over short and long term; b) to acquire the necessary competencies for self-assessing his/her own physical and physiological achievements, aiming at maintaining an optimal health.
The benefits for health and physical development	a) to know and understand the effects of physical exercise done systematically and its contributions to maintaining an optimal health through a reduction of cardiovascular risk, obesity and stress; b) to have the ability of comparing personal somatic development indexes against those provided by the specialized literature according with the age and sex and the competency of reacting in accordance with the acquired information.
Promotion of the active life values and a healthy lifestyle	a) to possess theoretical knowledge regarding the type of exercises to be done for the improvement of the main function indexes; b) to be aware of the benefits of natural factors in body hardening and of the rules of doing outdoor physical exercises; c) to obey the individual and collective hygiene rules during practical activities and the habit of respecting them for long term.

Categories of contents, activities and effects	Competencies/ values to be developed
The assumption of the socio-sportive roles	a) to improve the sense of responsibility for self- preparation; b) to assume the role of maintaining an optimal physiological and mental health; c) to have the ability of handling complicated situations; d) to get the capability of organizing ludic activities; e) e) to comply with the group hierarchy.
The capacity of acting independently	a) to have an increased capacity of self-organizing during the independent doing of physical activities; b) based on the theoretical knowledge acquired, to have the competency of evaluating the effort required by a certain physical activity.

2. Methods

In order to determine the impact of physical exercises on the understanding and awareness of students concerning the benefits of physical effort to the human body, after a semester during which a number of sports programs with various means but mostly of aerobic type, ball games and running, had been conducted, the students in the first year were given a questionnaire (see Annex).

2. Results

The questionnaire had a special effect on the students, they being interested not only in doing physical exercises during their spare time but also as a healthy way of life. The following responses have been centralized after the questionnaire based survey targeting 200 students had been completed:

The *first question* has been answered affirmative by 100% of the students, meaning that they are aware of the physical, physiological and mental benefits, obtained at the human body level, by regular physical exercises.

The *second question* was correctly answered (all the seven answer options regarding the benefits of physical effort on the human body being checked) by only 20% of the students attending the survey. Only 10% of the others checked four or at most five answer options and the rest of them (70%) less answer options.

At the *third question* regarding the effect of physical exercises on the psycho-behavioral human features, only 10% checked all the seven answer options, 10% checked five answer options and the rest of them (80%) less than that.

At the *fourth question* only 5% of the students knew and chose all the five correct exercises of cardio type, 5% checked three or four correct answer options and the others (90% respectively) less answer options.

At the *fifth question* regarding the influence of the cardio type exercises, 45% of the students knew and checked four out of eight answer options presented, 15% opted for six and the rest 40% for only two or three.

At the *questions six and seven*, regarding the number of hours dedicated to sport every week, as well as, where they were done, 85% of the students said that they dedicate about two hours a week to sport activities, during the physical education classes at the university. Then, 5% of the students stated that they dedicate about four hours a week to sports both within the physical education classes at the university or occasionally.

Another 5% stated that they dedicate about six hours a week to sports and the rest of them (5% respectively) do physical exercises several times a week.

At the **questions eight** and **nine** 90% of the students stated that they feel better after physical exercises and some even believed that they were more positive and 10% considered that they had a better general state. At the same time 95% of the students prefer the physical effort with medium intensity, 3% opted for physical effort of high intensity and only 2% for physical effort of low intensity.

At the **tenth question**, 90% of the students believe that they are more functional and optimal at their daily activities after systematically making physical effort and the rest of them opted for the "maybe" option.

3. Conclusions

We find it necessary that physical activities of a certain intensity should be carried out at least twice a week. Dynamic exercises (jogging, aerobic exercises, biking, skating, etc.) are consuming more oxygen and result in a faster improvement of body endurance to effort. At the same time it helps to burning of as many calories as necessary and in such a way to maintaining an optimal health and a normal body weight.

These dynamic exercises carried out systematically stimulate the cardiovascular system and have a number of other benefits, as well:

- combat anaemia because they stimulate the body to slightly increase the amount of blood produced;
- strengthen the joints and prevent arthritis;
- successfully eliminate the stress - after about a half an hour after exercising the "feeling good" state increases, both physically and psychically;
- are most efficient in reducing the body weight.

Jogging (or running) is one of the best and simplest cardio-exercises being preferred by most of the students. They don't require special equipment and can be carried out in any place. Due to the continuous effort made, more calories are burnt and the myocardium becomes stronger. This type of exercises have as benefits:

- a stronger heart, the blood circulation capacity increases and improves the respiratory system;
- accelerates the activity of the digestive system what eventually results in reducing the body weight;
- increases the work capacity and leads to an more active life style;
- strengthen the leg and back muscles.

Cardio-exercises (aerobics)

Aerobic exercises impact on more muscle groups improving the breathing and cardiac rhythm. This type of exercises are preferred more by girls - 90% opting for them. By maintaining an alert rhythm throughout the whole exercise, aerobics make the heart stronger and more resilient. Additionally, they facilitate the body weight loss and strengthen the immune system. Through aerobic physical exercises the following results could be achieved:

- developing and maintaining of an adequate physical condition;

- lowering the risk of serious diseases like coronary heart disease (ischemic cardiopathy);
- increasing the muscular strength and strengthening the skeletal system (lowers the risk of osteoporosis and of secondary fractures, ameliorate the symptoms of degenerative rheumatic diseases - like arthritis);
- by releasing in the blood stream some chemicals produced at the brain level named endorphins, increasing the cheerfulness;
- improving the peripheral circulation;
- facilitating the maintaining of a proper body weight.

Regarding the motor development we can conclude that those who systematically do physical exercises will have power, speed, resilience, joint mobility and muscular elasticity indexes superior to others that don't do that.

4. Proposals

The proposed program variants result from the options and preferences which students have formulated answering the questionnaire (table 2).

The forth program variants represent theoretical reference points which students can consult and can guide in eventuality of constant physical effort depending on everyones objectives, as is specified bellow.

Thereby, we proposed to the students a few versions of sport programs that they can accommodate within a week pending on their personal purpose and objectives, as follows:

- either for body care and maintaining of an optimal health;
- or for a good physical preparation and a satisfying muscular tone;
- or for obtaining a sportive shape that facilitates the achievement of certain performances.

Sportive program variants for systematic prestaton of physical effort Table 2

Weekly sports program	Duration of preparation	How many times a week	Effort intensity	Contents suggestions
Weekly sports program LIGHT	One hour	Two times/week	Low WHR* = 110-130 b/min	- jogging; - jogging alternating with fast walking; - biking; - swimming; - volleyball, basketball basic elements; - different physical exercises for joint mobility and muscular toning; - stretching exercises; - fit-ball exercises; - aerobics exercises; - groups of light aerobic exercises with movements and static.

Weekly sports program	Duration of preparation	How many times a week	Effort intensity	Contents suggestions
Weekly sports program LIGHT to MEDIUM	One to one and a half hours	Three times a week	Low WHR* = 110-130 b/min Medium WHR* = 120-135 b/min	The above - mentioned exercises could also be included. <ul style="list-style-type: none"> ▪ simple static jumps; ▪ jumping rope; ▪ jumps with movements; ▪ exercises with dumbbells for arms and torso; ▪ combinations of exercises under circuit form; ▪ groups of exercises with movements of aerobic type
Weekly sports program MEDIUM	One to one and a half hours	Three times a week	Medium WHR* = 120-135 b/min	The above - mentioned exercises could also be included <ul style="list-style-type: none"> ▪ movements and aerobic dance; ▪ choreographic structures with aerobic dance steps; ▪ some elements from salsa.
Weekly sports program MEDIUM	Two hours	Three times a week Four times a week (Mo, Wed, Fri, Sun)	Medium WHR* = 120 - 135 b/min; High WHR* = 155 - 185 b/min	The above - mentioned exercises could also be included. <ul style="list-style-type: none"> ▪ groups of exercises from aerobic gymnastics carried out with dumbbells; ▪ groups of exercises from tae-bo; ▪ groups of dynamic exercises with movement with fit-ball; ▪ groups of exercises on a stepper.

*WHR = Working Heart Rate

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Annex

**Questionnaire for students
regarding the awareness of the benefits of physical effort to the human body**

1. Did you know that by systematically making physical effort you are getting physical, physiological and mental benefits for your body?

* Check the known response(s)

- a) yes
- b) no
- c) I don't know

2. Did you know that the physiological benefits of physical effort are both immediate and long lasting?

* Check the known response(s)

- a) adjustment and reduction of the working and resting blood-pressure (BP) values
- b) increase of the lung capacity
- c) muscular toning up (invigorating)
- d) joints' mobility and muscular elasticity
- e) hormonal regulation
- f) correction and prevention of physical deficiencies
- g) improvement of motor qualities (strength, handiness, stamina, speed)

3. Did you know that the benefits of physical effort to the human body are also extended to the psycho-behavioral profile, as follows:

*Check the known response(s)

- a) disciplines
- b) develops character and self-control
- c) develops emotional control
- d) increases long and short term memory
- e) improves focused and distributive attention
- f) improves general and motor intelligence
- g) develops personality

4. Did you know that the most recommended cardio-type exercises are:

*Check the known response(s)

- a) jogging
- b) biking
- c) aerobics
- d) skipping rope
- e) swimming

5. Did you know that the benefits of physical exercises of cardio type are:

*Check the known response(s)

- a) increase the activity of the immune system
- b) strengthen the joints and prevent arthritis

- c) decrease the cancer incidence by improving oxygenation and cellular nutrition
- d) lengthen the youth of the person who regularly does cardio - exercises
- e) successfully eliminate stress after only half an hour of cardio-exercises
- f) facilitates the fastest weight loss compared to all other physical exercises
- g) reduce the cholesterol
- h) improve the memory and attention

6. Generally I dedicate to sports and exercising:

- a) 2 hours / week
- b) 4 hours / week
- c) 6 hours / week

7. I regularly make physical effort:

- a) during the physical-education classes at the faculty
- b) occasionally
- c) several times a week

8. After physical exercises I feel:

- a) better
- b) more positive
- c) I have a better general state

9. I prefer the intensity of physical effort to be:

- a) light
- b) medium
- c) high

10. I consider that by systematically doing physical exercise I am more functional and optimal in my daily activities

- a) yes
- b) no
- c) maybe