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OPRESCU Daniel-Dragoș

**THE PARTICULARITIES OF
MOTIVATION FOR THE PRACTICE OF
PHYSICAL EXERCISE IN HIGH SCHOOL
STUDENTS**

Speciality 531.01- The general theory of education

**THE SUMMARY
of the doctorate thesis in education sciences**

Chișinău, 2024

**The thesis has been elaborated within the Doctoral School in Education Sciences,
“Ion Creangă” State Pedagogical University of Chişinău**

The composition of the committee of the thesis public defence:

- 1. CARABET Natalia**, PhD, associate professor, ”Ion Creangă” State Pedagogical University, Chişinău” - **Chairman**
- 2. CIORBĂ Constantin**, PhD, doctor habilitat, university professor “Ion Creangă” State Pedagogical University, Chişinău – **Thesis supervisor**
- 3. CARP Ivan**, PhD in pedagogical science, university professor, State University of Physical Education and Sport, Chişinău - **referee**
- 4. VÎRLAN Maria**, PhD, university professor, ”Ion Creangă” State Pedagogical University, Chişinău”- **referee**
- 5. GONCIARUC Svetlana**, PhD, university professor, State University of Physical Education and Sport, Chişinău - **referee**

The public defense of the thesis will take place on March 20, 2024, at 2 p.m., inside the Senate Hall of the State Pedagogical University "Ion Creangă" of Chişinău, Ion Creangă street no. 1, MD-2069.

The thesis and its summary can be consulted on the webpage of “Ion Creangă” State Pedagogical University of Chişinău (www.upsc.md) and on the webpage of ANACEC (www.cnaa.md).

The summary was sent on February 20, 2024.

President of the Committee:

PhD, associate professor

Carabet Natalia

Doctoral Supervisor:

**PhD, doctor habilitat,
university professor**

CIORBĂ Constantin

Autor

OPRESCU Daniel-Dragoş

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CONTENTS

CONCEPTUAL BENCHMARKS OF THE RESEARCH	4
THESIS CONTENTS	8
Chapter 1. Theoretical delimitations regarding the motivation to practice physical exercise organized in the education system	8
Chapter 2. Investigating the specific coordinates of the level of motivation to practice physical exercise in upper secondary school students	12
Chapter 3. Experimental increase of the motivation to practice physical exercise in high school students	20
GENERAL CONCLUSIONS AND RECOMMENDATIONS	26
BIBLIOGRAPHY	30
AUTHOR PUBLICATIONS	32
ADNOTARE	33
АННОТАЦИЯ	Eroare! Marcaj în document nedefinit.
ANNOTATION	34

CONCEPTUAL BENCHMARKS OF THE RESEARCH

The actuality and importance of the theme addressed in this paper is justified both by the importance of motivation, as the main force that activates all human actions and inactions, and by the role it plays in educational processes and in achieving performance, whatever the field of activity. Motivation is not a newly identified process, but new mechanisms and elements are always revealed that help us form an image, the more detailed and closer to reality, the more complex and potentially generating new questions.

In educational processes, motivation is paramount, given that the individual must leave his comfort zone, must make efforts for memorization, assimilation, analysis, application of notions in the most appropriate context, etc. This is only one aspect of the importance of motivation in the complicated educational process. The decision to make these efforts is not easy to make, even if, rationally, the necessary argument exists; man will always look for the easiest way, there are few who consciously take on the path of massive effort and find within themselves the necessary resources to accept the challenges and find the solutions. Moreover, nowadays there are a multitude of facile arguments that reduce the commitment of students, young and old, to turning their attention to the benefits of education and to working hard for a future reward.

Over time, philosophers, psychologists, sociologists, [3], [4], [6], [7], [27], [11], [15], [16], [17], [19], [20], [21], [18], [23], have studied individual behavior, but also that of human groups, regarding how this magical impulse that determines mobilization, assumption, hard work and achieving performance educational, professional etc. is generated.

In this context, education cannot be separated from motivation, but neither can it be separated from social influences and technology. Each of these factors produces beneficial effects and undesirable effects, and the major challenge is to reduce the negative impact and to increase the students' desire for self-development and to successfully integrate into professional and social life. The analysis carried out as part of the ascertainment research revealed elements specific to the adolescent age, when the individual wants to align with the social group, and the elements of originality are hidden. Students are aware of the need to be involved in physical education, but accuse reasons of infrastructure, social influences or assistance, which prevent them from engaging in such activities [30], [31], [33], [36], [37], [8], [9], [22], [24], [26]. 15 reference points were formulated, which describe the state of motivation of the student, highlighting here the status of "indifference" which perfectly describes the current generations. This statement resulted from the high percentage of responses of this type, the differences based on criteria of gender or background being insignificant.

The field of research is directly related to the need for the existence of an optimal motivational state in high school students, in order to successfully engage in didactic activities, in general, and in Physical Education classes, in particular.

The object of the research was to identify the specific forms of motivation in high school students, in order to correlate them with the level of involvement and with the results obtained in general and in the Physical Education subject, in particular.

The purpose of the research consists in researching the efficiency, identification and implementation of ways to stimulate and increase the motivation of high school students in order to actively practice physical exercise.

The research objectives:

1. Analyzing the literary sources on the topic of motivation in practicing physical exercise.
2. Determining the motivational mechanisms for practicing physical exercise.
3. Developing and implementing an experimental program to motivate high school students to practice physical exercise.
4. Developing a psycho-pedagogical pattern for motivating high school students to practice physical exercise.
5. Experimental validation of the effectiveness of motivating high school students to practice physical exercise.

General hypothesis: The motivation to practice physical exercise is strongly influenced in adolescents by a set of specific factors.

Derivative hypotheses:

- There is a significant direct link between the level of motivation in practicing physical exercise and that of self-esteem in high school students.
- There is a significant direct link between the level of motivation in practicing physical exercise and the level of self-image in high school students.
- There is a direct link between the motivation to practice physical exercise in high school students and the general level of school performance.

The description of the situation in the field and the identification of research problems can be found in the part that investigates the theoretical resources in the field [8], [13], [9], [10], [1], [11], [12], [19], [25], [29], [28], [34], as well as the latest research that describes the trends that are manifested today [30], [29], [32], [41], [35], [38], [40], [42].

The lack of adequate means to facilitate the practice of physical exercise, the tendency of young people to overestimate smart devices and to migrate to the virtual environment, favor the decrease in motivational level and anchoring in a zone of indifference, with which they are

satisfied and from which they do not want to leave. If we consider the needs stated by Henry A. Murray [apud 27], that is, the need for achievement, the need for belonging and the need for power, we notice the manifestation of the need for belonging at this age, and the motivation is manifested here much more visibly than in the other areas motivational. Research has revealed situational factors that contribute to lack of motivation, as well as a number of personal factors.

If we consider the opinion of Abraham Maslow [19] regarding the hierarchy of motivational factors, it is important to associate the practice of physical exercise with a higher order need, taking into account the fact that he emphasized the idea that this hierarchy is not a rigid one. There is a whole series of exceptions, which show that sometimes individuals can directly access higher-order needs, without the needs at the base of the pyramid being covered. It is already known that people who have high ideals and/or high social standards can give up on almost everything for them, they have a high tolerance for frustration, being willing to pay a high price on a personal level.

We can thus formulate the **research problem**, which consists in the sudden decrease in the number of young people, especially from general education, in the given case of those from high schools, who systematically practice physical exercise in different forms, they are not motivated for the given task, neither in educational institutions, nor in the family.

The methodology of scientific research takes into account the theoretical premises that explain motivation at individual level, as well as the demands of didactic activities, which require the effective presence of students, involvement and feedback, so that the specific motivational mechanisms and their connection with the results obtained in the educational process are identified.

The research is based on the following works:

- Theories that explain motivation (Abraham Maslow, Henry Alexander Murray, Dorina Sălăvăstru, Andrei Cosmovici, Serge Moscovici, Yerkes&Dodson etc.);
- Educational psychology (Ștefan Boncu, Ciprian Ceobanu, Gheorghe Cârstea, Vasile Chiș, Louis Cozolino, Sorin Cristea, Adrian Dragnea, Lucia Savca, Racu&Racu, Mielu Zlate et al.);
- Didactics of physical education (Constantin Ciorbă, Gloria Rață, Mihai Epuran, Gheorghe Cârstea);
- Tools to stimulate motivation contained in the resources of European institutions, of some Erasmus+ programs and of some specialists in the sports field (Mihai Epuran, Șerban Derlogea, Ghiocel Bota);

The research methods are:

- Theoretical methods: investigating existing scientific resources regarding motivation, in general and school motivation, in particular, selecting relevant information, organizing and synthesizing them, documentation, hypothetical-inductive and deductive methods, mathematical data processing methods;

- Empirical methods: investigation, scientific documentation, theoretical modeling, interview, pedagogical observation, statistical analysis, interpretation, drawing conclusions.

The research tools were: the validated questionnaire; mathematical processing of the collected primary data; graphic representation; observation sheet.

The organization of the research took into account the limited time resource and the specifics of the Physical Education as a subject, the available infrastructure (equipped spaces), the season, the distribution of vacations throughout the school year, the appropriate technologies, and subsequently the limitations imposed by the pandemic context. Thus, the thesis includes three chapters, each of them referring to one of the work stages.

In the first stage, the theoretical resources were investigated in the field of psychology and educational psychology, in the field of didactics of the specialty, as well as in the field of research describing the influence of social trends and digital technologies on adolescents. The points of contact with the problem manifested in the classroom were sought, so that the theoretical premises could lead to the identification of the specificity of motivation in high school students, subsequently to the design of an appropriate intervention plan.

In the second stage, the confirmatory research was carried out, which outlined the framework for the intervention, by applying a validated questionnaire, collecting and synthesizing information and formulating conclusions.

In the third stage, the two groups, the experimental group and the control group, were set up, then the intervention pattern was applied to the experimental group. The results obtained were measured through a questionnaire, and the collected information was synthesized and interpreted, with a view to formulating research conclusions.

The theoretical value of the work consists in developing the information base regarding the specifics of the emergence of motivation that manifests itself in upper secondary school students, by describing the specific way in which students feel the motivational impulse and follow it, in order to improve their results in educational activities, especially motor ones. Facilitating the translation of motivational centers from the outside to the inside of the individual, leads to improved long-term results, and the individual feels the satisfaction of reaching the set objectives. This basis was used in order to develop the *Psycho-pedagogical Pattern for increasing the motivation to practice physical exercise in upper secondary school students*.

The practical value is related to developing the *Structured psycho-pedagogical program to increase the motivation for practicing physical exercise in upper secondary school students*, in order to provide the physical education teacher with an effective, easy-to-use intervention tool. The program consists of a mix of non-formal tools, including elements to stimulate the intrinsic and extrinsic motivation, in a balanced way, in such a way as to reach the increase of student involvement and the strengthening of bonds within the group of students, as well as the student-teacher relationships.

Key words: motivation, students, Physical education, upper secondary school, adolescent, physical exercise.

THESIS CONTENTS

Chapter 1. Theoretical delimitations regarding the motivation to practice physical exercise organized in the education system, brings to the fore the way in which motivation, in general and the motivation to practice physical exercise, in particular, are addressed and explained as micro and macro processes that influence human behavior.

The thesis takes into account theories that explain motivation as an effect of the emergence or existence of a manifest or latent need, such as Abraham Maslow's theory, which hierarchizes needs and correlates them with the level of motivation, as well as modern theories that link motivation and its manifestations, as is that of Fritz Heider's attributions.

The thesis emphasizes the internal and external conditions of learning, the underlying causes of human behavior formulated by Henry A. Murray, and the achievement studies of John Atkinson and David McClelland.

Thus, the factors that influence the need for achievement, namely personality, circumstances, the tendency given by the interaction between personality and circumstances, emotional reactions and achievement behavior, map a series of patterns of thought and association, which are manifested in an individual's behavior.

The success of the educational act is seen by Bernard Weiner as the result of some causes that can come from the internal or external environment, which can be stable or unstable, so that the individual can perceive his own efficiency as depending on the previous level of performance, experience, the influence of the environment and the level physiological and emotional reactions. In his approach, Carl Rogers shows that the process of fulfillment occurs when the *Ideal self* and the *Actual self* overlap, the individual reaches the status of self-actualization, and the traits attributed by Rogers to self-actualized people are consistent with those attributed by Abraham Maslow to people carrying metamotives.

Another theory is that of Clark L. Hull's drive, which directly relates the level of performance to the intensity of motivation. Robert M. Yerkes and John D. Dodson showed that this correlation is valid up to a point, because when the degree of arousal is too high, the phenomenon reverses and performance decreases, the motivational optimum being dependent both on the characteristics of the task and on a number of factors such as internal balance, self-control and emotionality.

Victor H. Vroom has another approach to motivation, considering human behaviors as vectors of achieving conscious expectations, the level of effort being explained by three factors: expectation, instrumentality and valence, the lack of motivation being correlated with the lack of one of them.

In a school context, specialists see motivation as the impetus that comes from two sources, one being internal, the most valuable and which ensures long-term resilience, and the other being external, valuable, but which provides physical and mental energy only as much as it is part of the objective that the individual has, and after reaching it, the motivation disappears.

Regarding the practice of physical exercise, it was emphasized that Physical Education fulfills a series of extremely important functions that have long-term beneficial effects: *the function of optimizing biological potential; the function of improving motor ability; the psycho-social function; the cultural function; the economic function.*

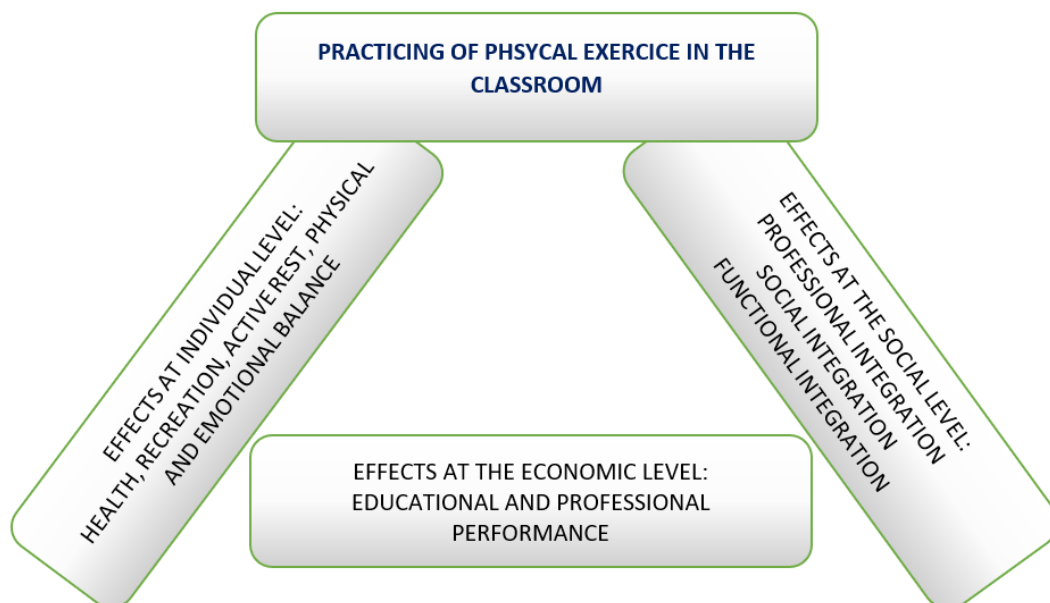


Fig.1. The effects of practicing physical exercise
[after A. Dragnea, (coord.), 2006, pag. 23]

These functions no longer fully fulfill their purpose today because there is an increasingly clear trend of lack of interest on the part of teenagers to practice physical exercise.

The existence of sedentary alternatives for spending free time, the lack of adequate spaces for practicing physical exercise, the social trends and the need of young people to join them, have led to a decrease in interest in physical exercise and to the state of passivity of adolescents when they have to involve and participate in Physical Education class. These trends lead to the cancellation of the effects that Physical Education can have on an individual as well as on a collective level (Figure 1.)

Motivation remains the mechanism on the basis of which the individual makes personal choices, guides his behaviors and assumes certain attitudes, therefore the level of motivation activation is a necessary condition for reaching the highest level of performance [17, p. 141] (Figure 2.).

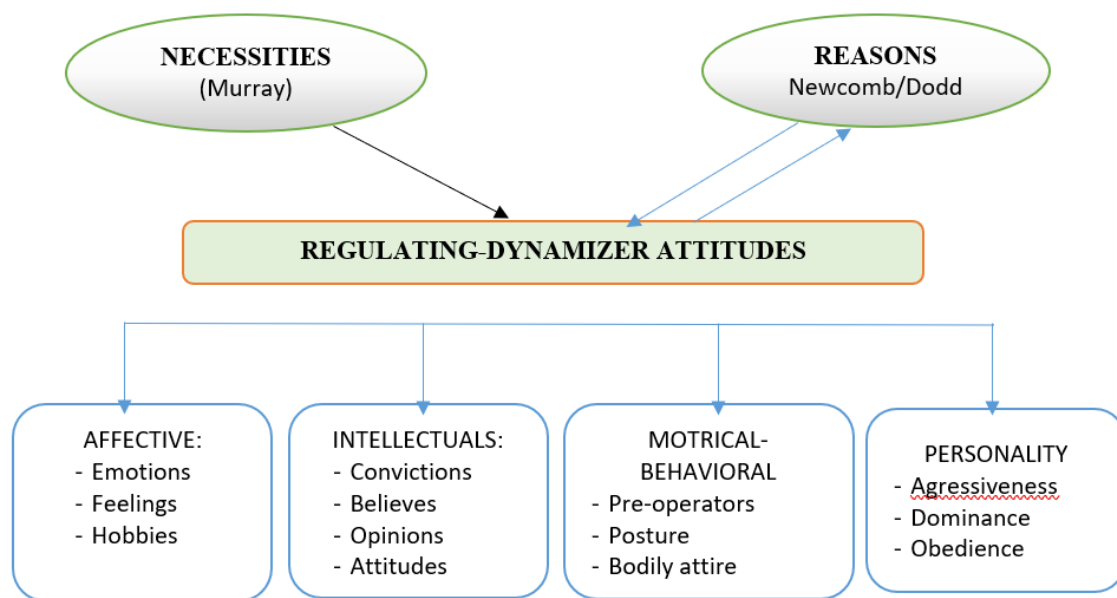


Fig. 2 The relationships between needs and motives

[after M. Epuran, M. (coord.), 2008, pag.137]

The theories of motivation show that there is a *motivational optimum*, a zone of *optimal energy*, a state influenced by the complexity of the task, the level of skills necessary to perform it, as well as the importance of the reward. For these reasons, psychologists have researched the various aspects involved in the motivational optimum, taking into account the athlete's personality, developing the concept of a *personalized zone of functional optimum* [39].

What are the causes of a massive demotivation regarding the practice of physical exercise, when it is obvious that a fully formed and integrated adult in society needs this tool in his evolution? A series of longitudinal studies conducted at the international level clearly show a continuous decrease in self-determination regarding the motivation to practice physical exercises, during the transition from childhood to adulthood, precisely during adolescence [40].

A study carried out by a team of researchers from the University of Michigan [43] shows that among today's preadolescents and adolescents, there is an alarming state of physical inactivity, with less than 12% of boys meeting federal guidelines for physical activity, this fact being downright alarming, if the medium and long term consequences are taken into account. The obstacles identified in this study are related to both lack of motivation and environmental elements: modest school facilities for practicing physical exercise, too few existing facilities in neighborhoods, small yards and parks where it is difficult to move around.

Another study shows that there is a link between socio-economic status and the tendency to exercise daily (minimum 60 minutes of moderate or vigorous intensity exercise), in the sense that there is a strong correlation between the socio-economic status and the level of daily practice of physical exercises [38]. The study draws attention to the fact that the level of daily participation in physical activities of at least 60 minutes during childhood and adolescence creates habits that persist throughout life, affecting human groups in the long term.

In the same vein, family has a great influence on the teenager, even if he sometimes does not recognize it. Thus, adolescents who experienced a significant decrease in the motivation to practice physical activities featured elements such as physically inactive family members, a lack of encouragement from the family, lack of financial support, difficulties in reaching practice facilities of exercise, too much pressure on academic performance, especially during high school.

Teenagers are influenced not only by family, but also by people such as physical education teachers, coaches, etc.

Teenagers who experienced an age-related decline in physical activity levels blamed negative influencing factors such as adults promoting a focus on competition rather than inclusion, activities lacking rewarding elements, too high levels of demands, lack of encouragement, lack of relationships with others, school curriculum focused on predominantly male sports, lack of autonomy in choosing the types of activities and unfair teachers.

Viewed in dynamics, the phenomenon of demotivation over time, from young ages, where the playful spirit is developed, to the older ages, where other influencing factors are prevalent, periods of transition from one level of studies to another seem to have a significant influence on the tendency and motivation to exercise. Adolescents who showed low levels of involvement in physical activities blamed the large amount of work required to achieve reasonable school results, lack of energy and desire to exercise, as well as fewer opportunities to be physically active. Also, the transition from school to active life from a professional point of view is another critical period that contributes to the level of involvement in physical activities.

Chapter 2. Investigating the specific coordinates of the level of motivation to practice physical exercise in upper secondary school students, brings to the fore a series of causes that generate the general state of non-involvement that researchers have noted, regarding the openness of adolescents to education, in general and to Physical Education, in particular: the lack of correlation of academic results with the satisfactions recorded on the labor market; the lack of real and stimulating competitiveness in the classroom; the lack of recognition of the achievements of students who are not part of the top of the class ranking; the lack of adequate admissions criteria to the best high schools and colleges. Regarding Physical Education, the studies carried out have shown that the lack of motivation is generated by a number of factors, the most important ones being age, gender, income level, family and social obligations, and the young generation is strongly influenced by the social context, the patterns and the models provided by society.

Going deeper, it is stated that the lack of motivation manifests itself not only in the field of science study, but also in the field of movement. The motivation to exercise and practice a sport is (or should be) one of the priorities of the national policies of the states in the European space, as recognized in the **White Paper on sport**, [2] launched by the European Commission and assumed by MTS, which shows the need to improve the quality of curricula for the training of physical education teachers, something that can be done at low cost, which would be beneficial both for pupils/students and for society, it could improve cooperation between institutions promoters of performance sports and educational ones and would ensure quality education and sports performance in parallel.

This chapter also highlights the benefits that physical education and sports bring to society:

1. Preventing and combating violence;
2. Improving health;
3. Social inclusion and tolerance;
4. Social and personal development tool;
5. Economic role by creating jobs and facilitating social integration;
6. Social role through rural development and social regeneration.

In this sense, the present paper starts from the general problem the physical education teacher is faced with in class:

- a) Generalization of the attitude of indifference for practicing physical exercise in the **Physical Education** classes;
- b) An increase in the interest in spending time in front of smart devices, at the expense of spending this time practicing physical exercises, especially since some parents also encourage this

fact, by providing exemptions from physical education classes, even if the student is clinically healthy and able attend classes;

c) The lack of new tools and methods for developing motivation at the age of adolescence, that are compatible with the characteristics of current generations, especially since the student is often overwhelmed by the major, physical and mental changes, which he has to deal with and which involve high energy and mental consumption.

In Romania, the activities in the subject of Physical Education are carried out in accordance with Order no. 3462 of March 6, 2012 regarding the approval of the Methodology for organizing and conducting physical education and sports activities in pre-university education [44], where it is specified (art. 1 - art. 3) that physical education and sports appear both as curricular activities and as extracurricular activities and that the school can include physical education as an optional subject in the curriculum at the school's decision. The general objectives of the Physical Education discipline are formulated as follows (art. 3):

- a) maintaining optimal health;
- b) favoring the processes of growth and harmonious physical development;
- c) developing the ability to move, by forming motor skills and by optimizing motor qualities;
- d) balanced development of personality sides: cognitive, affective and volitional;
- e) forming the habit of systematic exercise;
- f) forming the ability to integrate and act in a group;
- g) acquiring the basic knowledge specific to the field of physical education and sports.

The lack of motivation to practice physical exercise can also be highlighted by analyzing the results obtained at the assessment tests in the Physical Education lesson.

Thus, the evaluation of the students is carried out according to the curricular contents, the nature of the tests they will take and the level of preparation they are at. In accordance with the National School Assessment System for Physical Education and Sports, developed by the Ministry of Education, the measurement of the level of training of curricular skills is determined by the results obtained in the two components of the Physical Education model: motor qualities and motor skills specific to sports branches [14, p. 115].

Table 1. The correspondence between the general objectives of Physical Education and the components of the instructional-educational process (Source: Dragnea, 2006, pag. 118)

The general objectives of Physical Education	The components of the instructional-educational process
Promoting health and harmonious development	Morphological and functional indexes
Developing general motor skills	Motor qualities, skills and motor skills
Developing the skill of independently practicing physical exercise	Habits
Harmonious personality development	Attitudes

The evaluation system made available by the Ministry of Education, establishes the minimum scale related to grade 5, and for grades higher or lower than 5, the teacher develops his own grading scale.

Table 2. Analysis of the current curriculum regarding the development of motivation

Comparative criteria	Curriculum for grades IX-XII, Annex no. 4 to the Order of the Minister of Education, Research and Innovation no. 5099/09.09.2009
Adopting the set of key competences promoted by the EU under the concept of lifelong learning	In the upper secondary school curriculum, there are no clear references or correlations of general and specific skills with the eight key skills in the European documents. There is only one reference in the Presentation Note of the document: "to ensure the training of students along the lines of European key competences, established as the goals of the educational and professional training systems from the countries of the European Community
Document structure	The current Curriculum for grades IX-XII in force includes: <ul style="list-style-type: none"> - <i>presentation note</i> - <i>European key skills</i> - <i>general skills</i> - <i>values and attitudes</i> - <i>specific skills and content, for each class</i> - <i>methodological suggestions</i> - <i>minimal equipment norm/ educational unit</i>
The document provides for the motor qualities and skills that will be developed in PE classes	Yes, the document provides for a series of motor qualities and skills that will be pursued during the PE classes, qualities that become more detailed and more complex with each year of study, according to age and gender.
The document provides for the correlation of competence units with study levels/sublevels	No, the document does not provide for the correlation of competence units with study levels/sublevels.

<p>The document aims at developing the general skills, specific skills, values and attitudes</p>	<p>Yes, the document contains:</p> <ul style="list-style-type: none"> - General skills of the subject; - Specific skills for each year of upper secondary school; - Values and attitudes
<p>Within the general skills that must be developed, the document makes reference to the development of motivation to practice physical exercise</p>	<p>No, 5 general skills are listed:</p> <ol style="list-style-type: none"> 1. Use of specialized language in communication relationships. 2. Capitalizing on specific information, methods and means Specific to physical education and sport, in order to optimize health and harmonious physical development. 3. The use of knowledge, methods and means specific to physical education and sports, in order to develop motor skills. 4. Application of the system of rules specific to organization and practice of physical education and sports activities and the adoption of an appropriate behavior in interpersonal and group relationships. 5. Capitalizing on body language for expression and understanding ideas, affective states and aesthetics. <p>None of these skills makes explicit reference to the motivation of practicing physical exercise, perhaps only indirectly by referring to the optimization of health and harmonious development, quite abstract elements for an adolescent student.</p>
<p>Within the values and attitudes included in the upper secondary school curriculum, reference is made to the development of motivation for practicing physical exercise</p>	<p>No, within the values and attitudes to be developed in students, no reference is made to motivation.</p> <p>The values and attitudes included in the document are:</p> <ol style="list-style-type: none"> 1. Interest in enriching the vocabulary with specialised terminology. 2. Availability for collaboration in relations with the teacher and colleagues. 3. Concern for the development of one's own motor capacity. 4. Respect for the rules in place for the organization and conduct of physical education and sports activities. 5. Option for a healthy and balanced life, by adopting an activity regime that harmoniously combines physical effort with intellectual effort, demand with recovery, busy time with free time. 6. Availability for independent practice of physical exercises. 7. Competitive spirit and fair play. 8. Constant interest in the sports phenomenon. 9. Aesthetic sense, openness to beauty. <p>The terms used are interpretable and do not provide for measurable elements, and the term "motivation" is missing from these formulations.</p>
<p>Within the specific competences, the document makes</p>	<p>No, the specific competences intended to be developed throughout upper secondary school do not include formulations with explicit reference to the motivation of practicing physical</p>

reference to the motivation for practicing physical exercise and to developing it	exercise or the importance of developing it, in order to develop the general competences formulated in the preamble of the document. The only reference that can be interpreted indirectly in this sense is "Selection of models of success in the world of sports."
The document provides concrete ways to evaluate the acquisition of the targeted skills.	No, the document does not contain a list or table of value or behavioral indicators to measure the level of acquisition of the targeted competence.
Final specifications	The document is completed with a norm of minimum equipment/educational unit, in the subject of Physical Education. The evaluation and scoring table of the performances recorded by the students is not part of the curriculum, but of the National Evaluation System in physical education and sports. In this table there is no reference to motivation.

The detailed analysis of the results obtained following the ascertainment research revealed a surprising fact, namely that the state that indicates absenteeism and the lack of involvement of students in PE classes is given by the indifference with which they regard these classes. We believe that this is a significant discovery that can explain the lack of appetite of the students in the researched group for PE, a fact that can greatly influence the atmosphere in the class of students (some behaviors or attitudes are copied extremely quickly by group members). This state of continuous indifference is a worrying sign and an alarm signal for the teacher, who will have to look for appropriate intervention tools to diminish it and to change this attitude into a constructive and beneficial one for all parties involved in the teaching act. In the same line of building a favorable and comforting atmosphere in the class of students, it is necessary to identify the centers of dissemination of demotivating behaviors such as bullying and to initiate actions to reduce and exclude such attitudes that are not appropriate in any class or in any situation, especially since the current legislation targets and sanctions these manifestations, considered as acts of psychological violence. As can be seen from both table 3 and figure 1.3, the percentage values of the respondents who marked *INDIFFERENT* in the items in the questionnaire are high, all being greater than 10%, the lowest value being 11.54% (total) and the value the highest being 39.74%. Regarding the breakdown by gender, it is noticed that in the vast majority of cases, girls have higher percentage values than boys, from one percentage point to 25 percentage points.

Table 3. The share of respondents INDIFFERENT/gender

Nr. crt.	Item	Percentage <i>indifferent</i> girls	Percentage <i>indifferent</i> boys	Percentage <i>indifferent</i> TOTAL
1	5	25	20,59	23,08
2	6	22,73	11,76	17,95
3	7	15,91	5,88	11,54
4	8	43,18	27,27	39,74
5	9	36,36	26,47	32,05
6	10	25	29,41	29,62
7	11	40,91	32,35	37,18
8	12	15,91	29,41	12,82
9	13	22,73	23,53	23,08
10	14	25	29,42	26,92
11	15	13,64	11,76	12,82
12	16	22,73	14,71	19,23
13	17	31,82	32,35	32,05
14	18	27,27	17,65	23,08
15	19	15,91	8,82	12,82
16	20	27,27	20,59	24,36
17	21	25	29,41	26,92
18	22	27,27	11,76	20,51
19	23	40,91	29,41	35,90
20	24	18,18	11,76	15,38
21	25	25	50	35,90
22	26	29,54	11,76	21,79
23	27	22,73	20,59	21,79
MEAN VALUE		26,09	22,03	23,76

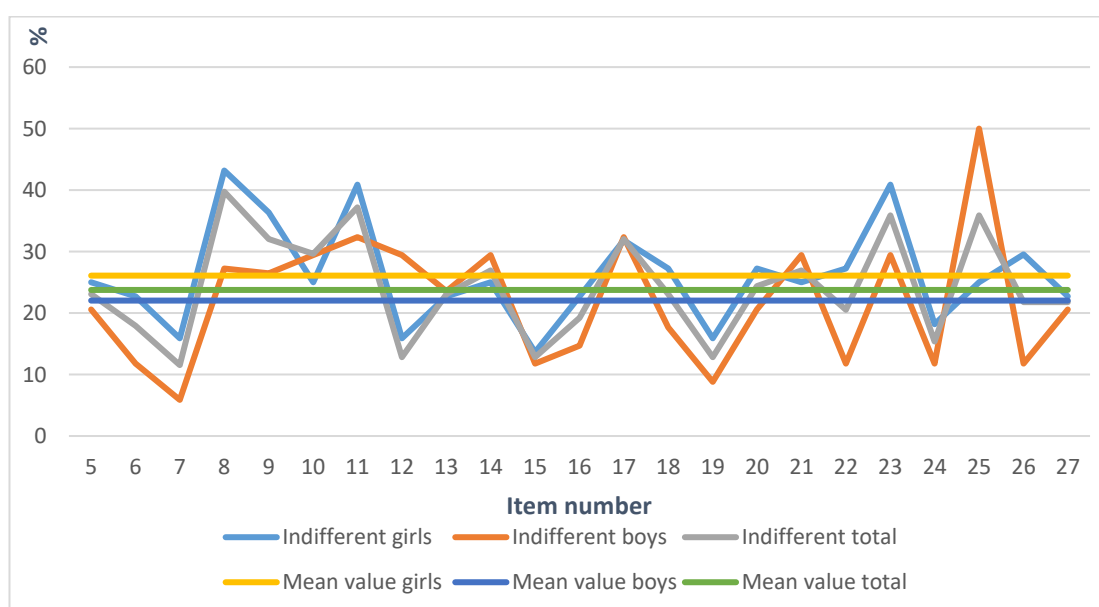


Fig. 3. Comparative graphic of shares INDIFFERENT /Girls/Boys/Total respondents

Table 4. and figure 4. show with certainty that students who come from the urban environment have, with few exceptions, higher shares of the attitude of indifference, compared to the respondents who come from the rural environment.

Table 4. Shares of respondents INDIFFERENT /environment of origin

Nr. crt.	Item	Percentage <i>indiferent</i> rural	Percentage <i>indiferent</i> urban	Percentage <i>indiferent</i> TOTAL
1	5	23,07	23,07	23,08
2	6	15,38	20,51	17,95
3	7	10,25	20,51	11,54
4	8	33,33	46,15	39,74
5	9	33,33	30,76	32,05
6	10	20,51	33,33	29,62
7	11	43,59	30,76	37,18
8	12	15,38	10,25	12,82
9	13	23,08	23,08	23,08
10	14	20,51	30,77	26,92
11	15	10,26	15,38	12,82
12	16	20,51	17,95	19,23
13	17	28,21	35,6	32,05
14	18	17,95	28,21	23,08
15	19	10,26	15,38	12,82
16	20	23,08	25,64	24,36
17	21	20,51	33,33	26,92
18	22	23,08	17,95	20,51
19	23	43,58	28,21	35,90
20	24	10,26	20,51	15,38
21	25	41,03	30,77	35,90
22	26	20,51	23,08	21,79
23	27	20,51	23,08	21,79
MEAN VALUE		22,96	25,40	23,76

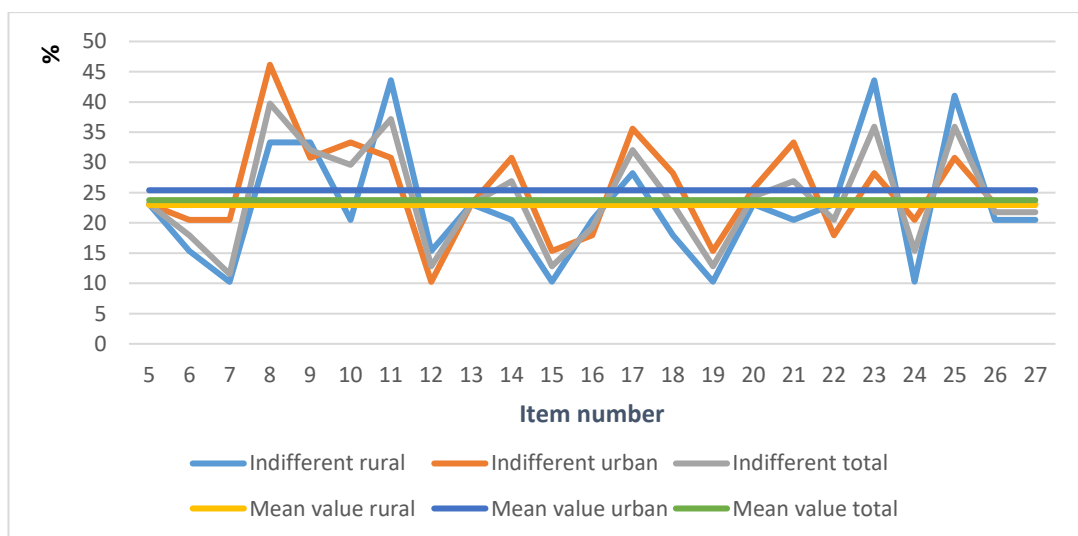


Fig. 4. Comparative graphic of shares INDIFFERENT- Urban/Rural/Total respondents

Following these findings, an in-depth analysis of absenteeism (rate of exempt students and rate of absences, annual and semester) was also carried out, which confirmed the state of indifference to which I referred above. The conducted ascertainment study was based on a questionnaire designed to reveal the motivational elements specific to adolescence, using an accessible vocabulary and formulations close to the usual way of expression at this age.

The detailed processing of the questionnaire and the calculation of the related scores led to the following conclusions:

1. The teenagers in the group included in the study generally know, at a theoretical level, the necessity and benefits of movement and of physical exercise;
2. Even if the PE subject was part of their secondary school curriculum, the respondents achieved a score that proves that their participation was not full and the development of a habit for practicing physical exercise was not achieved;
3. The respondents do not reject the idea of the necessity of PE classes in the educational subjects, high school level, but they do not know its purpose very well;
4. Some of the students feel discomfort during the PE class, either because of low skills in performing the movements or sequences of movements required during the didactic act, or because of the way they imagine that they are perceived and valued by those around them . They worry about how they look after the PE class (messy hair, sweat, etc.) or the labels assigned to them;
5. Respondents do not feel fully motivated by the satisfaction that follows physical exercise and the satisfaction of seeing that they can perform during the PE class;
6. Only a part of the students feel at ease during the PE class, lacking the motivation to push their limits and progress, they tire easily and disarm quickly;
7. The respondents do not have another discipline of study that they prefer more, to the detriment of pe classes, not even informatics/IT&C;
8. The respondents feel the lack of infrastructure strictly necessary for practicing physical exercise, a fact that constitutes a demotivating factor;
9. In general, students from rural areas are more open to physical exercise than those from urban areas;
10. In general, boys are more open to practicing physical exercise than girls, they have fewer physiological and image issues;
11. In general, respondents enrolled in SSOC are more physically active and more willing to actively participate in PE classes;
12. There is a high percentage of students who show indifference towards PE classes and towards the benefits that physical exercise brings;

13. There are cases in which students who cannot perform in PE classes are the target of bullying demonstrations by their colleagues, not so much during the lesson as after the lesson, these demonstrations being another strong demotivating element;

14. The respondents show a low competitive spirit, they do not feel the need to show the performance they are capable of and to persevere in being physically active during the PE classes;

15. The performance in the EF class is no longer an element of superior positioning within the social group of students, thus the opportunity to increase their self-esteem and gain the respect of those around them is annulled;

16. Students show a clear indifference when it comes to the level of participation and involvement in PE classes.

Chapter 3. Experimental increase of the motivation to practice physical exercise in high school students, is the part in which the formative experiment is presented, implementing *The structured psycho-pedagogical program to increase the motivation to practice physical exercise in upper secondary school students*, as well as the comparative results obtained (EG vs. CG). The intervention tools appealed to the stimulation of both types of motivation, the extrinsic one at first, then the intrinsic one. As can be seen in the graphic representation of the pedagogical pattern in figure 5, the first step that was carried out was the investigation of the specialized informational resources, in order to establish the theoretical benchmarks that sufficiently describe the way of evolution of the student, depending on the age the students is at, the specific cognitive, psycho-motor and affective features, as well as the way of developing the motivation for learning, in general, and of involvement in the Physical Education class, in particular, in order to adequately formulate the purpose of the research, as well as to identify the methods and the means by which the set goal can be reached. Once the fundamental goal was established, the operational objectives to be followed could be formulated as well, so that the motivation for practicing physical exercise increases, and the motivational center is transferred from outside the individual (extrinsic motivation), to the inside (intrinsic motivation) to ensure the development of long-lasting skills.

The steps taken to achieve the research goal were:

- The stage of identifying specific motivational mechanisms;
- The stage of raising awareness of the physical and psychological effects of physical exercise on the human body;
- The stage of stimulating students in mobilizing resources, to achieve performance;
- The stage of feedback and its use as input in improving the methods used.

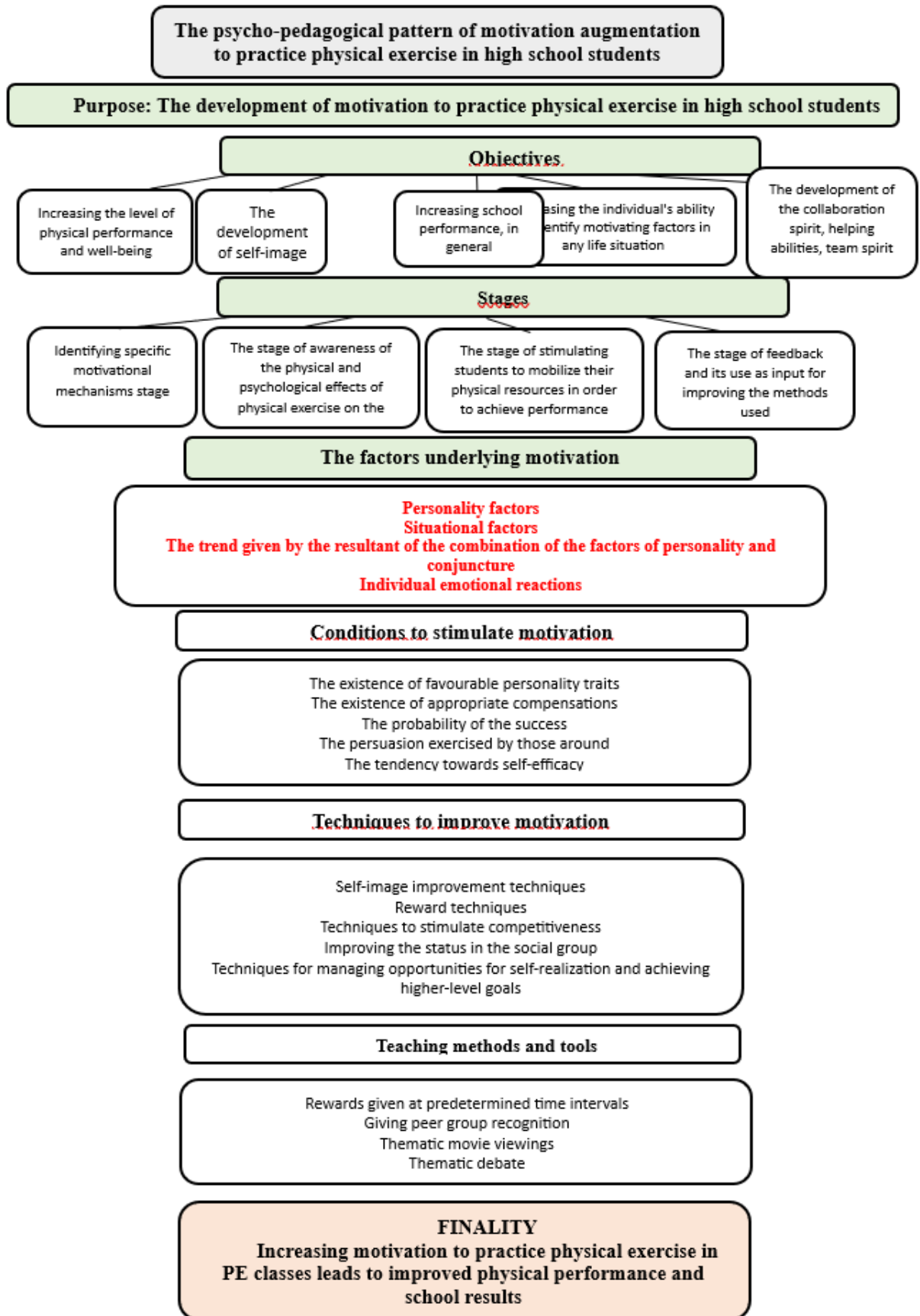


Fig. 5. Representation of the psychopedagogical pattern for increasing the motivation to practice physical exercise in upper secondary school students

After identifying the principles underlying human motivation and its stimulation, methods and means were identified that could be applied in the class of students, and this means correlating time resources with work tools, so that the finality obtained is a clear improvement of school results in general and physical education performance in particular.

The intervention carried out was designed with the following objectives in mind:

- O1 – Structuring a work program (intervention) with the students, in order to stimulate the level of motivation of the students, with the help of methods applicable to the Physical Education class (possibly also to the Counseling and orientation classes), in order to increase the participation and involvement of the students during classes with direct reflection in the school results that will be obtained;

- O2 – Application of the designed experimental program, during the physical education classes available to the teacher, with the possibility of extending it to the Counseling and guidance class, in case there is not enough time to carry out the activities in full;

- O3 – Evaluation of the results obtained;

- O4 – Popularizing the results obtained through communications on the topic of the thesis and by making a guide (brochure) that includes the stages of the intervention and the results that can be obtained, in order to offer a working tool to educators in general and Physical Education teachers, in particular .

In the selection of intervention tools, I took into account the following needs that manifest themselves at the level of the individual [14]:

- Motor needs – the need to expend energy and the need to move;
- Self-affirmation;
- Seeking compensation;
- Social trends;
- Interest in competition and the desire to win;
- Aggressiveness and combativeness;
- Taste for risk and attraction to adventure.

In the process of selecting the experimental group (EG) and the control group (CG), the following considerations were taken into account:

- Similar level of school results in the 2018-2019 school year, considering the general class average;
- A balanced gender structure (girls/boys);
- A balanced structure from the point of view of the environment of origin;

- An approximately close level of motivation shown in Physical Education classes, during the 2018-2019 school year;
- Both groups are included in the didactic norm for the year 2019-2020;

Table 5. The structure of the experimental group

EXPERIMENTAL GROUP– general average of the class in the 2018-2019 school year: 8,27			
General average in Physical Education: 8,98			
STRUCTURE OF EG ACCORDING TO GENDER		STRUCTURE OF EG ACCORDING TO THE ENVIRONMENT OF ORIGIN	
Feminine	Masculine	Rural	Urban
15	13	16	12

The analysis of tables 5 and 6, which contain the statistical data of the groups included in the intervention, shows that the two groups are balanced in terms of gender and the environment of origin.

Table 6. Structure of the control group

CONTROL GROUP – the general average of the class in the 2018-2019 school year: 8,19 The general average in PE: 9,00			
STRUCTURE OF CG ACCORDING TO GENDER		STRUCTURE OF CG ACCORDING TO THE ENVIRONMENT OF ORIGIN	
Feminine	Masculine	Rural	Urban
14	10	11	13

After consulting all the information sources and the school psychologist, I decided that the intervention should contain both tools that do not involve interactivity, and ways of intervention that would mobilize the student and make him/her research, analyze, argue, present and to support their opinion. Work methods are aimed at gradual involvement, so that the student does not perceive the activities as an additional task and an unjustified effort, but feels the need to get closer to his/her goals and enjoy the results of the work.

The extrinsic motivation tools used were the following:

- Awarding some titles with a weekly frequency, to students who during a week were actively involved in Physical Education classes, and in the other subjects did not have grades below 6 - *Teampayer; Arrow-man, Sport Addicted; Runmaster*, this recognition being ensured by a special insignia, a badge created especially for this purpose. I opted for English names because teenagers in high schools use a lot of a certain kind of jargon, which contains many words in this language, and it is necessary that the badges attract their attention and they like them;

- Awarding the badge with the title *Champ of the month* to students who persevered and motivated themselves to obtain consistently good results during an entire month, both in Physical Education classes and in the other subjects;

- Awarding the *You are the champion* diploma to students who were actively involved in Physical Education classes where they had very good/excellent results, obtained good results (overall average above 7.5) for an entire semester and making it visible on the school notice board;

- Organizing, together with the management of the school unit, special events to recognize and reward students who have achieved very good results in sports competitions dedicated to students in pre-university education, organized at local, county, regional or national level (under the name "Meetings in the square of excellence!").

The intrinsic motivation tools were the following:

- Films with a special emotional impact, about Romanian soldiers who, even if they were seriously injured in the theaters of war, found escape and salvation in sports. Moreover, the fact that they acquired a physical handicap did not stand in the way of their performance, but they managed to train in record time to participate in the INVICTUS games, held in Toronto 2017, then in Sydney [5], where they won medals and recognition for successful performances. I have focused on these people and deeds because they meet all the conditions to be models for teenagers and young people: bravery, risk, sacrifice, suffering, rebirth. The reactions of the students were recorded in the sheets and were followed by discussions to clarify and strengthen the impressions and the impact on the level of motivation;

- Debates in which the students had the main role, having as their theme the increase of intellectual performance in people who practice physical exercise as a method of relaxation and stress reduction ("Education and exercise - appropriate performance" and "Movement = long-distance beauty" - arguments for and against the fact that a physical condition maintained through the practice of physical exercise favors well-being, health and mental youth, regardless of age. The debates were organised in accordance the ARDOR model.

The purpose of the intervention was to identify a complex of tools to be applied in the Physical Education class, so as to stimulate the intrinsic motivation of the students to practice physical exercise, motivation that would also lead to the improvement of school performance as a whole.

The operational objectives pursued were:

1. Establishing the experimental group class and the control group class;
2. Identifying the intervention tools and applying them during the class, in the time available to the teacher;

3. Measuring the results obtained following the intervention;

4. Recording the results obtained and developing a guide/brochure of good practices to making it available to Physical Education teachers, but also of other subjects, possibly form teachers, a tool with which they can stimulate motivation for education, in general and for physical exercise, in particular, in order to increase school performance.

After carrying out the intervention and applying the questionnaire in order to establish the effectiveness of the intervention, the statistical data indicated an obvious improvement in the attitude of the EG regarding the effects of Physical Education and the involvement in the lessons, compared to the way in which the attitude of the CG changed, in which an involution was found both against statistical data from the ascertainment study and against EG (Figure 6).

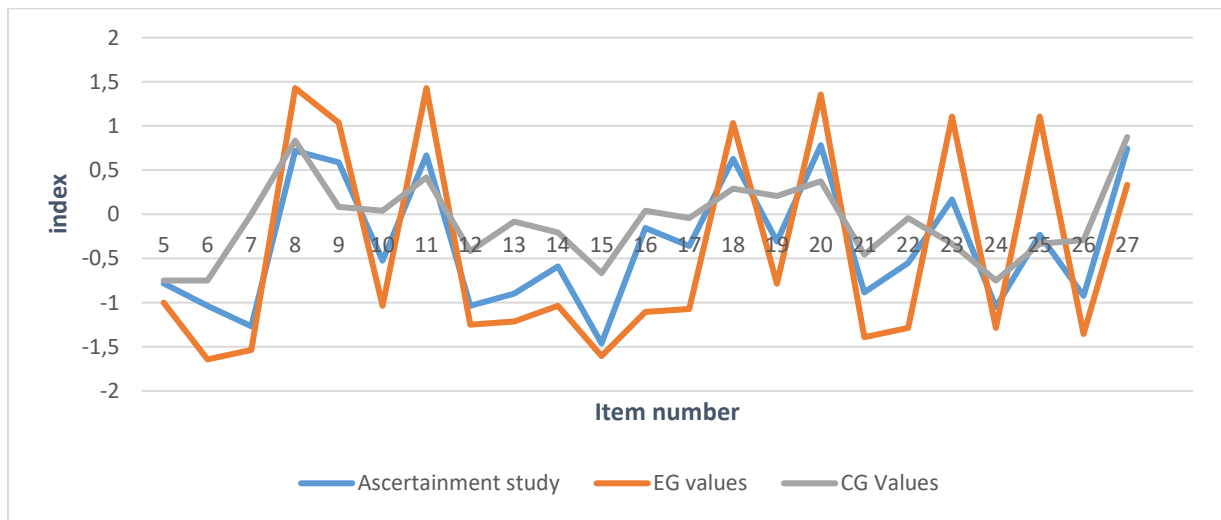


Fig.6. Comparative graph of the calculated score values for CG and EG, against the ascertainment study

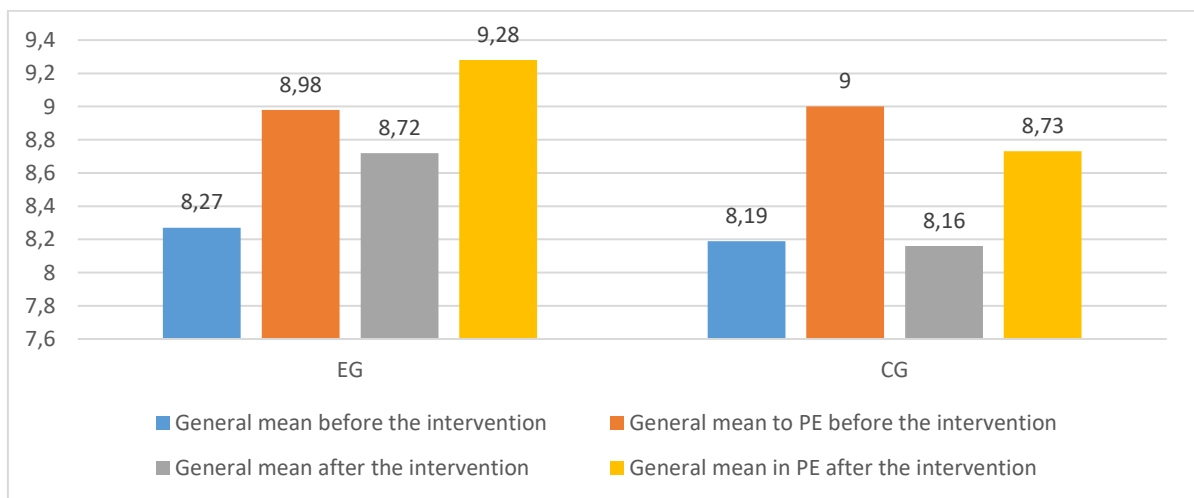


Fig. 7. The evolution of the general averages and that of the averages in PE in the EG and CG

The same trend was shown by the analysis of the data showing absenteeism, those indicating the situation of students who are medically exempt, but also the general averages of the classes and the averages in Physical Education (figure 7.).

Also, the shares of students who preferred to mark the answer "indifferent" are graphically represented in figure 8.

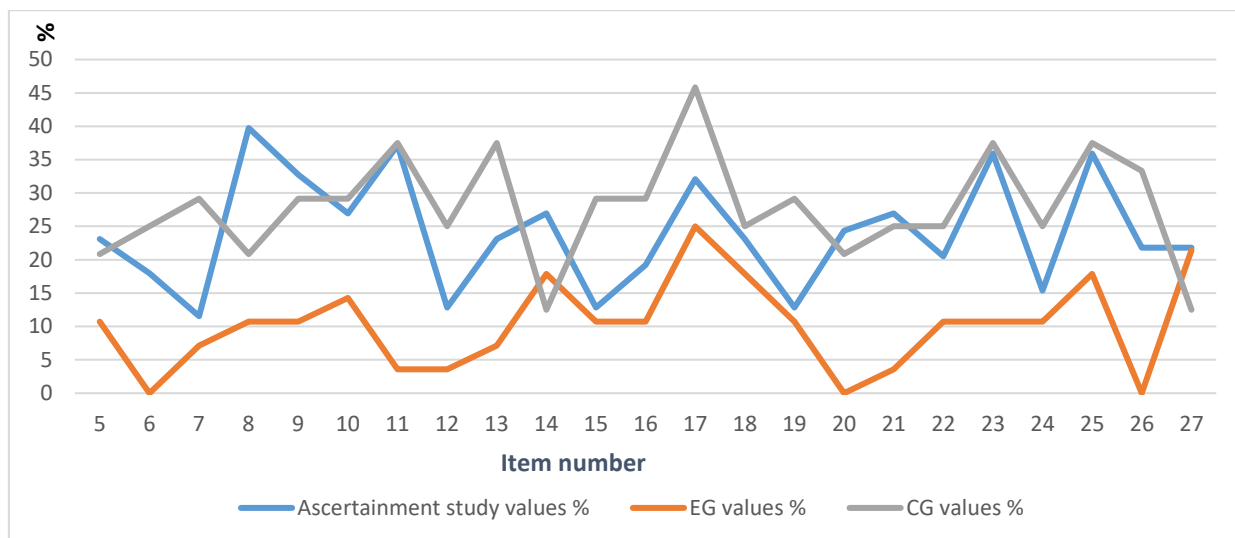


Fig. 8. Graphic comparing the percentage values of the “indifferent” answers

The post-intervention testing showed that the gradually planned actions, by using simple and accessible elements, gave results that confirmed the working hypotheses and led to the achievement of the set objectives, and the motivation was maintained in the medium and long term, by moving the motivational center from the outside towards the inside of the individual. With regard to the students’ state of indifference, identified in the confirmatory experiment, the obtained results showed that in the EG, this manifestation decreased significantly, not only compared to the previously measured level, but also compared to the CG.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

Summarizing the *main results of the research*, we believe that the following conclusions can be formulated: the vast majority of recent publications support the fact that young people, including those in pre-university education, are very little engaged in practicing physical exercise in various forms, and this leads to an obvious hypodynamia among youth, as they are not motivated to practice motor activities.

1. Analyzing through the lens of specialized literature the problem of motivating young people to practice physical exercise, it has been shown that there are few publications on this topic, which is why both teachers and students are not engaged in various motor or sports activities.

2. Practicing physical exercise requires getting out of the comfort zone and abandoning sedentary habits, especially that of spending the free time or even time dedicated to other activities, in the online environment. Motivating young people to practice physical exercise requires both methods of action with psychological impact and a minimum of infrastructure.

3. Following the analysis of the results of the investigation carried out in the target group, it was found that the sources of demotivation to practice physical exercise are:

- o Lack of an adequate infrastructure, which allows the practice of physical exercise in all seasons;

- o Lack of self-confidence and personal physical resources;

- o A poor self-image;

- o The existence of bullying situations, students who are less gifted in Physical Education thus becoming targets of such behaviors;

- o Behavioral trends in the social groups to which adolescents belong;

- o Spending free time in virtual space, using SMART devices;

- o Lack of reward mechanisms for students who strive to achieve good results in Physical Education and who can become examples for their peers;

4. The investigative investigation revealed the following:

- o The students' lack of involvement in PE lessons is based on a state of generalized indifference, the percentage values of the respondents who marked INDIFFERENT to the statements in the questionnaire are high, all being greater than 10%, the lowest value being 11.54% (total) and the highest value being 39.74%.

- o Regarding the breakdown by gender, it is observed that in the vast majority of cases, girls have higher percentage values than boys, from one percentage point to 25 percentage points.

- o The total rate of absenteeism, of 21.46% in the studied group, has an unjustifiably high value, more than a fifth of the time allocated to physical exercise is not used, especially since anyway, the number of hours for the PE subject is extremely modest (one hour per week, regardless of study specialization or route). Also, the absenteeism rate for girls is higher (23.41%) than that of boys (18.94%).

- o Also, in the 2018-2019 school year, there was an average rate of medically exempt students of 10.11%.

5. Following the application of the experimental program, specially designed based on the conclusions from the ascertainment study, it resulted that:

- o The total rate of absenteeism in EG decreased compared to that recorded in the ascertainment study by more than 5 percent, while in CG the rate increased by approximately 1.5 percent. Also, compared to CG, EG has a lower absenteeism rate of over 7%.

- o In the 2019-2020 school year, it is observed that the average in PE classes of the EG increased 1.03 times compared to the previous school year (before the intervention), the class average being 1.05 times higher, while the averages in CG (both at EF and the overall average) have decreased, respectively the average at EF is only 97% of that of the previous year, and the overall average, approximately equal to that of the previous year, which shows that CG did not experience a positive evolution of motivation.

- o The students from CG registered an evolution in only 18.51% of the answers given to the applied questionnaire, for the remaining 22 elements (81.49%) the answers indicated a state of demotivation deeper than the one in the ascertainment study;

- o In EG, the state of demotivation decreased significantly, the students being much more involved in PE lessons, for all 27 statements of the questionnaire, the number of answers in the "indifferent" category being much lower, compared to the confirmative study, and compared to CG, at only 2 points, EG having a higher percentage of this type of answers (7.4%).

6. Both compared to the ascertainment study and in the research carried out after the intervention, it is clearly observed that in EG there are few students who adopted the attitude of indifference, choosing the one of involvement. There are a few points in the questionnaire where the value is zero, which is not the case in the CG, where the percentage values of "indifferent" responses are much higher, generally higher, and than in the ascertainment study.

7. In the PE classes held following the implementation of **PPAMEF** at EG, a much greater involvement, superior dynamic qualities, high motor skills and better results in the control tests were observed, thus explaining the general average of EG, higher than CG (9.28 for EG and 8.73 for CG).

Thus, the results of the research led to **the solution of the important scientific problem**, which consists in identifying the most important actions in order to increase the motivation of students to practice physical exercise.



Following the analysis of the research results, we believe that we can formulate the following practical-methodical recommendations:

- The material framework for conducting PE classes will be analyzed and proposals for improvement will be made, so that physical activities can be carried out throughout the school year, not only during the hot periods.

- A series of small-scale competitions will be initiated, allowing more students to stand out and gain self-confidence.

- Motivational activities will be continued by offering diplomas, badges, titles and books to students who meet the conditions previously stated in the paper, in order to create a tradition and a solid motivational premise.

- The level of physical training of students who are admitted to the 9th grades will be monitored and the methods from **PPAMEF** will be applied.

- Measurements of physical performance (speed, endurance, jumping, team games) will be taken at the end of the school year to be used as background in the following school year.

- Performances achieved by high school students will be published on the school notice board, both in large-scale competitions and in those organized at the local level or at the school level.

- We will work closely with the school counselor to identify any specific elements and address them.

- Activities/events will be organized in which people who can be behavioral models for teenagers will be invited/promoted, so that they value the effects of physical exercises.

- The investigation carried out in the present work can be used as a starting point for the development of new approaches in order to identify the causes of the existence of the state of indifference, so clearly highlighted in the constative study.

- The results of the study will be published and popularized in a best practice guide regarding improving the level of motivation for practicing physical exercise in upper secondary school students.

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ADNOTARE
Oprescu Daniel Dragoș
Particularitățile motivației practicării exercițiului fizic la elevii din liceu
Teza de doctor în științele educației, Chișinău, 202

Structura tezei: Teza include introducere, 3 capitole, concluzii generale și recomandări, bibliografie din 203 titluri, adnotare (română, rusă, engleză), 143 pagini text de bază, 12 tabele, 46 figuri, 13 anexe. Rezultatele obținute sunt publicate în 11 lucrări științifice.

Cuvinte cheie: motivație, elevi, educație fizică, liceu, adolescent, exercițiu fizic.

Domeniul de studiu: Teoria generală a educației

Scopul cercetării constă în cercetarea eficienței, identificării și implementării modalităților de stimulare și creștere a motivației elevilor de liceu în vederea practicării active a exercițiului fizic.

Obiectivele cercetării: Analiza surselor literare pe problema motivației în practicarea exercițiului fizic. Determinarea mecanismelor motivaționale de practicare a exercițiului fizic. Elaborarea și implementarea unui program experimental de motivare a elevilor de liceu pentru practicarea exercițiului fizic. Elaborarea unui model psihopedagogic de motivare a elevilor din liceu pentru practicarea exercițiului fizic. Validarea experimentală a eficienței motivării elevilor claselor de liceu pentru practicarea exercițiului fizic.

Noutatea și originalitatea științifică constă în identificarea aspectelor particulare care descriu motivația elevilor pentru participarea la ora de Educație fizică, astfel încât să poată fi conceput un model de intervenție adecvat și adaptat nevoilor care se manifestă la elevii din liceu, pentru îmbunătățirea nivelului de implicare și a performanțelor atinse la această disciplină.

Problema științifică importantă soluționată rezidă din îmbunătățirea bazei teoretice de care dispunem în acest moment, privitor la elementele specifice care determină nivelul motivației de participare activă la ora de Educație fizică la elevii din liceu. De asemenea, au fost stabilite coordonatele unui model de intervenție, simplu și eficient, în vederea îmbunătățirii motivației intrinseci, pe termen mediu și lung, astfel încât elevii să manifeste interes și implicare pentru ora de Educație fizică, cu efecte benefice asupra performanțelor școlare la această disciplină, cu reflectare asupra sănătății, stării de bine și a rezultatelor obținute la toate disciplinele din curriculum.

Valoarea teoretică este data de identificarea elementelor constructive ale modelului de intervenție și testarea acestuia, în vederea măsurării eficienței rezultatelor obținute. De asemenea, este important să stabilim dacă rezultatele obținute în urma intervenției, respectiv creșterea nivelului motivației și al implicării, pot fi vizibile nu numai la ora de Educație fizică, ci și în creșterea nivelului performanțelor școlare, în general.

Valoarea practică a lucrării se regăsește în simplitatea intervenției și în nivelul rezultatelor obținute. Precizăm că intervenția nu necesită resurse deosebite, nici din punct de vedere a timpului necesar, nici din perspectiva infrastructurii utilizate. De asemenea, instrumentele utilizate sunt adecvate nu doar la ora de Educație fizică, ele putând fi incluse ca o bază de dezbateri la ora de Consiliere și orientare, ori la alte discipline, sunt captivante, generatoare de sentimente cu un impact deosebit asupra tinerilor.

Implementarea rezultatelor științifice s-a efectuat prin aplicarea la clasă a planului de intervenție și evaluarea rezultatelor obținute, rezultate care au fost publicate în lucrări științifice și diseminate prin participarea la conferințe și workshop-uri cu tematici din domeniul studiat.

ANNOTATION

Oprescu Daniel-Dragoș, The particularities of the motivation to practice physical exercise in high school students, Chișinău, 2024

Thesis structure: introduction, three chapters, general conclusions and recommendations, 203 bibliographical sources, annotations (Romanian, English), key concepts (in Romanian, English), list of abbreviations, 143 pages of basic text, 12 tables, 46 figures, 13 annexes. The results are published in 11 scientific papers.

Key-words: motivation, students, physical education, high school, adolescent, physical exercise.

Field of study – general theory of education.

The aim of the research is to identify the specifics of motivation and its mechanisms in adolescence, as well as an adequate intervention tool set, grouped in a possible intervention pattern to be used in physical education, which aims to increase motivation and increase performance, both at the physical education class, but also at the other subjects in the curriculum.

Research goals: Investigating the specialized literature; Highlighting specific motivation elements that describe the particular behavior of students in adolescence and the correlation with the needs of involvement and participation in Physical Education through motivation; Identifying intervention tools, grouping them into a pattern and applying it so as to improve motivation; Development of a structured intervention plan; Implementation of the intervention plan and evaluation of the results obtained.

The novelty and scientific originality: is found in the identification of particular aspects that describe the motivation of students to participate in Physical Education class, so that an appropriate intervention pattern can be designed and adapted to the needs of high school students, to improve the level of involvement. and the performance achieved in this discipline.

The important scientific problem solved lies in the improvement of the theoretical basis that we have at the moment, regarding the specific elements that determine the level of motivation for active participation in the Physical Education class of high school students. The coordinates of a simple and effective intervention pattern were also established, in order to improve the intrinsic motivation, in the medium and long term, so that the students show interest and involvement for the Physical Education class, with beneficial effects on the school performance, reflected also on health, well-being and the results obtained in all subjects in the curriculum.

The theoretical significance is given by the identification of the constructive elements of the intervention pattern and its testing, in order to measure the efficiency of the obtained results. It is also important to determine whether the results obtained from the intervention, respectively the increase of the level of motivation and involvement, can be visible not only in the Physical Education class, but also in the increase of the level of school performance, in general.

The applicative value of the paper is found in the simplicity of the intervention and the level of results obtained. We specify that the intervention does not require special resources, neither from the point of view of the necessary time, nor from the perspective of the necessary infrastructure. Also, the tools used are suitable not only for Physical Education, they can be included as a basis for discussion in Counseling and Guidance, or other disciplines, they are captivating, generating feelings with a special impact on young people.

The implementation of the scientific results was carried out by applying to the classroom the intervention plan and evaluating the results obtained, results that were published in scientific papers and disseminated by participating in conferences and workshops with topics in the studied field.

OPRESCU Daniel-Dragoş

**THE PARTICULARITIES OF MOTIVATION FOR THE PRACTICE OF
PHYSICAL EXERCISE IN HIGH SCHOOL STUDENTS**

Speciality 531.01- The general theory of education

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