

**ABSTRACT OF THE DOCTORAL THESIS
BY Ms. Mărginean Ștefana**

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THESIS ADVISOR: PhD VIOREL COJOCARU

**Thesis title: The influence of physical activity in adolescents fighting obesity
Key words: obesity, self esteem, body image, physical activities, healthy nutrition.**

Introduction

News and importance of the topic investigated

Currently, there is little scientific and methodical recommendations directed towards finding solutions for sedentary lifestyle, obesity, non-rational consumption, the lack of motivation to exercise for young age students. Obesity poses a serious threat to our health. In addition to aesthetics, obesity has a great influence on the functioning of our body as a whole and on specific organs specifically and the social life is equally affected, being characterized by a distorted self-image and low self-esteem. The effects are even more important and impressive as obesity starts early so we must realize the danger, its effects and try at all costs to restore normal weight.

Obesity is a major health problem globally, increasing in all countries, including Romania, and reaching alarming rates in both adults and children.

Considerations motivating the choice of theme

We can say that Romanian society due to inadequate educational policies, but also because of financial issues facing has a rigid position (on the introduction of the third hour of physical education), to the need for daily practice of physical exercises, of maintenance, argued most often by the lack of time required and the material hardship faced.

Physical education has been diminished in the curricula being introduced into the core curriculum, the majority of students have two hours a week up to the VIIth grade and between VIIIth grade and XIIth grade in the core curriculum is one hour physical education a week.

Besides the single hour of physical education in the core curriculum, students can receive optional but off schedule without any obligation physical education classes, of one or more hours, which will be organized by the respective school offer, its possibilities related to sports and human resources - teachers, which would lead these activities.

Our physical education and sport teaching experience in a middle school and a high school, enables direct observations and interactions with students of all types and in particular those with weight problems, knowing the difficulties they faced both in terms of achieving skills and driving skills and in terms of social relations with colleagues and how they are perceived or marginalized in games and sports activities.

Physical inactivity and excessive food intake are the main factors leading to overweight and obesity among children. In particular, students who have weight problems refuse to participate or have a negative attitude towards physical education and sport lessons and principles of healthy eating are not properly learned.

Nutrition, physical activity and children obesity are public health priorities. Children and young people are an important target group because creating healthy eating habits and the habit of constantly sport early in life is the most effective method of keeping long-term health.

On the other side one of the most important factors of influencing children and adolescents obesity, is not about fixed numbers, percentages, health condition or illness caused by obesity. It is perhaps the most important thing for a teenager, self-image, being in the period in which they become aware of their bodies, the way they are perceived by other members of the group to which they belong, or the various groups with which they have to interact, because they are faced with social barriers in integration.

This program seeks to educate teenagers by practicing various physical activities, through basic knowledge about food and nutrition, but also in the social sense, of image and high self-esteem, integration in different social groups. They learn to accept, try to highlight their skills, to have expectations for their performance in physical education lessons related to their physical possibilities, to learn opportunities to use physical activity as a way to improve self-image, but also as a mean of repression of negative feelings and socialization.

PART I THEORETICAL AND SCIENTIFIC BASIS

CHAPTER 1 - FEATURES AND CONCEPTUAL ISSUES ON THE INFLUENCE OF PHYSICAL ACTIVITY IN FIGHTING OBESITY KNOWLEDGE

1. 1. Causes of Obesity

Obesity occurs in the context of a positive imbalance between calorie intake and the amount of energy expended assimilated individual.

Its appearance is influenced by genetic, social, cultural, environmental and economic factors. Genetic factors appear to play a role without being decisive. It is known that obese families have a greater risk of obesity.

- **Genetic factors** influence both caloric intake and energy losses and their complex interaction with the environment affect the maintenance of normal body weight. In current thinking about obesity, each individual is genetically programmed both body weight / fat mass and physiological mechanisms necessary for maintaining them as the codification. It have been identified approximately 200 candidate genes for obesity, showing phenotypic variation and multifactorial polygenic appearance.
- **Behavioral factors** contribute to the development of obesity act in close contact with each other and it not possible to specify a particular behavior as a cause of obesity. Behavioral changes and decreased physical activity with increasing age, the tendency to inactivity, individual seizure in front of small screens for periods of the growing trend to replace regular meals with snacks, fast food diet high in calories, alcohol and sugary drinks, all of which lead to excess weight, especially in the age category of transition from young adult to adulthood.
- **Psychosocial factors** - some of the adults and adolescents find safety / peace caused by stress, boredom, frustration or mockery / bullying in excess food intake. This behavior is specific to the family of both parents and the children that react this way. Obesity and overweight are associated with low self-esteem in childhood and adolescence, it can produce a vicious spiral between diet, decreased self-esteem and other problems like depression and inutility. Such a child does not cope with school

tasks, cries a lot, does not sleep enough and has emotional problems. Usually has few friends and is socially isolated, he might be harassed, annoyed or threatened by other students, leading to poor academic performance.

- **Overeating** can sometimes be a form of mimicry, a response to stress or negative emotions such as boredom, sadness or anger. Obesity is however a consequence of psychiatric disorders but rather, it can be prone to such problems.
- **The school influence** - a child spends his first 20 years in school, in order for the school to have a positive impact on the child's health by promoting physical activity, providing healthy food and teaching children about basic nutrition principles. Hunger and inadequate nutrition can affect cognitive functions, which can lead to poor school results.
- **The parents influence** - parents have an important role in creating a healthy environment in the family. They form eating habits for their children, choosing the quality and quantity of food, meals and program duration - the type of physical activity practiced by children.
Parents are taking as a model for children in terms of healthy lifestyle, physical activity practiced, what foods are consumed. There are many cases in which obesity affects more members of a family, research proves that the chances are that a child who has one or both parents are obese, to confront himself with weight problems.

1.2. Self esteem

Self-esteem is the evaluative component of the self and relate to emotional experiences, emotions that a person seeks when referring to themselves.

Self-esteem is an assessment that we make about ourselves and can take different forms (global or multidimensional dispositional status or personal or collective). For example, Rosenberg (1979) distinguishes between high self-esteem (positive) and low self-esteem (negative). Lutanen and Crocker in 1992, talk of personal self esteem - with reference to the subjective assessment of their attributes which are specific to individual and collective self esteem - with reference to the value judgments on the characteristics of the group or groups with which the person identifies . Starting from the "self-esteem scale" of Rosenberg, Heatherton and Polivy built in 1991 as a tool to measure general self-esteem or "trait" self-esteem as a "state" or momentary.

Most psychologists define self-esteem as a global assessment of their value as a person. It is the assessment of a person on his own value, in other words, the degree of satisfaction with oneself. (Harter, 1998).

1.3. Aspects of body image

1.3.1. Socio-cultural factors in influencing body image

Body image is a multidimensional construct representing clinical essentially individual's thoughts and feelings to his physical appearance. Worldwide, studies on body image have been increasing concerns in recent decades mainly due to eating pathology encountered with high prevalence in the female population.

Experiments in recent years have concluded that body image in general and female, especially, are strongly influenced by the messages of mass media and reinforced by immediate interpersonal relationships, knowing that self-image is the coverage of the

environment. In other words, individuals form their self-image based on received feedback from others.

Obesity can cause various psychosocial problems during adolescence because of the unique experiences that young people encounter, so it is important to take action and make changes in nutrition and physical activity, with physical and psychological benefits.

Developing an identity and a body image is a major goal for teenagers, and teachers and parents need to address the issue and provide a system of support and help for students / children.

CHAPTER 2 - THE METHODOLOGICAL RESEARCH

2.1. The issues addressed

The role of teenager activities must be positive. Education, integration and the fight against social exclusion can be achieved through physical activity.

Physical activities are a balancing factor and play a fundamental role in improving social relations and maintaining a good climate in the community. Are on one hand forced to accept rules have responsibilities and engage in a collective activity.

Physical activity refers to courage, loyalty, self-overcoming, value of work, moral effort and team spirit. A strong argument for legitimizing the place of sport in adolescence is the transfer and implementation into everyday life of certain moral values, methods and techniques of leisure physical activity.

With the modernization and diversification of education, training traditional methods based on transmission of knowledge, skills and abilities no longer fails to cover large volumes of data loaded by the dynamics of society.

2.2. Assumptions of the scientific

1. The use of physical exercises specifically designed to combat adolescent obesity contribute to the improvement of the physical and functional capacity.
2. Applying an exercise program tailored, individualized, well established it leads to a positive self-image and increase their involvement in physical education classes.

2.3. The aim and research tasks

The purpose of this thesis is to verify if by performing physical activities in the program, students are given the opportunity to spend time in a pleasant way, to integrate into a community, to improve self-image, to improve their own skills to perform physical exercises, to make healthy food choices, which would bring many benefits.

Work tasks are:

1. Studying the literature on the problem of improving the physical education lesson.
2. Appreciate the level of overweight student in the development and physical training in 5-9 grades.
3. Determination of physical education lesson by applying physical activity to combat adolescents obesity .
4. Experimental rationalisation of the effective application of resources to combat obesity in physical education classes to middle school students.
5. Identify the importance of body image and self-esteem in adolescents' social relationships.

2.4. Subjects investigated, the place and the stages of research

Given the large number of students overweight of the Theological Seminary High School "St. Stephen Simon" in Alba Iulia, which have become a deterrent to the flow and dynamics of physical education lessons, we decided to separate them into a separate group. We thought

their attractiveness for moving, exercise will be more stimulated because their grouping similar criteria, thus mobilizing special effort in the lesson. The experiment was conducted on a sample of 15 pupils aged between 12 and 16 years of which 7 girls and 8 boys, mostly from urban families united by social environment.

The research was conducted in three phases as follows:

Phase I (September 2011 - September 2012) included studying literature and other related areas of interest to the theme addressed. We studied general aspects of physical education in secondary education, specialized programs and their orientation towards generalizing treatment in physical education class of students with weight problems, in particular.

Phase II (September 2012 - June 2013), which had as main objectives:

- Ascertaining the experiment to assess the level of physical training,
- Analyzing the results of investigation by questionnaire.

Ascertaining stage. After the test results were studied to assess the level of physical preparation of the students from the Theological Seminary "St. Stephen Simon" we started organizing the experiment with the students from the experimental group overweight.

2.5. The type and research objectives

So our research is based on a comparative experiment which aims to assess the level of general physical training of students from middle school to demonstrate the appropriateness of using new means in physical education classes.

Group composition was performed by optional adhesion, students were "invited" to take part in this activity tallied after previously presenting all the students the idea of differentiated work with students "disabled" by the overweight. It was mentioned the aim of improving physical appearance, on one hand, improving the ability to get better grades in control samples - specific for the experiment group - and thus a possible school advantage , on the other hand.

To determine the effectiveness of the work carried by the differentiated activity with the experimental group we have organized a control group consisting of 15 students still overweight for various reasons, which did not wish to participate in the experiment, preferring the rigors required by curriculum.

Research objectives:

1. Evaluation of risk factors for obesity.
2. Conducting tests and measurements and data processing.
3. Identify, assess, analyze and establish correlations between behavioral factors (dietary intake, eating habits, sedentary, physical activity), environmental (family, kindergarten, school, community) and obesity in children, based on questionnaires completed by students .
4. Develop and implement a program to promote a healthy lifestyle to school children and physical activity lifestyle changes and weight loss in overweight and obese children.
5. Perform a physical activity program on different days of the week , which student after completing the program and achieving goals, will practice independently.
6. Entering the program as an after-school actives.

2.6. Metode de cercetare utilizate

Problem implications of the use of means to combat obesity in physical education lessons to students in secondary schools is not sufficiently addressed in the literature. The advice provided by experts allowed to formulate the working hypothesis, purpose and research tasks, set goals, subject and research methods.

In order to examine specific issues, complex character and content of the activity within physical education lessons in secondary schools we have used the following methods of research that highlights the effects of a new methodological approach by introducing means to combat obesity in physical education lesson.

1. Bibliographic study method;
2. Questionnaire survey method;
3. Teacher observation method;
4. Measurement and testing method;
5. Experiment teaching;
6. Statistical and mathematical methods

2.7. Conclusion - Part I research

We can say that the state of scientific and methodological recommendations are less targeted in removing confusion on the overweight problems, wasteful of food, lack of motivation to exercise and pubertal age-specific "; the importance of body image and self-esteem in the social life of teenagers.

The introduction of three hours per week of physical education in the core curriculum for each class feeds the biological age needs - is the period of large accumulations to support "explosion" puberty; if performance is strongly contoured by legislative framework then it ensures the physical education and sport achievement;

We believe that teachers should opt for removing the traditional lesson and looking for advanced forms of work, the use of new methods of organization and management of the educational process;

Modern education teachers open to the great possibilities of selecting the systems, technologies, programs and teaching strategies;

At this stage it may be mentioned that the organization of the teaching process by rational use of contemporary teaching strategies of student oriented educational activities towards his needs and contributes directly to improving the educational process discipline "Physical Education", reflecting the new social-cultural relations and educational trends in general.

PART II
PRELIMINARY RESEARCH
EDUCATING ADOLESCENTS WITH WEIGHT PROBLEMS IN A HEALTHY LIFESTYLE

Determining the level of knowledge and nutrition and physical activity habits of adolescents

CHAPTER 3 - PHYSICAL ACTIVITIES CARRIED OUT UNDER THE EDUCATIONAL PROGRAM A HEALTHY LIFESTYLE FOR ADOLESCENTS WITH WEIGHT PROBLEMS

3. Duration and structure o the classes

According to specialist recommendations and observations of our teachers the occupations duration with children is 45 min.

Each hour structure consists of:

- The preparatory;
- The base part;
- The end.

Total hours for physical education for middle school students to use aerobic means should contain 108 hours; they should be made in 3 lessons a week (two of the curriculum and extra one).

Physical education classes (after the type of hours) are divided as follows:

- Training hours - 40 hours;
- Consolidation hours - 38 hours;
- Hours of training skills and capacities - 30 hours.

Total - 108 hours

Structure and content in school physical education class with the means to combat obesity in students.

For middle school students the duration of the lesson is 40-45 minutes. A lesson consists of three parts, (the preparatory, basic and final) classes are three times a week.

I. The preparatory

- Slight warming -8 to 10 min.

II. The main part (28-30 min) includes:

- Respiratory gymnastics - 2 min;
- Multilateral training exercises - 8-10 min;
- Basic movements with musical accompaniment by means aerobic 12-14 min;
- Motion games - 4 min.

III. The conclusion:

- Play with little movement, stretching exercises - 5 minutes.

CHAPTER 4 RESEARCH RESULTS AND QUESTIONNAIRES INTERPRETATION

4.1. Analysis and interpretation of the initial results of the students included in the teaching experiment (morpho-functional parameters, physical, psychomotor)

Analyzing literature data, opinions of experts on the issue of working with overweight students in physical education, it was developed the methodical organization of physical education lessons applying means to combat obesity. To this end, we organized a pedagogical experiment over a period of one school year, activity in experimental classes are held after a new methodology, with a greater proportion of elements to combat obesity and complex

motion gaming. The control classes, the common classes were carried out according to the traditional methodology.

One of the indicators that represents the quality of the training process discipline "Physical Education" refers to morphological and functional changes of the students, their body adapting to the effort incurred during the lessons.

To study changes in the morphofunctional development of secondary school students, we've created a research program in which measurements included tests for morphofunctional parameters, physical and psychomotor skills.

To assess the effectiveness of applying the proposed methodology, the test results were analyzed indices of physical development, functional training and psychomotor.

Preliminary data obtained as a result of the physical tests, psychomotor function helped us to show that children of this age do not have satisfactory motor skills. This allows to conclude that the secondary period observed that students have reduced motor system skills, which favors the accumulation of overweight increase level. In this context we have proposed to implement the physical education program means to combat obesity with students who are overweight. Typically students in this category are not integrates enough in the educational process of the physical education lessons. These people give the impression of timidity and incapacity to manifest and fulfill those goals that are set by the physical education curriculum. Thus the application of a special program of aerobic means, in our opinion can influence the psycho-physical state of the pupils of this age.

Conclusions of Part II of the research

Preliminary data obtained from tests of the physical, psychomotor function have shown that students of this age have satisfactory motor skills, in terms of socialization they have body image and low self-esteem, students feel marginalized, have no self confidence and no leisure pursuits through physical activity. This allows to conclude that in the secondary period is observed that students have reduced motor system, which favors the accumulation of overweight increased level. In this context we have proposed to implement in the physical education program means to combat obesity with students who are overweight. Typically students in this category are not enough integrated in the educational process of physical education lessons. These people give the impression of timidity and incapacity to manifest and fulfill those goals that are set by the physical education curriculum. Thus the application of a special program of aerobics means, in our opinion can influence the psycho-physical state of the pupils of this age.

CHAPTER 6. CONCLUSIONS

6.1. Theoretical conclusions -

The analysis of scientific and methodical literature on content addressing the educational process of physical education in secondary education, shows clearly that the method of organizing and carrying out this process is constantly improving. There are new work technologies proposed for different ages and categories of students. At the same time, some authors mention that students in secondary education have reduced motor skills, have inadequate physical training persist due to which multiple forms of sedentary overweight status appears.

According to the opinions of specialists in physical culture they proposed new forms, methods and application of exercise in physical education educational instrutiv process. The stage is set for implementing various forms of means to combat obesity and have gained a well-

deserved appreciation and expansion through their practice even by older people. In this sense means to combat obesity do not have a widespread and scientifically based in school education.

- Psychically they learn to have more self-confidence, improve their opinion of themselves (self-esteem) are more optimistic, more relaxed;
- Socially, they learn to socialize, make new friends in at school, communicate, are shown that they have the chance to reintegrate into various collectives and learn about team spirit;
- Physically students learn how to take care of their body, they are shown that exercise is an important way to maintain a healthy state, active spending of free time activities, that sport is a means by which we discharge ourselves of negative energies and get loads of positive ones, learn what a healthy diet consists in.
 - the formative function of the lesson for combating obesity is achieved by:
 - - Emphasis on independent work of students, stimulating their efforts in acquiring new knowledge and developing creative thinking;
 - - Is necessary to promote 'self boldly, an effective method for asserting personality development and self-critical spirit;
 - Establishing a climate of collaboration and cooperation in the teacher-student relationship. Working with the teacher in his own training, the student is increasingly becoming the subject of education, because he is not receiving passively the educational influences, but actively participate in its formation. The leading role of the teacher is done in a way that increases student independence, they develop a sense of initiative and responsibility. Work training students' personality is characterized by cooperation based on common interests. The student is guided and helped.
 - Permanent jointing of the activity, individually and frontal. If the frontal work is obtained with the corresponding intensity and density is because the teacher adjusts optimal student effort, labor differentiated by individualization which offers the largest resource of education, the students are independent under the supervision of the teacher as shown or work program. This activity requires high motivation and a good level of preparation. Differentiated labor efficiency is fully exploited capabilities and stimulates individual skills..

6.2. CONCLUSIONS OF THE EXPERIMENTAL RESEARCH

1.*According to the first hypothesis which argues that the use of physical activities specifically designed to combat adolescent obesity improves the physical and functional training of students, we can say that it is confirmed after ascertaining experiment.

2.* We can say that the second hypothesis which states that the application of an exercise program tailored, individualized, well up will obtain a body image, positive self esteem and increase their involvement in physical education class is confirmed .

6.3. RECOMMENDATIONS

Physical activity and adolescent obesity requires a few recommendations at various levels, individual, family, school, these recommendations are interdependent.

Development of the individual recommendations

Physical activity for children and adolescents is recommended to preserve and improve health:

- Young people should practice at least 60 minutes of moderate physical activity per day
- If it is practiced by at least 2 times a week it helps to improve bone health, muscle strength and increases flexibility

- Must take into account age and gender to achieve our goals, and the variety of activities, preferences and needs of adolescents

Development of the family recommendations

- Parents can set an example as influencing physical activity of children (practicing physical activity), social influence (showing that they are interested in physical activity of children), support (taking them and bringing them from physical activities, giving them gifts to motivate them to continue physical activities, encouraging them, providing positive feedback)
- Advice for parents:
 - Create healthy eating habits, involving children in choosing the menu
 - Encourage children to do one hour of physical activity per day
 - To share the activities they do with teenagers
 - Choosing physical activities as a way to relax and unwind
 - To control the time teenagers spend with sedentary activities.
 - Parents should also be careful and not use physical activity as punishment, and do not put any pressure on forcing children to do certain physical activities.

Development of school recommendations

- The school must provide the weekly physical activity required.
- The importance of physical education in school curricula should be recognized - this matter should be educational, health-oriented optimization, individualized, choosing the correct individual goals, pleasing and realistic to focus on young people and empower them on own their health, their welfare and keeping in good physical shape. Modern physical education must be different from the traditional focus on sporting performance, to which most young people have a negative answer. Lessons must be designed in such a way as to meet the needs and preferences of students, offering a wide range of attractive and varied physical activities where students have the opportunity to choose what they like as physical activities. They should be referred to an active lifestyle, with self-confidence, acquiring the knowledge, skills and driving skills and motivating them to take an active lifestyle and outside the school environment.