

Promoting adult education for a sustainable future: fostering healthy lifestyles

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Abstract

As an integral part of the concept of lifelong learning, non-formal learning enables adults to acquire the necessary skills to adapt more easily to the ever-changing social life. Concerned with these values, through the lens of the ODD, with reference to Health and well-being, which indicates "ensuring a healthy life and promoting well-being for all ages", we wanted to investigate a group of teachers who followed a training program aimed at the healthy lifestyle of the educable. Healthy lifestyle education can play a significant role in changing health behaviors and attitudes towards our own health, as well as those we educate. Teachers become not only mentors for children, but also role models. Starting from this concept, we want to find out if the learners are able to include health-promoting behaviors in their daily routine and if they implement strategies that promote health, well-being, for themselves, including the learners. A number of N=63 teaching staff from Iași county, located in the north-eastern part of Romania, participated in this study. Of these, a number of N=35 respondents teach at the preschool education level and a number of N=28 at the primary education level. All respondents are female, of whom N=49 teach in urban areas, and N=14 in rural areas. The research tools were applied in electronic version, using Google forms. The obtained data were statistically analyzed using IBM SPSS software. Findings indicate significant effects of the training program on all target variables. The results of this research will be used to add to our knowledge of behavioral change and learning in adulthood.

Keywords: teacher training; health promoting behaviors; obesity; sustainable educational interventions.

1. Introduction

1.1. Folk wisdom – the basis of sustainable development

An unwritten commandment, referring to the milestones of a fulfilled life, says that in life you must "Make children, build a house and plant a tree! This being your purpose as a HUMAN!" This popular wisdom anticipated the public policies and strategies that are today on the sustainable development agendas of the countries in the consortia. Building

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the three pillars during life – social (family/children), economic (shelter/assets) and environmental (the tree) is seen as the pinnacle of a successful life. It is indisputable that societal values and principles have faded in the face of the whirlwind of change in everyday life, and globalization has placed us in front of several challenges. We need a new approach, a new way to preserve our assets, develop ourselves and create a better future for the generations that will last on Earth.

The concept of sustainable development took shape over time, primarily aiming at the continuous improvement of the quality of life for future generations. Today, we are talking about 17 Sustainable Development Goals (SDGs) of the 2030 Agenda that can be found in the public policies of EU countries and beyond. With a new vision, involving 193 signatory countries to the agreement at the UN General Assembly (2015), the Agenda calls for action from all countries, regardless of economic status. Under the banner of *Transforming our world*, the plan undertaken by the decision-makers of the participating countries comes and pursues long-term economic growth, climate change and environmental protection, a series of social needs with reference to jobs, education and last but not least to health.

Ensuring a healthy life and promoting well-being for all at all ages is foreseen in the 3rd SDG *Health and well-being*, within the framework of the Sustainable Development Strategy. This objective aims at a number of strategic targets, including *The promotion of health education, prevention and a healthy lifestyle*. (Romania's Sustainable Development Strategy, 2018)

1.2. *Obesity - major problem in meeting the sustainable development goal with reference to Health and well-being.*

Today we are facing an expansion of obesity and overweight among adults and children all over the world. It is necessary to intervene urgently, because of the adverse long-term impact that this disease of the 21st century has on the health of individuals. Over time, it has been found that obesity is linked to a number of diseases and is responsible for the occurrence of type 2 diabetes, heart disease and cancer, including musculoskeletal complications, etc. *"Across the WHO European Region, obesity is likely to be directly responsible for at least 200 000 new cancer cases annually, with this figure projected to rise in the coming decades. For some countries within the Region, it is predicted that obesity will overtake smoking as the main risk factor for preventable cancer in the coming decades."* (World Health Organization, 2022, p.11)

In terms of statistics, the same report (WHO European Regional Obesity Report 2022) presents data on overweight, recorded among the population, which have reached epidemic proportions, affecting a segment of 60% of adults, 7.9% of children aged less than 5 years old, and one out of three school-age children is registered as overweight or

obese. (World Health Organization, 2022, p.10) The 2023 Atlas of the World Obesity Federation warns us of alarming figures, which estimate that the number of obese or overweight people in the next 12 years will be more than 4 billion, which represents a percentage of 51% of the world's population. As for childhood obesity, its increasing prevalence is expected to be more pronounced among children and adolescents, increasing globally in the period 2020-2035 from 10% to 20% among boys and from 8% to 18% among girls. (World Obesity Federation, 2023)

In addition to the physical suffering and medical problems it causes, obesity is also a global economic problem. The impact of obesity on health systems is a major one. It has reached 20% of total health spending, according to the McKissey Global Institute study, and is expected to exceed \$4 trillion annually by 2035, equivalent to 3% of global GDP. These are annual economic impacts, and the numbers are comparable to the data that caused the world economy to shrink by 3% of GDP in 2020, the worst year of the COVID-19 pandemic. (World Obesity Federation, 2023)

The hope of an action to recover the "epidemic" of obesity, in addition to the decision-making steps regarding the socio-political-economic dimensions of health and well-being, also lies in the creation of more favorable environments for educating certain behaviors, beliefs and attitudes at the earliest possible ages, as well as the reevaluation of behaviors, beliefs in adulthood, through the prism of a bio-psycho-social-spiritual well-being.

1.3. *Lifestyle in defining the individual's health*

The World Health Organization defines health as "that state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." Thus, knowing the fact that health is based on the three big dimensions: biological, psychological and social, we want to have a relationship of unity between them, with a protective role on the well-being of the individual. Among the factors influencing health dimensions is lifestyle. *William Cockerham*, chairman of the research committee on the sociology of health at the *International Sociological Association*, attributes a very important role to lifestyles in maintaining positive health: "*Medicine cannot cure chronic diseases, and a person's lifestyle can cause them or prevent the occurrence. Consequently, health is seen as an achievement - a goal for which people must "work", otherwise they risk losing the "game"*". (Cockerham, 2007, apud Vasile, 2010, p.67) As shown by American epidemiologists, in A. Restian's analysis, approximately 30% of human pathology is determined by genetic factors, 30% by environmental factors and 40% by lifestyle. (Restian, 2010) It is in vain that we have a man who is born healthy and lives in a favorable environment, if he has an improper lifestyle. Other researchers show that human pathology depends 20% on biological factors, 19% on environmental factors, 10%

on health systems and 51% on lifestyle. This means that human health depends more on his lifestyle than on biological factors and the activity of health systems, even in the conditions where medicine has made undeniable progress.

Thus, health risk behaviors have negative consequences both in the short term and in the long term, considerably reducing the quality of life and well-being of the person. Lifestyle is a determined fact, but it also determines in turn. The consequence of the individual's adherence to a certain lifestyle segment becomes like an existential pattern, being reinforced by voluntary decisions and actions, which ultimately affect our health or not.

1.4. *Education - premise in the prevention of obesity*

According to Downie & Tannahill's health model, health promotion is located on three interrelated dimensions: prevention, health protection and health education, where the subject (individual) becomes a receiver in the first two, changing into an actor when we are talking about the sphere of health education. (Pommier & Jourdan, 2013)

Health literacy is defined by the WHO (1998) as that cognitive and social skills which determine "the motivation and ability of individuals to gain access to understand and use information in ways that promote and maintain good health". (Sørensen, Van den Broucke, Fullam, *et al.*, 2012)

When we talk about prevention activities, this fact also implicitly refers to the educational perspective. It is known that "*Education is that reconstruction or reorganization of experience that adds to the meaning of the previous experience and that seeks the ability to direct the evolution of the one that follows*". (World Obesity Federation, 2023, p.12) Education is the bridge that connects us and our future, connects us to the past through the present. Today education is approached in close connection with the problems of the contemporary world. Alongside government policies, the school is the ideal place to promote health by reinforcing education about nutrition, physical activity and changing behaviors towards a new, healthy lifestyle.

The promotion and maintenance of health, *of a healthy lifestyle*, can only be achieved by educating citizens, forming their beliefs and behaviors starting from the youngest age in order to strengthen health and harmonious development.

1.5. *Learning and non-formal education of adults from the perspective of the need of developing a healthy lifestyle*

In agreement with the UN and EU recommendations, Romania set out within the National Strategy for Sustainable Development 2030 to develop skills "that help individuals to reflect on their own actions, taking into account their current and future social, cultural, economic and environmental impacts. This education must become a component part of

the quality of education, inherent in the concept of continuous learning." (Romania's Sustainable Development Strategy, 2018, p.38)

Non-formal education comes to complement the formal educational process. The legislation of non-formal education by the Parliamentary Assembly of the Council of Europe (2000) through the Recommendation on "Non-formal Education" underlines its importance in the strategy of lifelong education, reflected in the educational programs and policies assumed: *"L'Assemblée constate que les systèmes d'éducation formelle ne peuvent à eux seuls faire face à l'évolution technologique, sociale et économique rapide et constante de la société, et qu'ils très très être renforcés par des pratiques éducatives non formelles."* (Assemblée parlementaire, 2020)

The fields of action of non-formal education are diverse and they meet the current problems. They fill existing gaps and focus on a palette of modern contents, targeting goals and messages in line with the needs of the modern world. The list of these contents is always open and is supplemented as new social phenomena become educational objectives. As responses to the imperatives of the contemporary world of a political, economic, ecological, sanitary, etc. nature areas of involvement emerged that can be summarized as follows: emotions and social relations; physical development and bodily health; language, communication, media; creativity, art and aesthetics; natural sciences, environment, technology; values, participation and democracy. (Coulet, 2011, pp.1-4)

As an integrant part of the lifelong learning concept, non-formal learning enables adults to acquire the necessary skills to adapt more easily to the ever-changing social life. This can take the form of various individual or collective learning activities that are organized outside the formal education system: vocational skills acquisition programs, on-the-job training courses, structured online learning, adult literacy activities or programs of basic education of early school leavers. These non-formal education interventions allow the accumulation of experiences that can be compared to formal professional experience and deserve to be recognized as such.

In this context, there was a need to train the necessary skills of teaching staff in the innovation of didactic strategies for teaching-learning-evaluation of the optional subject, which aims at the formation of a healthy lifestyle during early childhood. The professional training course "Treasure from the bag with health - Methodological strategies for increasing the quality of children's lives" aimed at empowering the participating teachers in order to carry out teaching-learning-evaluation activities through the active involvement of children, providing both correct, structured and accessible knowledge about the healthy lifestyle, as well as ways of designing, organizing, implementing and evaluating modern strategies.

In response to the problem of the expansion of obesity and overweight among children in all age groups, the teaching of an optional subject aimed at the formation of a

healthy lifestyle during childhood creates the prerequisites for the acquisition of healthy habits, which will be practiced throughout life the person, favoring the maintenance of good health for as long as possible.

The promotion and maintenance of health, of a healthy lifestyle, can only be achieved through education, with the aim of assimilating truthful knowledge, developing healthy habits and changing behaviors into a new, healthy lifestyle, regardless of age.

1.6. *The teacher - a role model in learning*

Pedagogical practice has progressed over time, changing the teaching approach.

The child is an active participant in the learning process and develops according to the opportunities provided.

Acquiring healthy eating habits, as well as practicing physical activity at an early age, is based on sustainable and representative change at the level of individual behavior, including at the level of perception, thinking or observable responses to environmental demands.

Cockerham, in developing the healthy lifestyle model (Cockerham 2005, 2016) shows that the basis of appropriate health behavior is the transformation that takes place during the socialization interaction of the economic environment and the contextual social culture of the individual. Thus, social theories and models (Burdette Amy M., Needham Belinda L., Taylor Miles G. and Hill Terrence D.. 2017) approach the individual's behavior in a social and cultural context. They focus on changes at the community level, where subcultures have a great influence, and members of a restricted environment will exert a significant influence on the individual's behavior.

From this perspective, the child in the school environment becomes the core of the pedagogical effort, and this implies the continuous revision of pedagogical theories and practices due to the various generations of children.

Therefore, the continuous participation of teachers in training courses is necessary to improve their practices, in trend with the evolution of society, to be adapted to the needs and interests of the children they guide. In this process of professional development there is a need for more and more people equipped with critical thinking, with skills to adjust learning contents and willing to adapt to a changing world. Teachers will become not only mentors for children, but also role models, and the evolution and becoming of the future citizen depends on the quality of the teaching act.

The formative-educational effects of learning are directly related to the level of engagement and individual and collective participation of individuals in the training process. In this sense, we wanted to focus in our approach on the behavioral component with a protective role on the health of teachers who attended the professional training course "Treasure from the traista with health - Methodological strategies for increasing

the quality of children's lives", to see if there has been a change and if this has determined the promotion of a healthy lifestyle among children, by carrying out the optional activity.

We hope that our research will make practitioners aware of the importance of their own development and pay more attention to the didactic act centered on the skills of identifying the factors that influence health and the components of a healthy lifestyle, avoiding the problem caused by obesity.

2. Materials and Methods

2.1. Research Design

Our research aims to demonstrate that the teachers' own health-protective changes in their lifestyle, from the perspective of behavioral modification theories, will determine the decision to promote a healthy lifestyle among children, thus preventing the problem of obesity.

In our approach, we planned to investigate whether among the teachers who attended the professional training course "Treasure from the health bag - Methodological strategies for increasing the quality of children's life" there were changes in attitude, beliefs and behaviors in their own lifestyle .

The investigative approach is a quantitative one (questionnaire-based survey) and contains a set of concrete questions, focused on a goal and a hypothesis, on which we want to shed light for the benefit of practitioners and implicitly of children and their families, in order to adopt a healthy lifestyle.

2.1.1. Purpose

The purpose of this questionnaire is to collect information about the inclusion of health protection and to promote behaviors in the trained teachers' own daily routine. We also want to determine whether health-promoting strategies are implemented for one's own lifestyle, including for the formation of healthy behaviors among children.

2.1.2. Research Objectives

01. To determine the existence of changes in attitude, beliefs and behaviors in the daily routine of teachers who participated in the professional training course.

02. To identify whether the changes in the teachers' own lifestyle, which have a protective role on health, determined the decision to carry out the optional course for educating a healthy lifestyle for children.

2.1.3. *Research Hypothesis*

The changes in attitude, beliefs of the teachers, as well as the inclusion in their daily routine of the behaviors with a protective role on their own health, following the professional training activity, determine the application in the classroom of the optional program for educating the healthy lifestyle among children.

2.1.4. *Dependent variables*

Independent variable - professional training activities based on the development of the capital of professional skills regarding the healthy lifestyle.

Dependent variables

- The attitudes, beliefs and behaviors with a protective role on the health of teaching staff, adopted in daily routine.

- Teachers' interest in carrying out educational activities aimed at adopting a healthy lifestyle among children.

2.2. *Participants*

The target group involved in our investigative approach consisted of 63 teachers employed in educational institutions that offer early childhood education and primary education services in Iași County, located in the north-eastern part of Romania. A survey was applied and responses were collected at the end of August 2023. All the teachers who participated in the research study were female, of different ages and educational levels, coming from both urban and rural backgrounds. The mandatory criterion for participation in the research was to have completed the professional training course "Treasure from the bag with health - Methodological strategies for increasing the quality of children's lives", which aimed at empowering teaching staff to carry out teaching-learning-evaluation activities within the optional subject that aims to form a healthy lifestyle during childhood. Before the start of the study, aspects of the General Data Protection Regulation were considered, and teachers were informed about the purpose and duration of the study and gave their consent, according to EU regulations.

The quantitative method (opinion survey analysis) was used in the research. The survey was used to identify the changes experienced by the teachers who participated in the professional training course. This research method, according to Cohen *et al.* (Cohen, Manion, and Morrison, 2000) collects standardized information using the same instruments and questions for all participants and gather data that can be statistically processed. We have chosen this working tool because we believe it is significant for the purpose, objectives, questions and hypothesis of our research.

2.3. Instrument

In this study, the survey was used as a tool for quantitative research with qualitative implications and was delivered in Google Forms. The data were collected between August 12 and 24, 2023, during which the online survey took place. In addition to the data referring to the years of teaching in education, the level of education and the background of the respondents, the questionnaire contained 25 questions, structured in five sections, which included items with one answer, dual and multiple choice items and scaled questions, so as to respond to the methodological, thematic requirements and the characteristics of the investigated group.

The questionnaire covered several dimensions: data regarding the respondents, habits and behaviors, attitudes and beliefs, sleep and movement, weight and nutrition, lifestyle improvement practices.

The 25 items were distributed in such a way as to provide information both about the teachers' opinions regarding the efficiency, practical-applied activities and teaching-learning models of the contents of the training course, as well as about their concrete actions that they undertake in relation to the mode of feeding and resting, of practicing daily movement, of attitudes in managing daily situations as well as their perception of their own behaviors that contribute to the prevention of obesity and the adoption of a healthy lifestyle.

This questionnaire was structured in:

- an introductory section in which some personal information was requested related to: gender, education, seniority in education, place of residence and the cycle of teaching (primary, preschool) in which the teacher teaches;
- the questionnaire itself, which included 25 questions.

The indicators tracked in the questionnaire concerned the following dimensions: attitudes/beliefs; perception of own behaviors; sleep and movement; weight and nutrition; lifestyle improvement practices.

It was also investigated the desire of the participants to carry out the optional for children, which includes essential topics for the development of a healthy lifestyle "Live with health", following the completion of the professional training.

2.4. Demographic Data

The demographic data of the 63 teaching staff who participated in the survey are as follows: all participants in the study completed the professional training course "Treasure from the bag with health - Methodological strategies for increasing the quality of children's lives". They had a seniority in education between 2 years and over 20 years. Among the teachers, 1.6% had a seniority between 2-5 years; 22.8% between 5-10 years; 20.6% between 10-15 years; 11.1% between 15-20 years; 44.4% were over 20 years old,

the mean being $M = 3.75$ and $SD = 1.282$. Regarding the last level of education completed, 1.6% had high school education, 50.8% bachelor's education, 47.6% master's education.

A percentage of 55.6% of the responding teachers teach at the preschool education level and 44.6% at the primary education level. 77.8% of respondents teach in urban areas, and 22.2% in rural areas.

All the respondents to the survey participated in the professional training course "Treasure in the bag with health - Methodological strategies to increase the quality of life of children".

3. Results

The results of the questionnaire were entered into the database and analyzed with the SPSS program. The participants of the study considered that the professional training "Treasure from the bag with health - Methodological strategies for increasing the quality of life of children" was effective. This opinion was measured with a Likert scale from 1 to 5, where "1" meant "to the least extent" and "5" meant "to the greatest extent". As can be seen in *Table 1*, 77.8% of the respondents considered that for them the training program was effective "to the greatest extent"; 11.1% "to a great extent"; 11.1% "to some extent", with no answer for "to a small extent" and "to the smallest extent".

Table 1. Teachers' opinion on the effectiveness of the training course

<i>Assessments on the development of the training course</i>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To some extent	7	11,1	11,1	11,1
	To a great extent	7	11,1	11,1	22,2
	To the greatest extent	49	77,8	77,8	100,0
Total		63	100,0	100,0	

Part of the survey was designed to measure the level of change in teachers' lifestyle behaviors and attitudes following the training course and how these changes may influence the decision to take the healthy lifestyle education elective course, addressed to preschool and primary school children.

Data on change in beliefs and attitudes were measured on a Likert scale from "1" to "6", where "1" means "to the least extent" and "6" means "to a very large extent".

To the question "Do you consider that your attitude and beliefs have changed as a result of acquiring knowledge about healthy behavior and identifying the main health threats caused by an unhealthy lifestyle?" the measured results were presented as follows: 38.1% of the respondents stated that they changed "to a great extent" their

attitudes and beliefs regarding their own way of life after completing the training course; 39.68% "to a great extent"; 15.87% "to a suitable extent"; 1.58% "to some extent"; 4.76% "to a small extent"; "in the smallest degree" there being no answer.

Regarding the teachers' perceptions of their own behavioral changes after completing the training course, they were reflected in the quantification of the answers for the following dimensions: physical health status; mental state; daily movement activity; concern for health; adopting a new healthy lifestyle. As noted in *Table 2*, the respondents declared on a Likert scale from "1" to "6", where "1" means "to the smallest extent" and "6" means "to a very large extent", that they have largely succeeded in adopting behaviors that are conducive to good health.

Table 2 . Behavioral changes following the participation in the training course to promote health education

Changes related to:	a lot of changes	many changes	important changes	some change	unimportant changes	no change
physical health	22,2%	41,3%	17,5%	15,9%	3,2%	-
mental health	31,7%	42,9%	15,9%	9,5%	-	-
daily physical activity	15,9%	23,8%	34,9%	19,0%	4,8%	1,6%
attention to health	36,5%	33,3%	22,2%	7,9%	-	-
adopting a healthy lifestyle	27,0%	33,3%	25,4%	14,3%	-	-

To the question "To what extent are you able to go through the seven steps of emotion management" almost all respondents recognize the emotion they feel "to a very large extent", "to a large extent", identifying the cause and the thoughts that accompany the emotion, managing to anchor themselves in the present, acting appropriately, even though 29 respondents stated that they did not know this technique before taking the training course.

The questions in the section devoted to the adoption of physical activity and rest to the standardized recommendations, accumulated positive answers with reference to the success of sleeping according to the instructions (7-8 hours per night) in proportion of 74.7% and 25.4% negative answers. Of the respondents, 90.5% learned during the training course that insufficient sleep is one of the causes of obesity.

Regarding the assessment of daily physical activity in the last five months (with a minimum duration of 30 minutes per day) a dual response scale was applied. More than half of the respondents, as shown in *Table 3*, failed to exercise daily after the training course.

Table 3. Achieving more daily physical exercises in the last 5 months, N=63

		<i>Sample n</i> =63	<i>Percentage</i>
Achieving more daily physical exercise in the last 5 months	Failing to do more daily physical exercise	36	57,1%
	Succeeding to do more daily exercises	27	42,9%

We exploratorily investigated the reasons why survey participants were not successful in achieving optimal daily physical activity. Among the causes mentioned in the questionnaire, the respondents chose the following multiple answers presented in *Table 4*.

Table 4. Reasons for failing to have a regular physical activity, N=63

		<i>Sample n</i> =63	<i>Percentage</i>
Reasons for failing to have a regular physical activity	Time spent at work/studying	26	41,1%
	Family and household activities	46	78%
	Body-related complexes	4	6,8%
	Permanent or temporary physical incapacity	2	3,4%
	Limited access to sports facilities	13	22%

We were also interested in whether the respondents had information before completing the training course related to the fact that practicing sports/movement activities results in increased self-esteem. A percentage of 68.3% (N=43) declared that they had this knowledge, and 31.7% (N=20) acquired it following the completion of the training course. In the section for weight and nutrition questions, 39.7% (N=25) of the respondents stated that they eat regularly (3 times a day), 46% (N=29) of the

respondents fail to eat regularly every day, and 14.3% (N=9) usually do not have a meal schedule.

Confidence in the ability to choose healthy food was also measured after respondents attended the vocational training course. As can be seen in *Table 5*, the result of 44.4% is for "to a very large extent confident" in their ability to choose a healthy menu; 28.6% "to a great extent"; 20.6% "to a suitable extent"; 6.3% "to some extent"; "to a small extent" and "to a very small extent" no response was recorded.

Table 5. Confidence in the ability to choose healthy food

	<i>Frequenc</i>	<i>Percen</i>	<i>Valid</i>	<i>Cumulative</i>
	<i>y</i>	<i>t</i>	<i>Percent</i>	<i>Percent</i>
	To some extent	4	6,3	6,3
	To a suitable extent	13	20,6	27,0
Valid	To great extent	18	28,6	55,6
	To a very large extent	28	44,4	100,0
	Total	63	100,0	100,0

Regarding the desire to improve their own lifestyle, the surveyed teachers selected the targeted objectives from the question that contained multiple answers "What are your objectives in relation to improving your lifestyle?", as presented in *Table 6*.

Table 6. The motivations for a lifestyle improvement, N=63

	<i>Sample n = 63</i>	<i>Percentage</i>	
The motivations for a lifestyle improvement	Adopting a healthy lifestyle	41	65,1%
	Getting more exercises	47	74,6%
	Eating more vegetables and fruits	32	50,8%
	Maintaining the current weight	18	28,6%
	Losing weight	26	41,3%
	Having a more quality sleep	31	49,2%

It was also investigated how these behavioral and attitudinal changes of the teachers following the training course can influence the decision to carry out the optional course with reference to educating a healthy lifestyle, addressed to preschool and primary school children. For this we used the Spearman correlation which evaluated the associations between the hypothesis variables. This statistical analysis, described in *Table 7*, demonstrated that there is a positive correlation between the behavioral and

attitudinal changes of teachers after completing the training course and their decision to carry out the optional course for children, $r = 0.449$, $p = 0.000$. In addition, the two variables also mentioned in the table were in a medium positive correlation.

Table 7. Spearman correlation between the teachers' behavioral and attitudinal changes after completing the training course and their decision to carry out the optional course for children

		<i>Correlations</i>	<i>Their own behavioral changes influenced the development of the activities of the optional course</i>	<i>Change d attitudes - beliefs</i>
Spearman's rho	Their own behavioral changes influenced the development of the activities of the optional course	Correlation Coefficient	1,000	,449**
		Sig. (2-tailed)	.	,000
		N	63	63
	Changed attitudes - beliefs	Correlation Coefficient	,449**	1,000
		Sig. (2-tailed)	,000	.
		N	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation described in *Table 7* highlights the fact that the decision to carry out optional activities for children at early ages, aimed at forming a healthy lifestyle, increases with the changes in teachers' attitudes, beliefs and behaviors.

4. Discussion

The results of our research show that study participants believe that professional development is essential in acquiring teaching skills to promote a healthy lifestyle among children.

Our study found that there are important changes in attitudes, beliefs and behavior towards health, on several investigated dimensions, following the completion of the training course, which are included in the teachers' own daily routine. They are due to the acquisition of the capital of professional skills regarding the healthy lifestyle and the valid scientific information of the content of the professional training program. The competence to identify factors that influence health, the ability to understand, evaluate

and use information to improve or maintain health (Rootman, Gordon-El-Bihbety, 2008) led a large part of the study participants to change their their own behavior in relation to the way they eat, rest and exercise and to improve their own lifestyle.

Furthermore, our research highlights that teachers who have changed their attitudes, beliefs and behaviors after completing the professional training will experience a significant increase in the skills needed in educational activities aimed at developing healthy attitudes regarding nutrition, physical activity, hygiene and traits of character, as elements of a healthy lifestyle.

The level of health literacy will lead to the change in health behaviors (Kickbusch, 2004) that we consider fundamental in our concern for understanding and predicting health behavior at early ages. This training can be produced under the guidance of teachers who wish to assume the roles of trainers and facilitators of the child's harmonious development and higher quality of life, thus combating childhood obesity.

The study also has limitations in terms of data fidelity due to the fact that the questionnaire was administered only after the training and not before, to track the progress of trainees' attitudes and skills.

In the context of the major and accelerated changes of the contemporary world, we believe that ensuring a healthy state of children should represent one of the priority directions of the educational strategy.

5. Conclusions

We want to raise the alarm to all decision-makers involved in the education of young children to note the benefit in terms of maintaining and protecting children's health if we provide them with educational models and form healthy behaviors, while emphasizing the likelihood of facing the consequences related to overweight and obesity, if there are no immediate competent educational interventions.

The results of this study can bring major changes in educational practices in early and primary education. In this study, we find that the role of the teacher in facilitating and expanding learning through the development of didactic planning and design documents that promote the development of students' skills, with the aim of maintaining health, is very important, especially since there is no official curriculum developed for primary and preschool cycle. This fact, in the long term, is beneficial in the development of cognitive, social and emotional skills, with a protective role on the child's health and the development of a healthy lifestyle, which will be maintained later.

A new direction of action is thus opened, laying the foundations for future professional training courses, which will have a considerable number of hours and be accredited at the national level, with the aim of promoting health education as a goal value among the educable. We hope that in the future existing curriculum policies will take our

findings into account and more emphasis will be placed on maintaining and promoting a healthy lifestyle among children from an early age as a premise in stopping obesity.

References

- Anton-Păduraru, D.; Oltean, C. (2015). *Obesity in children and adolescents: epidemiological data and diagnostic criteria*. In: Mocanu, V., (2015), *Prevenția obezității la vârsta copilăriei-obeziitatea la vârsta copilăriei: factor de risc pentru sănătate de-a lungul vieții*. Iași. Editura Gr. T. Popa
- Assemblée parlementaire, (2000). *Recommandation 1437*, Discussion par l'Assemblée le 24 janvier 2000 (1re séance), (voir [Doc. 8595](#), rapport de la commission de la culture et de l'éducation, rapporteur: M. Dumitrescu). <https://pace.coe.int/fr/files/16762/html>
- Cockerham, W. C. (2007). In: Vasile, M. (2010). *Stiluri de viață în România postcomunistă*, Iași: Ed. Lumen
- Cockerham, W. C. (2005). *Health Lifestyle Theory and the Convergence of Agency and Structure*. Journal of Health and Social Behavior, 46(1), 51-67. <https://doi.org/10.1177/002214650504600105>
- Cockerham, W. C. (Ed.). (2016). *The new Blackwell companion to medical sociology*. John Wiley & Sons.
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education* (5th ed.). Routledge. <https://doi.org/10.4324/9780203224342>
- Coulet J.-C., (2011). *La notion de compétence: un modèle pour décrire, évaluer et développer les compétences*. In: *Le travail humain*, 2011, Vol. 74 (n° 1), pp. 1-4. DOI:<https://doi.org/10.3917/th.741.0001>
- Darlington, E., Masson, J. (2020). *Promotion de la santé et réussite scolaire*. Dunod. <https://doi.org/10.3917/dunod.darli.2020.01>
- Huidumac, C., Brîndușe, L. (2017). *Raport național - Evaluarea stării de nutriție a copiilor din ciclul primar prin participarea la proiectul „European childhood obesity surveillance initiative (COSI)”*
- Kickbusch I. The Leavell Lecture-The end of Public Health as we Know it: Constructing Global Public Health in the 21st Century. *Promotion & Education*. 2004;11(4):206-210. doi:[10.1177/175797590401100402](https://doi.org/10.1177/175797590401100402)
- Mocanu, V. (2015). *Prevenția obezității la vârsta copilăriei-obeziitatea la vârsta copilăriei: factor de risc pentru sănătate de-a lungul vieții*. Editura Gr. T. Popa
- Pommier, J., & Jourdan, D. (2013). *La promotion de la santé selon le modèle de Downie & Tannahill*. In *Santé Publique* S2(HS2):111, July 2013, DOI:[10.3917/spub.133.0111](https://doi.org/10.3917/spub.133.0111)
- Restian, A. (2010). *Lifestyle as pathogen factor*, In *Practica Medicală - Vol. V, Nr. 2* (18). <https://rjmp.com.ro/articles/2010.2/PM-Nr-2-2010-Art-0.pdf>
- Rootman, I., & Gordon-El-Bihbety, D. (2008). A vision for a health literate Canada. *Ottawa, ON: Canadian Public Health Association*. [[Google Scholar](#)]
- Romania's Sustainable Development Strategy 2030. (2018). București: Paideia. <https://dezvoltaredurabila.gov.ro/files/public/10000001/Romania-Sustainable-Development-Strategy-2030-en.pdf>
- Sørensen, K., Van den Broucke, S., Fullam, J. *et al.* (2012). Health literacy and public health: A systematic review and integration of definitions and models. *BMC Public Health* 12, 80. <https://doi.org/10.1186/1471-2458-12-80>
- World Health Organization. Regional Office for Europe. (2022). *WHO European Regional Obesity Report 2022*. World Health Organization. Regional Office for Europe. License: CC BY-NC-SA 3.0 IGO. <https://apps.who.int/iris/handle/10665/353747>.
- World Obesity Federation, *World Obesity Atlas 2023*. Compiled by Tim Lobstein, Rachel Jackson-Leach, Jaynaide Powis, Hannah Brinsden and Maggie Gray. <https://data.worldobesity.org/publications/?cat=19>