

## **Supporting -disadvantaged and non- individuals and families, prevention and intervention: The role of Health Education and environmental education**

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### **Abstract**

Health Education and Environmental Education, as educational proposals–interventions with an interdisciplinary character, are basic strategies for both coping with the environmental crisis and creating a responsible attitude towards health issues. Both prevention and health promotion focus mainly on factors of human behavior and the environment. The aim of the paper is to grasp perspectives that can be resources in the process of education for socio-culturally disadvantaged -and non- individuals and families. We are focusing on the education for health and prevention in daily life. The example -health, environment, prevention- presented in this article demonstrates the immense utility of the pedagogy in public health in particular to disadvantaged individuals and families.

**Keywords:** prevention, environmental health, Health Education, Environmental Education, educational interventions

### **1. Introduction**

“Health is an age-old concept” as indicated (Sharma, Romas, 2012). According to Unesco (2010) “the issues of development, environment and health are closely entwined. This reflects the complex links between the social, economic, ecological and political factors that determine standards of living and other aspects of social well-being that influence human health. A healthy population and safe environments are important pre-conditions for a sustainable future”.

Today, it has been proven that the poor quality of life, either because of environmental pollution or because of not well-defined socioeconomic terms, strikes the mental, physical and intellectual health of the individual. Furthermore, the quality of the environment is connected to international social and political problems such as poverty, wars, demographic problems, human rights etc.

On the other hand, despite the adaptive possibilities and abilities of the human beings, man can only live within fixed limits of fluctuation in the natural environment conditions (e.g. temperature, humidity and air conditions, etc.). These conditions allow the necessary for life physical and chemical functions to take place (Trichopoulou & Trichopoulos, 1986).

Therefore, today, interdisciplinarity appears urgently as a scientific and social question, with the ultimate goal of the interpretation of an ever increasingly complex world in relations and correlations, powers and influences, balances and contradictions. Abilities essential to modern society, such as the ability to interpret

and solve problems related to the environment develop in the individual, and especially in the young, through interdisciplinarity.

Consequently, a basic prerequisite for coping with the environmental crisis through prevention becomes the interdisciplinary approach in all of its aspects. This is reinforced by the fact that a lot of environmental issues included in several school programs and School Based Intervention refer to issues such as lifestyle, prevention, healthy eating/active, diseases, peace, poverty, etc. In particular, the interdisciplinary approach is recommended in teaching as long as the following are taken into account: a) it focuses on areas which are of particular importance and value and helps students understand behaviors and attitudes, b) it offers some coherence between ways of behavior from one teaching framework to another, c) it contributes to the acquisition of complete cognitive and emotional structure (Matsaggouras, 2003).

As has been reported, the relation of science to everyday life also means that teaching is even more dynamically connected with the local context of life. Teachers aiming at defining the causes of specific phenomena try to show the practical value of scientific knowledge by using problems that concern the community. They encourage students to devise ways of preventing environmental damage (Lopez, 2000). Also, “belief in one’s efficacy to exercise control is a common pathway through which psychosocial influences affect health functioning. This core belief affects each of the basic processes of personal change—whether people even consider changing their health habits, whether they mobilize the motivation and perseverance needed to succeed should they do so, their ability to recover from setbacks and relapses, and how well they maintain the habit changes they have achieved” (Bandura, 2004).

The aim of the paper is to grasp perspectives that can be resources in the process of education for socio-culturally disadvantaged -and non- individuals and families. We are focusing on the education for health and prevention in daily life. The example - health, environment, prevention- presented in this article demonstrates the immense utility of the pedagogy in public health (Greece et al., 2018) in particular to disadvantaged individuals and families.

## **2. Health and environment**

Health, apart from a biological phenomenon, is also a social phenomenon that embodies the quality of relationships which people develop and maintain with their environment and with each other (Tountas, 2001). Thus, it is not accidental that health was defined as a “complete physical, mental, and social well-being, and not merely the absence of disease or infirmity” (WHO).

On the other hand, the concept of environment can be defined as the total elements of a setting, within which the members of a social group live, taking particular action and, in a wider sense, influencing the environment itself. Therefore, both the environment and human behaviors are part of an interactive and interdependent process. Consequently, the complex concept of the environment connotes at the same time both the natural and the social environment, which makes this concept require special attention from a physical, social, financial, political and psychological point of view (Zarafonitou, 1996).

Nowadays, there has been a wide discussion on the creation of excessive waste in the environment, among which toxic substances, which “block” the function of natural ecosystems. So, when we use the term ‘environmental pollution’ we mean the very state in which human actions have as their direct or indirect impact the adulteration of the composition or of the natural condition of the environment (Koutselinis, 1999).

The factors that affect the way of life are linked both with the natural and the social environment. However, exposure to them is something which an individual can have control of. Therefore, (Calkins, 1987):

1. Tobacco and alcohol, clearly matters of personal choice, have been proven to have serious consequences on the user's health and on society in general, through the effects of passive smoking on individuals, as well as through forest fires and drunk driving.
2. The dietary plan (type of food, preparation, combinations and quantity) as well as exercise are factors that also rely on personal choice.
3. Psychological factors (e.g. anxiety, depression etc.), social factors (e.g. occupation, work mode, marital status, religion, ideology etc.) and personality traits are definitely more complex, but here the role of personal choice is not excluded either.

Today, an examination of the main corpus of research regarding the use of tobacco and alcohol, diet, lack of exercise and psychosocial factors has shown that these constituents of lifestyle contribute significantly to the risk of disease development. Other factors, such as hereditary predisposition to cholesterol, heart disease etc., also play a role. Such predisposition can be due to both genetic factors and common ways of life within the family. A genetic predisposition is not a factor that can be controlled. However, exposure to food cholesterol, fat, smoking and other factors is controlled. In particular, cancer is attributed to exposure to several environmental factors such as nutrition, tobacco, occupation, radiation etc. The relatively low danger level of occupational hazards, pollution and radiation is worth noticing compared to that attributed to tobacco use and dietary habits. This information, however, far from implies that protection of the environment, testing of consumer products or restriction of unhealthy jobs are insignificant activities. In this particular case, though, we should make it clear that they are held responsible only for a relatively small number of cancer instances, perhaps because a lot of these factors are relatively recent or because a rather small part of the population receives prolonged or chronic exposure. In the course of time, if environmental problems aggravate and / or exposures during work are prolonged, these factors can lead to a greater problem of cancer incidents in the future. For the time being, an important number of cancer cases are attributed to smoking and nutrition, so exposure to these factors is of immediate, rather than of future, concern. The enormous financial burden, both public and private, and the large proportion of population that is affected require focusing primarily on the modification of factors that are a way of life. In such a priority, the strategy that should be employed can be to further educate the population on health issues (Calkins, 1987).

Further education has turned out to be a demand of the times. This is due to the explosive growth of knowledge with the social and cultural changes it has brought in the way of life and their extensive application in the field of psycho-pedagogic sciences. Also, it is due to the rapid technological advancements in the field of information technology and communication with the educational, vocational and financial effects they have on the social system (Mavroidis & Tipas, 2001).

## 2.1 Prevention and environmental health

The disturbance in the continuous growth of forest areas and the broader seriousness and up-to-dateness of environmental issues are also due to, among other, the rapid changes in economy and technology, and the massive character these changes have, within the context of globalization experienced in modern societies. Considering the above view, it is the international character of the ecological crisis that nowadays demands measures to be taken for immediate prevention in the direction of a vital and effective policy.

On this basis both the examination of risk factors and the strategies for the approach to problems in public health can be discussed at two levels: that of prevention and that of intervention. In particular, the aim of prevention is to deter a problem from growing bigger, whereas the aim of intervention is to reverse an increasing problem and prevent the development of a disease. Recovery is an effort to return to a healthy state after a particular problem has appeared. Therefore, prevention and intervention, in relation to factors that affect the way of life, can render an individual able to: a) make themselves familiar with issues of personal and public health, b) make effective personal choices aiming at better health, as a consumer in the market, and at the demand for health services (Calkins, 1987).

At the first level, prevention must be fully integrated in the activities of the health care system. Nowadays, while the importance of prevention in environmental health is clear, it is deemed necessary that there should be a considerable increase in the commitment for research on environmental health and in primary preventive “medicine”. Obviously, there has been a lack of alignment between the concern of the medical establishment and the public. A health system that improves health requires a reasonable arrangement of priorities and a significantly different allocation of resources. The fact that health cannot be “bought” by investing huge amounts of money in the traditionally-structured system of health care becomes common and even more acceptable both to the consumer public and to those who map out a policy for the medical profession. Lifestyle, social equality and environmental conditions are the prime determinants of health or its opposites; that is, disease and, even, death. Thus, important steps to improve health could possibly be taken by persuading the public to keep to simple and sensible guide lines to their attitudes, regarding exercise, diet, repose and personal habits (Miller & Stokes, 1987). In this, mass media plays a vital role in health communication. The target audience of mass media ranges from children, to geriatric population. Of course, mass media often gives least priority to certain science topics for a variety of reasons, mostly to protect commercial interests (Maheshwar et al., 2018).

It is worth mentioning that, according to the US Ministry of Health and Services, it has been proposed (Gotsch & Pearson, 1987/ Rennie, 1995):

- i. that the public should be sensitized by the Mass Media against exposure to danger and that there should be educational health programs in primary and secondary education;
- ii. that experts in the health sector should be further educated, as should also the heads of industries, on issues such as toxicology, epidemiology and on the control in the use of dangerous substances;
- iii. that the sensitization of scientists in the health sector should be reinforced, especially as far as the diagnosis of environmental diseases is concerned;

- iv. that the personnel in several services should be further educated and particular emphasis should be placed on the education of the industrial unit heads, chemical engineers, lawyers and of those who are involved in the management of companies.

According to Gotsch & Pearson (1987), the creation of a National Center of Information for the Promotion of Health, which will be coordinating all services and activities regarding health and further education of the public on proper health care, is considered essential. This will facilitate the exchange of information on issues concerning the promotion of health but also the analysis of relevant issues. However, a nationally-organized approach to health education at a social level requires four steps: a) Collection and analysis of: i) the views of local communities, and ii) health information, with the aim of finding out which health problems should be given priority. b) Creation of aims and criteria. c) Planning and implementation of several strategic means, which are based on behavioral and educational diagnosis, so that goals are achieved. d) Assessment of progress for change.

In addition, mechanisms for the management of changes may be (Dimoliatis, 2002): research and knowledge about health and the environment, mobilization of partners for health and the environment (at an international, national, regional and local level), political treatment of health and the environment for all (a far-sighted work framework for politics and action in cities, local communities and in places such as schools, work, homes etc.).

On this basis, goals of a modern policy are (Dimoliatis, 2002): a healthy and safe environment, a healthy way of life, meaning healthy choices concerning nutrition, physical exercise, relationships, a decrease in harm from alcohol, drugs and tobacco, healthy places, multifaceted responsibility for health and the environment.

Finally, “during this century, disease prevention has changed largely from focusing on reducing environmental exposures over which the individual had little personal control, such as providing potable water, to emphasizing behaviors such as avoiding use of tobacco, fatty foods, and a sedentary lifestyle” and “more recent reviews have cited the need for social support for individual health initiatives” (Breslow, 1999).

### **3. Prevention and educational interventions: The role of Health Education and Environmental Education**

The development of the above views regarding environmental crisis and its effects on health raises the following question: Which procedures, interventions, structures, and perhaps educational innovations, can contribute to primary prevention at the level of health and the environment?

We consider that sensibility towards health and environmental issues in general, fostering of a sense of responsibility towards the environment and towards health, contact and acquaintance not only with nature but with ourselves at the same time, development of methods and practices for restricting environmental problems and diseases that derive from them, development and establishment of institutions that promote education and research on health can be achieved by taking advantage of two new educational proposals, that is of Health Education and Environmental Education, at all levels of education and health services.

The philosophy of Health Education and Environmental Education is based on the rationale of modern issues and matters concerning health and the environment. A

component of this rationale constitutes the creation of a new global code of ethics, strengthened by the sheer respect of Man towards Themselves, therefore towards their Environment – natural or social -, but also by the quality of their Life, therefore of their Health as a state of well- being.

In detail, Health Education and Environmental Education, as educational proposals – interventions with an interdisciplinary character, are basic strategies both for coping with the environmental crisis and for the creation of a responsible attitude towards health issues. Both intervention and the promotion of health focus mainly on factors of the environment and human behavior.

According to WHO (2018), «Health Education is any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes».

Health Education and Environmental Education contribute to the development of a common awareness for Health and the Environment through the conviction that environmental degradation, with all the effects this has on health, is a still reversible situation. Both Health Education and Environmental Education aim at the formation of healthy role – models of behavior regarding Health and the Environment. In both processes the development of an attitude and of values in the individual is of great importance.

On the one hand, Health Education aims at the promotion of physical, psychological, mental and social health. It is a process which is based on scientific principles and uses programmed learning opportunities, which give individuals or groups of people the possibility to decide and act consciously on issues which affect their health (European Union - Symposium in Luxembourg, 1986). Also, “one of the main tasks of health education is to inform about lifestyles and behaviours that prevent people from various diseases. In this sense, health education aims to influence a person’s knowledge, attitudes and behaviours connected to health in a positive way. It is a process during which people learn how to take care about their own and other people’s health” (European Centre for Disease Prevention and Control).

On the other hand, Environmental Education, structured around the key concept of the environment, promotes a global, systemic and multisectoral approach to the concept of the environment, “that is, as a gigantic, multi-powered and multi-dimensional system, developing through the dynamics of natural laws and human civilization” (Flogaiti, 1998).

On the whole, both Health Education and Environmental Education among health officers and teachers, either as life-long forms of instructing or as autonomous educational processes integrated in traditional subjects or in special educational activities, offer the individual the possibility of taking control and the responsibility of their behavior towards health issues and towards the environment. This can be achieved, firstly, at a level of information, sensitization and modification of attitudes, with regard to social structures that affect health, but also with regard to choices of lifestyle in combination with the encouragement of healthy habits (Woesler de Panafieu, 1984).

In particular, the quality of the school environment contributes to the decrease of negative parameters. The psychological and emotional health of young people depends on the quality of relationships within their school environment determined by the relations between teachers, students and the community (Weare & Gray, 2000).

Basic dimensions of both educational processes are: a) their instructive function, b) their innovation as educational processes, and c) the possibility of their intervention in

health and environmental problems. A cohesive element of both is the fact that they are types of education based on adequate and continuous information, completed and continuous instruction and on multi-level informing and guiding through instructive means, interdisciplinary programs and teaching of related subjects.

Finally, every health policy requires individual, communal, national and international decisions, which will keep pace with the principles of Health and Environmental Education. The mobilization of the public for active participation in the sector of health protection, where environmental issues are included, will play a vital role to this (Modolo, 1984/ Thomas et al., 2018).

In conclusion, we aim at a new type of educational influence at all levels of education, where young people will acquire skills and knowledge so that they will be able to live healthily and enthusiastically at present and in the future. Such planning can help the individual (Gotsch & Pearson, 1987):

- i. to understand and feel at ease as far as natural and social changes they experience are concerned, particularly during puberty,
- ii. to develop confidence and abilities in order to make conscious decisions on the use of addictive substances such as alcohol, cigarettes, drugs, tranquilizers, and others,
- iii. to identify and face anxiety in their life in order to live creatively,
- iv. to act understandingly in interpersonal and broader social relations,
- v. to improve their physical condition and their nutritional habits,
- vi. to improve the ability to detect and use the sources of health, such as working productively while improving health conditions in the community, in the natural environment and finally in the workplace,
- vii. to understand progress for research on health and make better use of the latest information on health.

In our opinion, the creation of a common awareness and responsibility towards Health and the Environment forms new dimensions of intervention, in relation to the interdependence of man with their biophysical and sociocultural environment and to the human responsibility towards environmental choices. Common awareness towards Health and the Environment can be achieved through a discussion taking into account the cultural and psychological dimension of sustainable development, besides the medical parameters.

Therefore, Health and Environmental Education become determining factors of sustainable development, creating a system of values and principles of behavior towards nature. Let us not forget that the biosphere has a limited potential and that human activities can affect it both at a local and at an international level in a way detrimental to our health and safety (Vilnev, 1992).

We are convinced that sustainable development as one of the greatest challenges of our times can develop not only by educating the public in environmental issues but also through health education because health is part of the environment (Hungerford & Volk, 1990). Responsible management of natural resources may be implemented if individuals become sensitized on health issues, for which environmental pollution takes the blame, and if they realize how important the condition of the environment is for the quality of life of contemporary generations and for the survival of future ones.

Besides, the aim is the provision of basic scientific knowledge so that citizens can participate actively in the crucial discussions on several issues, from the protection of the environment and the use of genetically mutated organisms to new ethical dilemmas that modern biological discoveries pose (Lopez, 2000).

#### 4. Conclusion

We consider it is worth mentioning that reports of international organizations focus on the social and ethical nature of education according to which (Verevi, 2002): a) The current model of university education ought to aim at the cultivation of a sense of responsibility towards society, the environment, culture, life. b) Curricula of a brand new philosophy ought to be made together with the traditional ones, so that Universities can provide education to different categories of students. Such a thing will allow the provision of knowledge to a much greater number of students, beyond the classic sense of the student. c) University ought to play the role of the collective intellect and take stands on ethical and social issues.

Such a rationale presupposes among other things a scientific and social contemplation of parameters, such as: a) the understanding that the notion of interdisciplinarity and the cooperation of different sectors are expressions of the holistic approach of environmental issues and that they should be connected to the productive powers of our society, b) the acceptance on behalf of teachers and health officers to broaden their taught subjects, c) the emphasis on the ability of officials in education and the medical services to communicate and cooperate at a personal and scientific level, d) the ability to plan an environmental program based on interdisciplinarity, aiming at the development of skills such as combination, judgment and creative thought, communication and participation, e) the self-awareness and self-esteem of young people.

We consider that Health and Environmental Education through a wide interdisciplinary analysis and exploitation of their academic content can contribute as a whole to the Promotion of Public Health for disadvantaged -and non- individuals and families by means of their educational nature. “Human health is a social matter, not just an individual one. A comprehensive approach to health promotion also requires changing the practices of social systems that have widespread effects on human health” (Bandura, 2004).

#### References

1. Bandura, A. (2004). Health Promotion by Social Cognitive Means. *Health Education & Behavior*, 31, 2, pp. 143-164. Available from: <https://doi.org/10.1177/1090198104263660>
2. Breslow, L. (1999). From Disease Prevention to Health Promotion. *JAMA*, 281, 11, pp. 1030-1033. Available from: doi:10.1001/jama.281.11.1030
3. Calkins, B.M. (1987). Life-style and chronic disease in western society. In: *Public Health and the Environment. The United States Experience* (Greenberg, M.R., ed.), pp. 25-75. New York, London: The Guilford Press.
4. Rennie, D. (1995). Health education models and food hygiene education. *Perspectives in Public Health*, 115, 2, pp. 75-79. Available from: <https://doi.org/10.1177/146642409511500203>

5. Dimoliatis, G. (ed.). (2002). *HEALTH 21. Health for all in the 21st century (The policy context "Health for all" of POY for Europe. A clear map of the way ahead)*. World Health Organization. Europe Office. Athens: Typothito-G. Dardanos (in greek).
6. European Centre for Disease Prevention and Control. An agency of the European Union. *Health Education*. Available from: <https://ecdc.europa.eu/en/health-communication/fact/health-education> (Ημερομηνία πρόσβασης 13/9/2018).
7. Flogaiti, E. (1998). *Environmental Education*. Athens: Ellinika Grammata (in greek).
8. Zarafonitou, X. (ed.). (1996). *Criminology Notebooks. The protection of the Environment from a criminological perspective*. Athens: Nomiki Vivliothiki (in greek).
9. Gotsch, A.R. & Pearson, C.E. (1987). Education-for-health: Strategies for change. In: *Public Health and the Environment. The United States Experience* (Greenberg MR, ed.), pp. 293-330. New York, London: The Guilford Press.
10. Greece, J.A., DeJong, W., Gorenstein Schonfeld, J., Sun, M., McGrath, D. (2018). Practice-Based Teaching and Public Health Training: Bringing Real-World Projects to the Classroom to Teach Intervention Planning and Communication Strategies. *Pedagogy in Health Promotion*, 5. Available from: <https://doi.org/10.1177/2373379918760929>
11. Hungerford, H.R. & Volk, T.L. (1990). Changing Learner Behavior Through Environmental Education, *The Journal of Environmental Education*, 21, 3, 8-21, Available from: DOI: [10.1080/00958964.1990.10753743](https://doi.org/10.1080/00958964.1990.10753743)
12. Koutselinis, A.S. (1999). *Toxicology*. Vol. B'. Athens: Parissianou (in greek).
13. Lopez, A. (2000). Significant steps in the teaching of science. *COURRIER of UNESCO, Biodiversity: a friend for a life time*, 7, pp. 13-15.
14. Maheshwar, M., Narender, K., Balakrishna, N., Rao, D.R. (2018). Teenagers' Understanding and Influence of Media Content on their Diet and Health-Related Behaviour. *J Clin Nutr Diet*, 4:9. Available from: DOI: [10.4172/2472-1921.100071](https://doi.org/10.4172/2472-1921.100071)
15. Matsanggouras, H.G. (2003<sup>2</sup>). *The cross-curriculum approach in school knowledge. Concept-focused Reframing and Work Plans*. Athens: Grigori (in greek).
16. Mavroidis, G.G. & Tipas, G. (2001). Teachers' training: Technique and methodology of teachers' seminars (with regard to Law 1566/85). *Review of Educational Issues*, 5, pp. 147-154 (in greek).
17. Miller, M.K. & Stokes, C.S. (1987). The medical care system and the protection of health. In: *Public Health and the Environment. The United States Experience* (Greenberg, M.R., ed.) pp. 331-350. New York, London: The Guilford Press.
18. Modolo, A. (1984). HEALTH EDUCATION: AIMS AND METHODS. A contribution of the European Office of the International Union for Health Education. In: *Papers of the International Symposium for Health Education. Aims-Content-Methods*, pp. 14-17. Ministry of Health and Welfare, General Secretariat of Sports and Youth.
19. Sharma, M., Romas, J. (2012<sup>2</sup>). *Theoretical Foundations of Health Education and Health Promotion*. Canada, United Kingdom: Jones & Bartlett Learning.
20. Thomas, M., Phongsavan, P., McGill, b., O'Hara, B., Bauman, A. (2018). A review of the impact of physical activity mass media campaigns on low compared to high socioeconomic groups. *Health Education Research*, 33, 5, pp. 429–446. Available from: <https://doi.org/10.1093/her/cyy032>
21. Tountas, G. (2001). *Society and Health*. Athens: Odysseas /Nea Ygeia (in greek).
22. Trichopoulou, A. & Trichopoulos, D. (Research coordinators). (1986). *Preventive Medicine Health Education, Social medicine, Public Health*. Athens: Parissianou (in greek).
23. Unesco. (2010). *Teaching and Learning for a Sustainable Future*. Module 8: Health Education. Available from: [www.unesco.org/education/tlsf/docs/module\\_8.doc](http://www.unesco.org/education/tlsf/docs/module_8.doc)

24. Verevi, A. (ed.). (2002). *The work «research» 1997-2000. Brief presentation. A) Research in context of E.P.E.A.E.K. B) From the activities of the center.* Athens: Centre Educational Research (in greek).
25. Vilnev, C.I. (1992). Citizen and the Environment. *COURRIER of UNESCO, The environment and Development*, 1, pp. 6-8.
26. World Health Organization (WHO). Available from:  
[http://www.who.int/topics/health\\_education/en/](http://www.who.int/topics/health_education/en/) (Ημερομηνία πρόσβασης 13/9/2018).
27. Weare, K. & Gray, G. (2000). *The promotion of mental and emotional health at school. A manual for teachers.* World Health Organization-Europe Office. Institute for Children's Health- Sector of the Promotion of Health at Schools. Athens: Ellinika Grammata (in greek).
28. Woesler de Panafieu, C. (1984). *New concepts in the field of Health Education. In: Papers of the International Symposium on Health Education. Aims-Content-Methods*, pp. 198-203. Ministry of Health and Welfare, General Secretariat of Sports and Youth