HEALTH CARE AND THE ENVIRONMENT
FROM THE VIEWPOINT OF PRIMARY SCHOOL PUPILS

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Abstract: The principal aim of the health promotion curriculum with respect to the environment is to promote awareness that environmental issues extend beyond relationships between organisms and the environment and also include the influence of the physical and social environment on humans. Every negative change in the environment impairs the quality of life. This makes the conservation of the natural environment imperative, as it forms an integral part of eco-environmental education.

If eco-environmental education is to contribute to restoring the balance between humans and nature, it is appropriate to explore the attitudes of pupils to their own health in the context of nature preservation. In this paper the authors present the results of an investigation which attempts to illustrate that knowledge and respect for the balance of the environment and humans can influence, condition and stabilize positive health indicators.

Key words: health, healthy life style, quality of life, care of health, care of environment, the attitudes, ecological/environmental education, health education.

Theoretical framework

Responsible actions in the interests of good health go beyond engaging in activities to improve it, rejecting activities that are harmful, and fostering positive attitudes towards the preservation and improvement of our environment. Thematically, the set of issues under discussion can be classified as an integrated conception of health which deals with the direct consequences for the health of an individual in terms of a healthy environment.

Ecological issues have been connected with health since the first serious efforts at environment protection, for instance at the first major international conference at Stockholm in 1972. The World Health Organization also addressed the impact of environment on health and instigated a global program called Health for Everyone which ran until the year 2000 at its 30th General Assembly in 1977. A number of international conferences and conventions have been concerned with the relationship between health and the environment on global scale (The Montreal Protocol – 1987,

The following issues are related to health and the environment: air pollution, chemical contamination, a healthy environment for children, the electromagnetic field, assessing environmental impacts on health, ionizing emissions, work environment, the quantification of environmental risks for health, UV emissions, water, hygiene, and health; all these categories can be found at the www.who.int4 website.


Health is considered in various contexts, e.g. healthy lifestyle, healthy diet, healthy interpersonal relationships, healthy workplace, healthy school, or healthy family. Healthy countryside, woodlands, or city, are also discussed; these issues relate to our topic – health vis a vis environmental issues. It is obvious today that each negative environmental change impairs quality of life, which becomes an imperative for environmental care as an integral part of eco-environmental education. The main task of the curriculum is to make students understand that ecology is not only about relationships between organisms and their environments or between various organisms, but also about the natural and social environmental impacts on humans. It is vital to renew a balanced relationship between humans and nature using the positive feedback principle (Liba, 2005: 63) so that the relationship of humans to nature is not only seen as a battle between a biosphere and technosphere. The role of education is very important as it makes us better understand that natural processes are interrelated and that there are mutual causal and spontaneous relationships whose harmony is impaired by human activity.

The aim of health education is to develop and cultivate attitudes both towards the individual’s own health and to the health of others and understand health as an essential prerequisite of fully-fledged life. Everyone should know themselves and their environment well and behave as a responsible and fully integrated member of the society throughout their whole life. J. Liba (2005: 124) emphasizes active care about our own health “fulfilling bio-psychological and socio-cultural determination of the personality, realized in a balanced and sensible lifestyle which is the condition of well-being and personal as well as social self-realization and success.”

From an eco-pedagogical point of view, the following areas are important: the quality of the environment as an aspect of health; the environment as the basic determinant of health; a healthy environment as the goal of the Health for everyone program; Eco-social model of health (see Health 21).
The environmental part of health education focuses on:

- the analysis of the people-nature relationship
- biological, economical, social, and psychological determination of ecological problems and on the impact of human activities on nature
- the impact of the environment (by no means only natural) on health.

M. Havlinová’s research team aptly characterizes this area (2006: 99) using the following categories: context, developments and changes, diversity, various ways of human activities and their impact on the environment.

The above mentioned focus corresponds with goals and key competencies in curricular documents for primary education. One of its aims is to teach pupils to “actively develop and protect their and others’ physical, mental, and social health and be responsible for it.” At the key competencies level, the goal is explicitly carried out within the sphere of civic competency: upon leaving primary school, pupils should understand basic ecological relationships and environmental problems, respect the preconditions for a good quality environment, and make decisions in favor of the support and protection of the health and sustainable development of the whole society. As for work competencies, pupils approach work activity both from the point of view of quality, functionality, efficiency, and social importance, but also from the viewpoint of protection of health of themselves and others, protection of the environment and the protection of cultural and social values. Pupils should be able to use communicative competencies to create relationships needed fully-fledged co-existence and good cooperation with other people. They should also have social and interpersonal competencies and understand themselves in a way that encourages their self-consciousness and self-dependent personal development. The pupils would manage and direct their behavior in such a way so that they achieve a feeling of self-satisfaction and self-respect, they should also help to create a good atmosphere in the team, foster good interpersonal relationships while observing the rules of politeness and respect for others, and offer or ask for help if they or other people need it.

Interest in the environment as one of the determining goals of good health calls for both consistent identification and specification of eco-environmental education tasks in the health education context (see Horká, 2005, for further details). All state institutions and educational institutions are obliged to promote the personal involvement of each individual.

It is advisable for educators to analyze pupils’ attitudes to their own health in the context of their environmental awareness to enable them to choose those educational strategies that will contribute to harmony between humans and nature. At the same time, it will be possible to verify whether the level of eco-environmental knowledge can “influence, determine, and stabilize the immune system and other positive indicators of health (Liba, 2005: 64).
The research

Methodology – characteristics of the survey group and methods

The aim of the research is to monitor pupils’ attitudes to their own health in the environmental care context and propose measures based on the research to enhance the effects of environmental education.

Hypotheses:

H1: Pupils who are highly aware of the importance of their health will more likely prefer an ecologically oriented lifestyle.
H2: There is a negative relationship between the pupils’ preferences of healthy lifestyle and their preference for a motorized lifestyle.
H3: There is a relationship between pupils’ understanding of cars as a health threat and preferences for means of transport which are more environmentally friendly than cars.
H4: There is a relationship between pupils’ preferences for a healthy lifestyle and between food choice ethics.

The group: 265 pupils from 5 schools in Brno vicinity (4 schools from Brno, 1 school from Klobouky u Brna, a very small town nearby), 124 boys, 141 girls, 8th grade – 113 pupils, 9th grade – 152 pupils

Research method: questionnaire with closed and open items (4)

Indicators (5) of pupils’ care about their own health;

- the importance of sleep
- the importance of regular and sufficient intake of liquids
- the importance of regular and sufficient exercise
- the right choice of eating place
- the choice of drinks
- the importance of “healthy” food
- preferences for preservative-free food
- preferences of chemical additive and coloring-free food
- attitudes to cigarettes, alcohol, and hard and soft drugs

Indicators relevant to attitudes concerning the environment:

- the extent of willingness to care for the environment
- recycling
- attitudes towards means of transport (the car vs. the bike, walking, public transport)
- the willingness to buy environmentally friendly products
- the willingness to buy products which were not tested on animals
Research results

We were interested in the extent to which pupils appreciate their own health. In item # 17 of the questionnaire, pupils were asked to order 11 values (6) (property, money, good school results, good friends, their own health, healthy environment, a lot of free time, a lot of fun, no stress, happy family, good sport results) according to their priorities.

The most important

We find the fact that pupils put their health on the first place of the value scale (57.2 % out of 250 valid answers) very positive.

The following significant items were “happy family” (19.2 %) and “good friends” (14.4 %). These are values that correspond to the social dimension of health. Consequently, pupils appreciate their health in most cases more than other categories (46 % of those who did not state health as the top value placed it as the second most important value).

Another indicator of pupils’ attitude towards their own health was the importance of sleep, which is represented by question item # 18: “Good sleep is very important for me.” We have found out that out of 95.9 % pupils (254 valid answers) relates to this statement (68.9 % - strong agreement, 24 % – hesitant agreement).

As we have found out by randomly asking teachers, many Czech schools educate pupils to consume liquids regularly and in sufficient quantities and they are aware of the
importance of this habit for their good health. We wanted to know to what extent pupils put it into practice. We found that 81.4% of pupils (out of 253 valid answers) agree with item #19: “I try to consume liquids regularly and in sufficient quantities;” (37.9% strong agreement, 43.5% hesitant agreement).

Both in general and specialists’ discourse, great importance for healthy living is seen in sufficient and regular exercise, which demonstrably improves health, leaving aside professional and adrenaline sports and the abuse of doping – in general, areas of sport in which it might be somewhat problematic to speak about positive impacts of health). Physical exercise is an excellent way of preventing a wide range of health problems, such as obesity, cardiovascular diseases, etc...). If we should focus only on the research of this phenomenon, we would need a much greater number of items and indicators. As we were, unfortunately, constrained by time limits, we could only ask pupils two questions – items 20 and 21 of the questionnaire: “Exercise (for instance long and frequent walks, cycling, active sport, etc) is very important for me.” Item 21 read, “I do active exercise (for instance long and frequent walks, cycling, active sport, etc). 89% pupils (out of 255 valid answers – 28.4% strong agreement, 31.0% hesitant agreement) identified with item # 20. In item number 21 a scale was offered: “I do active exercise... all the time – very often – often occasionally – never – I do not know, while it is obvious that different pupils could interpret the scale differently. The validity of this item is hence problematic and we are offering it only as a general indicator. Out of 261 valid answers, 25.7% pupils answered “all the time,” 26.1% “very often,” 25.7% “often,” 21.5% “occasionally,” and 1.1% “never.”

Diet plays an important role in a healthy lifestyle. Czech pupils are under constant pressure from advertising and from certain food manufacturers (sweets, sweetened drinks, fast food – in general, foods that have detrimental effects on human health). We wanted to find out what kind of food pupils prefer. In item #22, we asked them what kind of eating places they prefer. The item, which was closed, read, “If you could choose where to eat, what would you choose?” with the following possibilities: “school canteen, McDonalds (or KFC), a restaurant, a fast food restaurant, eating at home, other variant.” Out of 259 valid answers, “eating at home” was chosen at the first place with 31.7%, while McDonalds (KFC) was surprisingly given as the third most frequent answer with 25.3%. We were somewhat surprised that the school canteen was only chosen as the least frequent answer with 0.4%, despite the fact that food offered by school canteens is characterized as balanced and healthy. The possible reason for the pupils not choosing this answer was the fact that when confronted with special and single situation, they decide against the school canteen despite the accessibility and acceptability of the meals in school canteens.

In item 27, pupils were supposed to agree or disagree with the following statement, “I try to eat healthy food.” 65.5% out of 249 valid answers were positive (17.3% - strong agreement, 48.2% - hesitant agreement). In item 23 (closed), pupils answer the following question, “If you could choose a drink when you are thirsty, what would you choose?” We were surprised that “water” was given at 48.5% of 260 valid
answers, which was the first place, second came “soft drinks (Kofola, Fanta, Sprite, Tonic, etc.)” with 29.6 %, and “Coke” only placed third with 8.1 %. The fourth variant was open with 7.3 %, and in 90 % of cases pupils stated beer!

In our survey, we also dealt with the pupils’ attitude to preservatives and chemical additives-free food. Item 25 (closed) stated, “I prefer preservative-free food;” out of 206 valid cases, 49 % of pupils agreed (7.3 % – strong agreement, 41.7 % hesitant agreement). Item # 26 (closed) stated: “I prefer chemical additives-free food;” out of 225 valid answers, 49.3 % were positive (12 % – strong agreement, 37.3 % hesitant agreement).

The last category of indicators showing pupils’ attitudes towards their health are habit-forming substances, dealt with in item # 29. Pupils have negative attitudes to habit-forming substance abuse; the more dangerous these are, the more negative the pupils’ attitudes are. 81.8 % of pupils (out of 258 % valid answers) do not agree with the following statement, “Smoking is all right.” (49.6 % disagree strongly, 32.2 % disagree). We did not aim at finding out whether they smoke or not as we were sceptical about the sincerity of their answers (despite their being assured of the anonymity of the questionnaire). However, what we wanted to know is whether they view smoking (and other habit-forming drugs) as a problem. 83.6 % (28.0 % strongly agree, 55.6 % agree) of pupils (out of 258 % of valid answers) agree with the statement, “Occasional consumption of alcohol is OK.” Nevertheless, 89.5 % of pupils (out of 257 valid answers – 53.3 strongly disagree, 36.2 % disagree) disagree with the statement reading, “frequent consumption of alcohol is OK.” 86.5 % of pupils (out of 253 valid answers, 55.7 % strongly disagree, 30.8 % disagree) objected to the statement reading, “Soft drug consumption is OK.” 97.6 % of pupils (out of 257 valid answers) disagree with the statement, “hard drugs abuse is OK” (92.2 % strongly disagree, 5.4 % disagree).

In open item # 30 of the questionnaire, we asked pupils, “What do you do to stay healthy?” Although this item is open, we were able to find out the pupils’ activities using the following categories: physical exercise (sports), healthy eating, not abusing habit-forming substances, observing the rules of hygiene, regular and sufficient consumption of liquids, sufficient sleep, other, not doing anything. The last entry was given in 15.5 % of 256 valid answers, physical exercise in 70.4 %, healthy eating in 45.8 %, not abusing habit-forming substances in 17.3 % of answers.

We usually view environmental protection as a kind of extension of caring for our health. As the results of our survey show, pupils are often worried about their environment, ” not because of the environment itself, but because of being worried about their own health. Environmental devastation has manifest effects on health (poisoned soil, water, air, mental deprivation from devastated landscape, etc).

Item # 28, dealing with the above-mentioned issue, provided some interesting answers. The question read, “In your opinion, what are the threats to health of living in the city?” The pupils gave answers which we put into the following categories: cars, crime, infections, civilization diseases, stress, obesity, refuse – pollution, lack of exercise, drugs, industry, destruction of trees/landscape, other possibility. We
were surprised that the pupils saw smog as the most imminent ecological problem (51.3% of 246 valid answers); it is worth bearing in mind that the question was open! Cars (44.3%) were given as the second answer, industry as third (23.9%).

It follows from the above-mentioned results that negative social phenomena viewed by pupils as threats to health are only of secondary importance compared to environmental issues. 15.0% of pupils see drugs as dangerous, which was the only social category worth noting. About 15% of pupils stated “various cynical, racist, and xenophobic insults” as a health threat! They rightly understand that ecological problems are not only of biological but also of a social character.

In our survey, we were interested to find out whether viewing cars as an ecological threat could influence the pupils’ attitude towards the motorized lifestyle. In item #15, we asked, “Imagine that you have a car and a driving license and want to visit your friend who lives at the other end of the city. You choose: public transport, bike (there is a cycling path), car, other means of transport, don’t know. Out of 257 valid answers, 52.5% pupils chose the car, 23% bike, 13.2% public transport, 5.1% would walk. The aim of this question was to find out whether pupils see association between this question and question #28 (ecological threats of city life). They formulated the following hypothesis, “There is a relationship between viewing cars as an ecological threat and preferring to use ecologically friendly means of transport.” Hypothesis #3 was proved, however: the relationship was low (Caramerov coefficient V=0.2 out of 241 valid answers).

As for other items investigating pupils’ attitudes to their environment, 26.8% (out of 257 valid answers) pupils said “they do not do anything,” 39.2% “recycle,” (which is a very good result – recycling is becoming a social norm). We have omitted a frequential evaluation of other answers, as they did not prove significant for the survey.

The relationship between pupils’ relationship to their own health and to environment protection

We were trying to find a possible correlation between the pupils’ concern about their health and their relationship to protection of the environment (hypothesis H1). Most of the correlation that we researched turned out to be very weak, or else the hypothesis was invalid.

− what is worth mentioning, though, is the correlation between the closed items of the questionnaire with ordinal variable # 12 (“I want to lead a lifestyle which is friendly to nature”) and # 27 (“I try to eat healthy food”). The correlation was as follows: t = 0.326 (t – Kendall’s tau, significant to a level of 0.01);
− a negative correlation between the above-mentioned item # 12 and # 29 (“What is your attitude to smoking: Smoking is/is not OK”) was t = −0.261 (significant at the 0.01 significance level);
− the correlation between item # 12 and # 20 (“What is your opinion on the following statement, “Exercise (cycling, long and frequent walks, active sport, etc) is very important for me.”) turned out to be t = 0.213 (significant at the 0.01 level of significance);
the correlation between item # 12 and # 24_6 (“To what extent is the health aspect important for you when you choose your food?”) was \( t = 0.248 \) (significant at 0.01 level of significance);
- the correlation \( t = 0.284 \) between item # 12 and 24_4 (“To what extent is it important for you that your meals contain a lot of vegetables?”) (significant at 0.01 level of significance);
- a weak negative correlation between item # 12 and 24_3 (“To what extent is it important for you that your meals contain a lot of meat?”): \( t = -0.123 \) (significant at 0.05 level of significance).

We can see that the correlation between pupils’ attitude to their own health and towards their environment is weak.

We were not able to find any similarities between the variables of hypothesis H2 (There is a negative connection between the pupils’ preference for a healthy lifestyle and their preference for a motorized lifestyle) and H4 (there is a correlation between preference for a healthy lifestyle and food choice ethics).

Analysis

Analysis of the partial survey results gave us some insight into the attitudes of secondary school pupils (aged 14 and 15) to health and protection of the environment. It also enabled us evaluate, among other things, the effects of the health and environmental education of schools. We were pleased to learn that pupils see “health as the most important value in life.”

More than half (57.2 %) of the respondents put health on the first place in the scale of values, and 46 % put it on the second place. 1/3 of respondents preferred values connected with social dimension of health (“happy family” – 19.2 %, and “good friends” – 14.4 %). In most cases, pupils place health above other values.

The respondents showed a good fundamental ability to distinguish between factors contributing to good health and factors detrimental to it.

Almost all respondents (95.9 %) evaluate sleep and regular and sufficient consumption of liquids (81.4 %) as being of crucial importance. Nearly half of them (48.5 %) choose water when they are thirsty, almost a third chose “soft drinks” (Kofola, Fanta, Sprite, Tonic, etc…) and slightly less than 10 % chose “Coke.” About a third of the respondents (35.1 %) prefers eating at home, eating at a restaurant came next with 31.7 %, 25.3 % choose McDonalds (or KFC). Eating at a school canteen came last with 0.4 %. 65.5 % of pupils tried to eat healthy food (17.3 % – strong agreement, 48.2 % - hesitant agreement). 49 % of pupils prefer preservative-free food. 81.8 % of pupils do not agree with the statement, “Smoking is all right” (49.6 % - strong disagreement, 32.2 % hesitant disagreement). 89.4 % of the respondents practice regular physical exercise.

From these data, we can conclude that pupils have adopted a number of health-promoting practices in their everyday life and in a variety of situations. Pupils actively
undertake activities promoting health. Three quarters of them do sport systematically, about a half of them eat healthy food, and about 1/6th does not abuse habit-forming substances. About 1/6th of the respondents admitted not doing anything for their health.

As far as threats of health of city life are concerned, the pupils saw cars, smog, crime rate, infections, civilization diseases, stress, obesity, refuse/pollution, lack of exercise, drugs, and destruction of the landscape as the most dangerous. More than a half of the respondents saw “smog” as the most dangerous, “cars” came second with 44,3 %, and industry third with 23,9%. Social phenomena, such as “drug abuse” and “cynical, racist, and xenophobic insults only came after “ecological” threats.

We wanted to find out to what extent viewing “cars” as a threat to health could determine the pupils’ attitude to the motorized lifestyle. The invalid hypothesis between the non-existence of the pupils’ relationship between “viewing cars as a threat to health and preferring ecologically friendly means of transport instead of the car” was rejected because of a weak correlation V=0,2. Other items asking the pupils’ about their environment are worth mentioning. 26,8 % of pupils stated that “they do not do anything for their environment,” 39,2 % stated they recycle (the impact of media promotion of this issue is significant: recycling is becoming a social norm). As it has been stated above, environment protection is gradually becoming a social norm. Our respondents often think about their environment – not for the environment’s sake, but because they are worried about their health.

A number of studies dealing with health and eco-environmental issues (Liba, Wiegerová, Havlínová, Střejčková, Sterling, Palmerová) show that the state of an individual’s attitude to ecology can have a stabilizing and positive impact on the immune system and health. Pupils learn to evaluate a variety of phenomena, their risks or gains; they learn to take responsibility for the way they treat the environment, and to acquire competencies to protect their health and their environment. Švec (2004: 29) lists “being an individual who protects their environment and their health” among the basic competencies of an individual.

In our survey, we mostly focused on the following health education issues: healthy lifestyle, physical exercise, environmental aspects of health, analysis of the relationship between a human being and their health and nature, and negative effects of drug abuse. We also focus on other phenomena – social and psychological aspects of health, sexuality and health, hygiene, learning about the body, and increasing life expectancy.

It is worth bearing in mind that from the educational point of view, good decisions about one’s own health do not follow automatically. The physical, social, economical, and cultural attributes of the environment in which an individual lives are an important determinant of her/his health. Consequently, people should be educated in such a way so that their “pro-health” choices are easier, subconscious, and automated. There are two crucial prerequisites for this which could have great potential for change: support from the society and teachers’ competence to teach pupils make the right decisions and warn them against potential health risks (unhealthy eating, smoking, alcoholism).
Conclusions

Individual competencies designed to encourage healthy behavior are formulated in the primary and secondary school curricula. The results of our survey show the current state of affairs in the following areas:

- acknowledging health as the most valuable thing in life;
- understanding health as the balanced state of physical, mental, and social well-being;
- learning about the individual as being biologically determined and dependent on their relationships, on the quality of their environment, and their own decision-making in most periods of their lives;
- basic orientation in factors sustaining and improving health and in factors damaging it;
- learning to use preventive procedures in protecting health in everyday life, in fostering certain ways of decision-making and acting in coordination with active health support and protection in each situation in life;
- connecting health and healthy human relationships with basic ethical and moral attitudes;
- active involvement in health-supporting activities and promotion of health-supporting activities in the school and the community.

Based on theoretical frameworks and our own theoretical and research practice, the following conclusions regarding improving theory and practice in environmental education have been made: It is important to:

- structure the content of health and eco-environmental education;
- support long-term, specific, and systematic education which views health as the greatest value;
- review the course content ratios between health education and eco-environmental education, paying attention to theory and methodology;
- devise effective strategies which contribute to understanding health-promoting activities and their practical application in everyday life;
- take account of the “hidden” curriculum and the stimulating influence of after-school activities;
- implement more surveys and projects in the health and environment protection area.

WEHAB reports often emphasize that general education is vital for improving the health conditions of the population and vice versa – that investments in health are more effective with an educated population. Better cooperation between the educational and health sectors could significantly improve the general health of individuals and nature.

According to A. Šteflová from the Czech office of WHO, “health is determined today by different factors from the past. We can see that the economic, social, and
cultural environment significantly determines the behavior of the population and consequently the resulting state of individuals’ health” (Kolářová, 2005). Only co-ordinated efforts at maintaining health as a top priority, together with helping the poor in economically advanced countries will make possible gradual improvements in the quality of life.

Bibliography:


PÉČE O ZDRAVÍ A ŽIVOTNÍ PROSTŘEDÍ Z POHLEDU ŽÁKŮ ZÁKLADNÍ ŠKOLY

**Souhrn:** Hlavním úkolem kurikula podpory zdraví v environmentální oblasti je přispět k pochopení skutečnosti, že nejde pouze o oblast vztahů organismů k prostředí, ale i o otázky vlivu sociálního prostředí na člověka. Každá nepříznivá změna životního prostředí limituje totiž kvalitu života, což se stává imperativem k péči o životní prostředí, která je integrální součástí ekologické/environmentální výchovy.

Má-li se tato výchova podílet na obnovení vyváženého stavu člověka a přírody, je vhodné sledovat postoje žáků k vlastnímu zdraví v kontextu péče o životní prostředí. Ve stati autoři prezentují výsledky výzkumného šetření a snaží se doložit, že poznání rovnováhy přírodního prostředí a člověka ovlivňuje, podmiňuje, stabilizuje „imunitní systém“ a následně přiznivě ukazatele zdraví.

**Klíčová slova:** zdraví, zdravý životní styl, kvalita života, péče o zdraví, péče o životní prostředí, indikátory, postoje, ekologická/environmentální výchova, výchova ke zdraví