

**SCHOOL AND HEALTH 21, 2011**

**HEALTH EDUCATION:  
INITIATIVES FOR EDUCATIONAL AREAS**

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*Evžen Řehulka (ed.)*



**Brno 2011**

# SCHOOL AND HEALTH FOR THE 21<sup>ST</sup> CENTURY

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# INTRODUCTION

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A team of experts from the Faculty of Education at Masaryk University has been devoted to the research study *SCHOOLS AND HEALTH FOR THE 21ST CENTURY* since 2005. This study takes in a large range of issues that has tended to increase rather than decrease as the study continued and that has, over the course of time, continually uncovered new viewpoints and indicated the kind of connections that had not originally even occurred to us.

We have been lucky during the course of our study that the issues of health, health education, health promotion, conceptions of healthy schools, interest in a healthy lifestyle and so on are extremely topical ones at the present time, have been at the centre of attention for specialists and the general public alike, and have been the focus of binding educational and medical documents.

Our research project *SCHOOLS AND HEALTH FOR THE 21ST CENTURY* is being implemented in various forms and at various levels. Long-term and short-term research is being performed, theoretical concepts and educational programmes are being created, foreign experiences are being processed, seminars, workshops and conferences to which we generally invite foreign participants are being held, and we are publishing specialist and popular studies, anthologies, monographs and other publications that we are distributing on a broad scale and to which we are receiving a positive reaction. A number of other people are also taking part in our activities in addition to our own research team, some of whom are university-based, including people from abroad who have been addressed by our research and who are contributing work to aid in the resolution of our research tasks.

This anthology is a collection of studies on various topics that attempts to provide an insight into the mutual relationship between “schools and health” from various viewpoints and show the individual aspects to this relationship that can be used in teaching and educational work at schools in the area of health education.

In entitling this anthology *Health Education: Initiatives in Educational Areas* we are following on from the structure and ideas of the Framework Educational Programme, in which educational areas represent the educational content of individual study fields – in our case the study field *Man and Health*. The details of educational content may be constructed in various ways by creative teachers and we believe that the studies contained in this publication may be an interesting source of inspiration. If the texts presented in this anthology lead to contemplation, result in new information or inspire discussion, then they were not written in vain.

April 2011

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*SCHOOLS AND HEALTH FOR THE 21ST CENTURY*



# SYSTEM OF HEALTH CARE AND HEALTH LITERACY

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*Jan HOLČÍK*

**Abstract:** *Some problems of contemporary health systems are presented in the article. The solution of these problems is the development of health promotion and health literacy. That is why the publication “System of health care and health literacy” was prepared. It is divided into six parts. The first part (chapters 1-5) deals with health, its measurement and its determinants. The second part (chapters 6-12) is oriented to the history of health care and elementary methods of health care. An essential component of health culture of the 21<sup>st</sup> century is health literacy (part III, chapters 13-16). The fourth part (chapters 17-19) is on public health policy. The invitation to common way to health is the topic of the fifth part (chapters 20-22). The sixth part contains enclosures. They are main documents of World Health Organization and a concise glossary of basic terms.*

**Key words:** *health, health care, health literacy, health services, health policy, health education, health programmes*

## Introduction

In the last decades the health services have been going through many changes facing a number of newly arising serious problems. At the first glance it may seem that the biggest problem is the lack of money. Even though it would be a mistake to underestimate the importance of funding health care, the main problem of developing health care lies elsewhere. The most important thing is to understand the present role of medicine and the necessity to increase the participation of all people, institutions, organisations and public authorities in health care.

In expert literature there are sometimes references to the increasing crisis of medicine (1).

On the one hand we have an increasing amount of information on the human organism and the efficiency of medical technology is growing. On the other hand, thanks to the better and earlier diagnostics and more efficient treatment and decreasing mortality there is a growing number of patients requiring further health services. It is increasingly difficult and expensive to manage the growing number of patients and expanding demands on health services.

## Benefits and limits of clinical medicine

The influx of money in the health system, however useful it might be, will not resolve the situation. No country in the world has as much money as doctors could spend in good faith that they help their patients.

The above-mentioned problem can be illustrated in three simplified models shown in fig. 1.

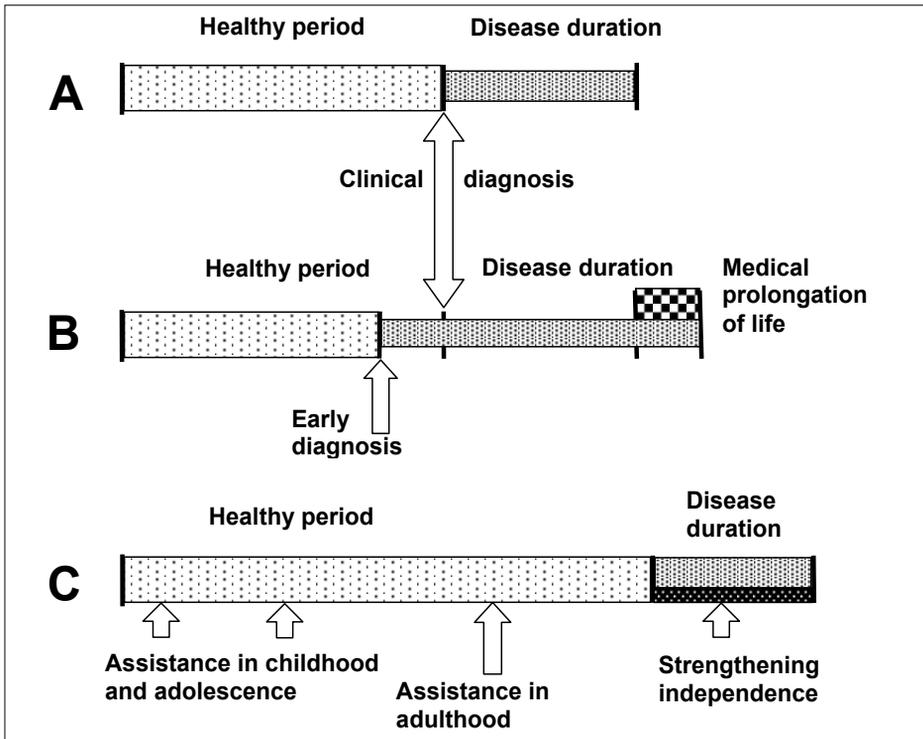


Figure 1. Three models of living with a chronic disease

Model A symbolizes the human life duration. The beginning of the segment is the birth. It is followed by a period of life in health, then a diagnosis of a chronic disease and its subsequent treatment. The end of the segment is the patient's death. This model does not consider partial health problems and short-term diseases.

Model B refers to the role of medicine. The chronic disease is diagnosed much earlier and, at the same time, thanks to efficient treatment the patient's life is prolonged. This increases the time of duration of the chronic diseases, number of patients and required health services. Model B proves that addressing health problems mainly in health care facilities inevitably results in a lack of funds in the system.

One of potential solutions is suggested in model C. The key point is that the attention should be paid to the period of good health with the aim to prolong it

as much as possible. This means paying more attention to the health of children, supporting health education and especially education for health in schools. This should result in a higher health literacy and better involvement of people in health care.

It is clear that with the prevalence of chronic diseases in the population it is not sufficient to identify the disease at the earliest possible stage, postpone the patient's death and enhance prevention of individual diseases. It is desirable to consider all methods that can prolong the healthy life period. This is a highly demanding task requiring a targeted activity of central bodies, all levels of public administration, organizations and institutions, schools, families and individuals.

## **Example of the Swedish health policy**

A good example in Europe is the health policy adopted by the Swedish parliament in 2003. It focuses on the basic determinants of health, it calls for active participation of the public administration and all civil structures. The Swedish health policy clearly counts on the participation of families and individuals. The people's motivation is not increased by sanctions but by a systematic development of health education and health literacy.

The Swedish health policy is formulated around 11 main objectives (2):

### *1. Participation and influence in society*

Particular importance shall be attached to strengthening the capacity of citizens to participate in the social and political life, in communities, districts, regions and at the national level. Attention should be paid namely to children, young people, senior citizens and socially handicapped citizens.

### *2. Economic and social security*

It is one of the most fundamental social conditions for public health. It is important to strengthen social cohesion and trust.

### *3. Secure and favourable conditions during childhood and adolescence*

Childhood is crucial for the health in the long term. It is important that children live in a secure and favourable environment. Mental health and healthy lifestyle should receive particular attention.

### *4. Healthier working life*

A good working life with viable conditions reduces work-related ill-health and helps to improve public health and reduce social discrepancies.

### *5. Healthy and safe environments and products*

Healthy and safe environments and productions that do not burden the environment, safe and environmentally friendly transportation, and recycling are of fundamental importance for public health.

*6. Health and medical care that more actively promotes good health*

Health care professionals are well trained, have the required authority and meet large numbers of people. They can therefore influence the public health. Supporting health and disease prevention is a crucial part of health care.

*7. Effective protection against communicable diseases*

Communicable diseases are a permanent threat. A high level of protection must be maintained in society in order not to waste the progress that has already been made to reduce their occurrence.

*8. Safe sexuality and good reproductive health*

Safe sexuality is fundamental to an individual's state of good health and well-being. The society must safeguard the progress that has been made in areas such as sex education, family planning and maternity care.

*9. Increased physical activity*

Physical activity is a condition for good health development in children and young people. It is equally important for good health in mid-life and for independence in old age.

*10. Good eating habits and safe food*

Good eating habits and good diet containing safe food are the conditions for good health development.

*11. Reduced use of tobacco and alcohol and reduction in the habits harmful to health*

Reduced use of tobacco and alcohol, a society free from illicit drugs and doping and a reduction in the harmful effects of excessive gambling.

The above-mentioned objectives create conditions for an evaluation and further improvement of the health policy. Their specification and continuous fulfilment increases the interest in health, responsibility for health and, directly as well as indirectly, the public health.

They have already realized in Sweden that public health is not achievable by a large number of hospitals and their equipment alone. Paying attention to the conditions in which people live and lifestyle supporting good health are crucial. It is equally important to strengthen the responsibility of all civil structures for the health and an environment that is favourable for the public health.

This is far from a directive enforcement of individuals' behaviour. It is a strengthening of the individuals' responsibility for their own health, their positive motivation and protection of their health security.

In Sweden the health literacy is rather high and this is why it is not surprising that the health policy is an important political topic and that is not only before elections but during the entire period of its preparation, implementation and evaluation.

## Comparing the health condition and some health determinants in Sweden and Czech Republic

The good Swedish health policy results in a gradual improvement of public health. In Fig. 2 it is clear that the life expectancy in Sweden is about 4 years longer than that in the Czech Republic. If we look at the distance between the curves from the calendar point of view, there is a difference of approximately 20 years.

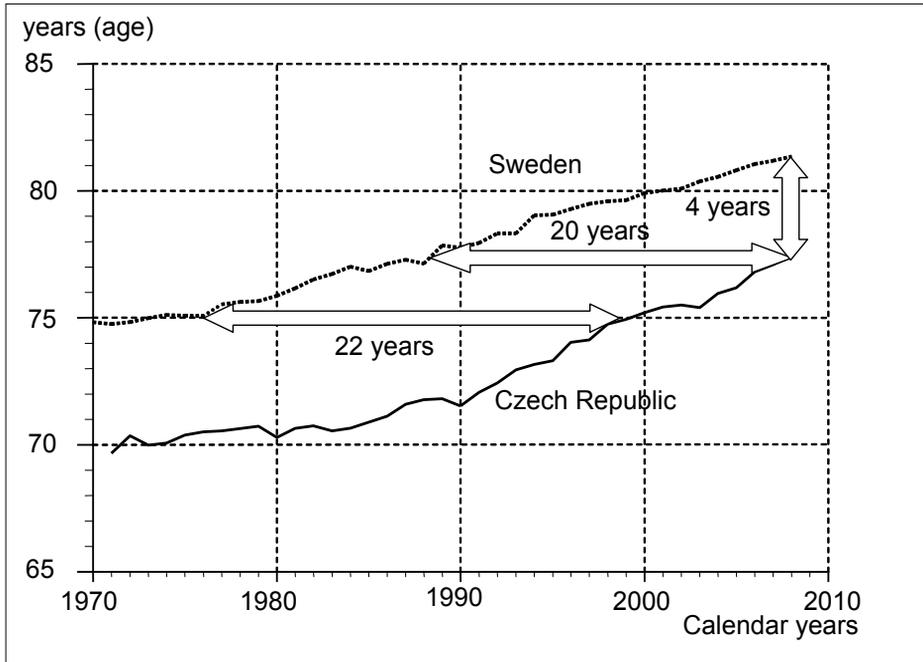


Figure 2. Development in life expectancy for persons born in Sweden and in the Czech Republic (men + women)

We can assume that in the Czech Republic we do not have twenty years worse medicines, hospitals or doctors. We are probably lagging behind in understanding the value of health and in the health literacy standard.

The fact that Sweden is richer than the Czech Republic plays a certain role. But it is probably not the main reason. Figure 3 shows that the alcohol consumption in Sweden is about one half of that in the Czech Republic. Similarly, as shown in Figure 4, the consumption of cigarettes is also half compared to the Czech Republic.

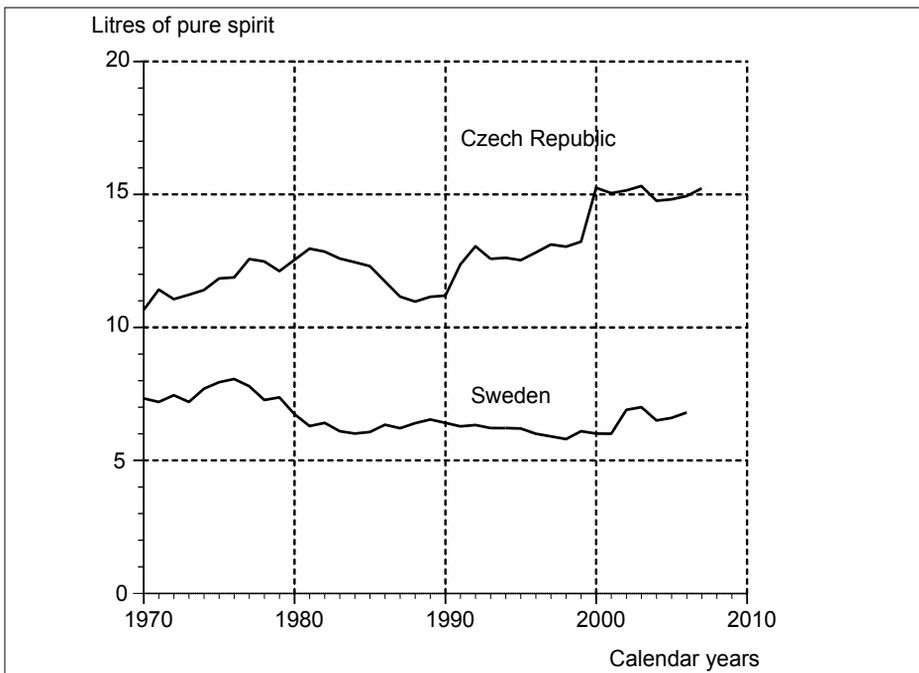


Figure 3. Alcohol consumption per person over 15 years in litres of pure spirit, source: WHO database (3)

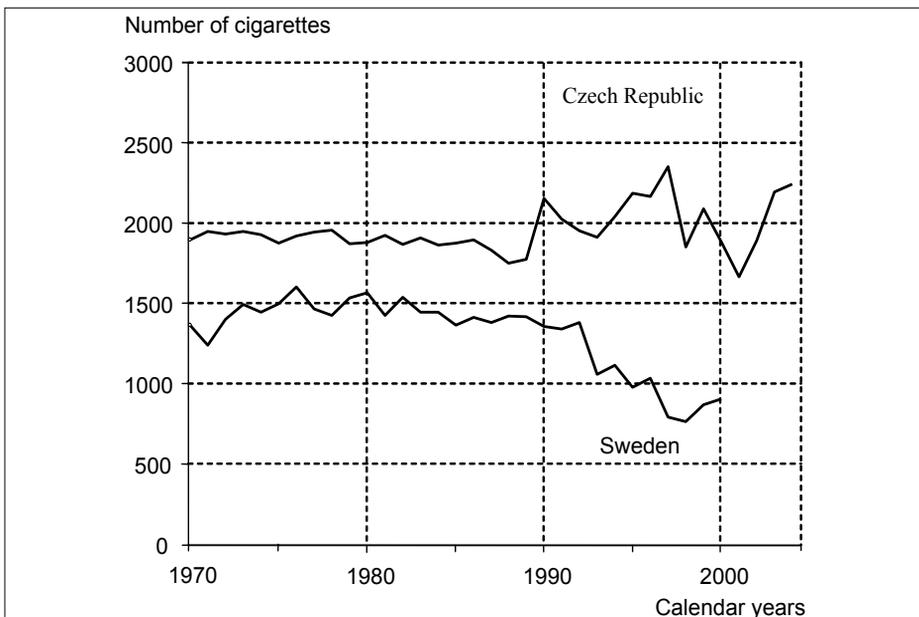


Figure 4. Number of cigarettes sold per one inhabitant per year in the Czech Republic and in Sweden, source: WHO database and Czech Statistical Office (3, 4)

A higher consumption of vegetable in Sweden compared to the Czech Republic is documented in Figure 5. It needs to be said that the Swedish prefer local fresh vegetable and fruit.

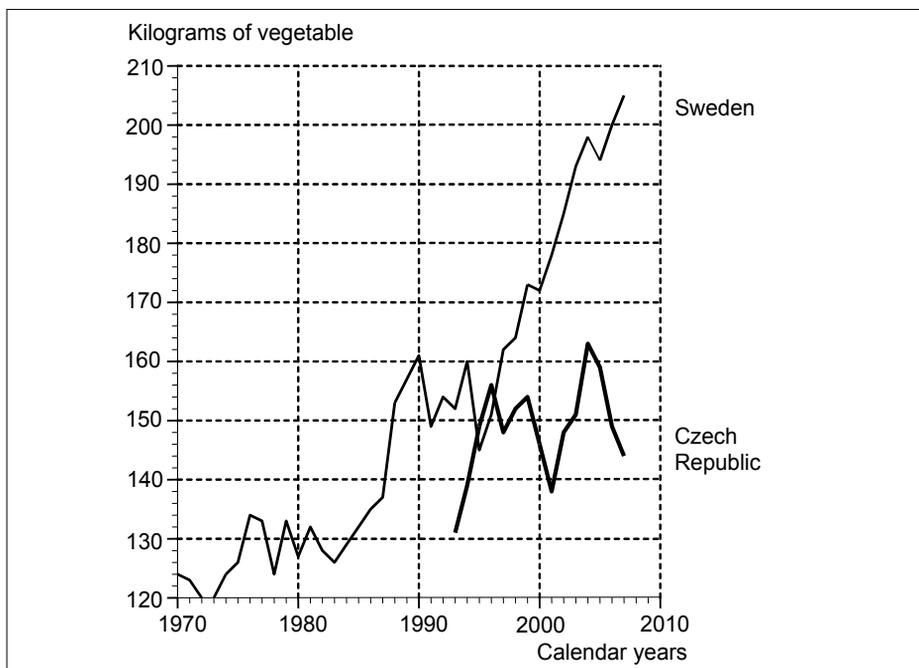


Figure 5. Average amount of fruit and vegetable per person per year (kg) consumed in Sweden and in the Czech Republic, source: WHO database (3)

It needs to be emphasised that there are no medicinal methods that could possibly compensate the differences between Sweden and the Czech Republic. One can assume that medicine will progress yet further and doctors will be able to manage even such health problems that cannot be addressed nowadays. It is also obvious though that most of the new methods will be more expensive and that for financial reasons it will not be possible any longer for hospitals to adequately manage the consequences of bad lifestyle and neglected environment.

If the public health in the Czech Republic is to improve, like it does in Sweden, it is crucial to pay more attention to developing health literacy and activities of people aiming at good health. It is important to increase individuals' responsibility for their own health, to strengthen immunity and develop the ability to make decisions in favour of good health. At the level of groups there should be a growing interest in the health of others while fully respecting their rights. And at the society level, social justice and socio-ecological approach to health care should be fundamental. We need health literacy among politicians, teachers, doctors and other health professionals, children and the entire professional as well as general public.

## Publication on health care system and health literacy

In view of the fact that health literacy is a relatively new term and the basic methods of its development have not yet been fully integrated yet, a publication was prepared (5) which offers basic information about the new health care concept and health literacy in a nutshell.

The publication contains six parts. The first part (chapters 1 – 5) gives brief answers to the following questions: what is health like and why is it like this. It is a basic definition of the term “health”, possibilities of its measurement and explication of its determinants. The second part (chapters 6 – 12) is oriented to the history of health care and elementary methods of health care. The core part of the publication, part three (chapters 13 – 16) refers to health literacy as an ability to make decisions in favour of health and to adopt behavioural patterns that are favourable to health. The fourth part (chapters 17 – 19) explains the health policy and describes methods of its formulation, implementation and evaluation. The fifth part (chapters 20 – 22) is an invitation to a common way to health. And the last, sixth section, contains enclosures which are the main documents of the World Health Organization and a concise glossary of basic terms.

The publication does not offer a manual or set of instructions to be observed by everyone. Health literacy assumes an ability of a creative approach, i. e. obtaining and evaluating information, critically assess them, act in favour of health and help those who need help in this respect. Health is for everyone and it would be a waste for someone to be left out.

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## SYSTÉM PÉČE O ZDRAVÍ A ZDRAVOTNÍ GRAMOTNOST

**Abstrakt:** V článku jsou prezentovány některé problémy současného zdravotního systému. Základem jejich řešení by měl být rozvoj podpory zdraví a zdravotní gramotnosti. Proto byla připravena publikace „Systém péče o zdraví a zdravotní gramotnost“, jejíž text je rozčleněn do šesti částí. První část (kapitoly 1–5) jsou zaměřeny na zdraví, jeho měření a determinanty. Druhá část (kapitoly 6–12) je orientována na

historii péče o zdraví a na základní metody zdravotní péče. Základní komponentou zdravotní kultury 21. století je zdravotní gramotnost (část III., kapitoly 13–16). Čtvrtá část (kapitoly 17–19) pojednává o veřejné zdravotní politice. Pozvání na společnou cestu ke zdraví je předmětem páté části (kapitoly 20–22). Šestá část obsahuje přílohy, jednak hlavní dokumenty Světové zdravotnické organizace a jednak stručný slovníček základních termínů.

**Klíčová slova:** zdraví, zdravotní péče, zdravotní gramotnost, zdravotnické služby, zdravotní politika, zdravotní výchova, zdravotní programy



## GUSTAV KABRHEL: THE FOUNDER OF THE CZECH PUBLIC HEALTH SCIENCE AND HIS CONTRIBUTION TO THE “SCHOOL AND HEALTH” ISSUES

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*František ČAPKA*

**Abstract:** *This contribution outlines the professional career of Professor Gustav Kabrhel (1857-1939), founder of the Czech public health school and the first professor of public health at the Czech Medical Faculty of Charles University. After studies at the Viennese university, he moved to Prague in 1883 to pursue his specialty – public health – in practice. In 1897, he founded Institute of Hygiene at the Medical Faculty of Charles University. As the editor-in-chief of Public Health Magazine, he facilitated discussions about the state of hygiene at primary and secondary schools in Bohemia and Moravia, always comparing theoretical considerations with practical viewpoints of teachers. The main areas of interest were: (1) Mission and duties of the newly established position of school physician. (2) Health-oriented supervision of school buildings and equipment. (3) Compliance with health policies in the classroom. (4) Monitoring the students' state of health. (5) Questions of alcoholism and sexual education. Many of these issues were in fact starting points that Prof. Kabrhel developed in detail when preparing the first Czech textbook of public health entitled “Health Science” (1922).*

**Key words:** *public health care, school physician, student's position in the family, psychology of health, teachers and health*

The year 2009 marked the 70th anniversary of passing of Gustav Kabrhel (1857-1939), founder of the Czech school of public health and the first professor of public health science at the Czech Medical Faculty of Charles University.

Gustav Kabrhel was born on November 23, 1857 in Dražkovice near Pardubice, into a small farmer's family. After a high school graduation in Chrudim, he departed, at the age of 20, to continue his education at the University of Vienna. He initially studied mathematics at the Faculty of Arts but, after three semesters, transferred to the Faculty of Medicine. In the course of the studies he worked as a demonstrator with Prof. Stricker at the Institute for General and Experimental Pathology in Vienna, and later as an assistant to Prof. Arnold Spina. Following the graduation in 1883, he moved with the latter to the medical faculty of the newly established Czech Charles-Ferdinand Univer-

sity in Prague (1882), to commence the academic year 1883-1884 as an assistant in the identically named Institute for General and Experimental Pathology.

The years 1886-1887 brought about some turning points in his life: the first foreign stays (notably in Munich and in Silesian Breslau/Wroclaw), habilitation in experimental pathology, and, on a personal level, marriage. At that time, public health was not treated as a self-standing scientific discipline on a par with other medical specialties by the Habsburg monarchy's academia. It was literally in its infancy, combining what today are individual disciplines such as epidemiology, microbiology, and public health. The term „hygiene“ gradually came to encompass subjects like general hygiene, communal and environmental hygiene, hygiene of nutrition, hygiene of commonly used articles, hygiene of work, hygiene of school children and adolescents. The German school of public health was becoming the model to emulate, which attracted Kabrhel's professional interests and brought him, in 1888, to the Institute of Prof. Max von Pettenkofer in Munich, and two years later (in 1890) to Berlin, to the Institute of Prof. Robert Koch, the future Nobel Prize winner (1905). After studying with Prof. Pettenkofer, who practically created the specialty and who was the first to objectively investigate environmental factors in order to assess their impact on health, Kabrhel, having had completed the study of chemical engineering at the Technical University with subsequent habilitation in the field of technical hygiene, broadened his *Venia Legendi* at the University of Prague with a new, previously undefined, subject: public health. In 1891, he was appointed associate professor and, in 1899, regular professor of Hygiene Science at the Czech Medical Faculty in Prague. In that memorable year, Kabrhel was elected, at the age of 34, to the Czech Academy of Sciences, Literature and Art (founded in January 1890) as a corresponding member. At that time he already published routinely in *Archiv für Hygiene*, then the most prominent international journal of its kind.

In 1897, he founded Institute of Hygiene at the Medical Faculty (now Institute of Hygiene and Epidemiology at the First Medical Faculty of Charles University), which he headed until his retirement in 1927. At the same time, he also directed the National Institute for Study of Drugs. In both of these institutions, he trained a number of outstanding experts in the field of public health, who worked successfully at academic institutions as well as in microbiology, in epidemiology and in the food industry.

In Austria-Hungary, public health care used to be administered by the Ministry of Interior until 1917, then by a newly created Ministry of Health (until the monarchy's end), with the professional expertise provided by institutions attached to medical schools. Upon gaining independence, Czechoslovakia also established a Ministry of Health, which it renamed, in August 1920, Ministry of Public Health and Physical Education. The founding of Masaryk University in Brno (1919) was likewise followed by the establishment of Institute of Hygiene at its Medical Faculty. After 1918, Prof. Kabrhel served as member of the National Health Council, drawing on his earlier experience from the Provincial Health Council (1906-1909) and the Supreme Health Council in Vienna. From 1924, he chaired the National Health Care Board as its president. In addition to the Medical Faculty (where he served as dean in the years 1900-1901, 1907-1908, and 1914-1915), he also lectured at the Philosophical Faculty of Charles University and at the Czech Technical University in Prague. In his professional publications, which total nearly one hundred, and in hundreds of

other scientific papers he intensely studied the subjects of hygiene and sanitation, industrial and scholastic hygiene, and especially the hygiene of water. Many of these works were translated into foreign languages, primarily German. An example may be “*Essay on Directing Intellectual Activities in Schools*” reprinted in his memoirs “*After Fifty Years*” (1933). Kabrhel’s greatest work is a textbook of public health entitled “*Health Science*” and released in installments in the period of 1904-1922. His last major work dealing with water sanitation is a four-hundred-page volume bearing the title “*Water Hygiene*”.

In addition to professional papers and publications, Kabrhel was concerned about the education of general public, as exemplified by his founding of *Provincial Anti-Alcoholism Association*. He also devoted numerous studies to this problem, one of them being a pamphlet called *Abstinentisms: Its Importance to Individuals and Society* (1906) where alcoholism is identified as a destructive force in human society and a serious impediment in child rearing: „Most deplorable victims of family breakdowns caused by alcohol are the children. A blunted sense of parental responsibility and the attendant material shortcomings are the reasons why in such circumstances both physical and mental upbringing withers”.

It should be pointed out that Prof. Kabrhel not only diligently and regularly published, but also edited. In the years 1891-1898, it was the Health Bulletin, and then especially the Public Health Magazine, published in the period of 1899-1908, that he founded and directed. As its „editor-in-chief“, he provided a forum for discussions on timely issues touching directly upon the state of hygiene in the schools of Bohemia and Moravia. A closer look at the content of all ten volumes of the magazine reveals that the attention centered on four key issues:

1. A phased introduction of a school physician system, in which a systematic professional supervision by a doctor would cover the following areas:
  - a) Health-oriented supervision of the physical condition of school buildings and facilities (per Ministry of Culture & Education Decree from March 3, 1888, No. 40 of Imperial Laws, mandating „how the building of primary and secondary public schools are to be furnished and how health is to be protected in said schools”). The school should not be built in a „noisy place“, it should be a „community showcase“ standing in an “open space” with plenty of light, adequate ventilation and sufficient heating. Also covered were the questions of cleaning. Prof. Kabrhel devoted a separate lecture, published in 1903, to the subject of proper heating and ventilation of schools.
  - b) Monitoring teachers’ compliance with health principles in the educational process.
  - c) Checking the state of students’ health (given the high incidence of tuberculosis averaging about 20 % in new students and being as high as 38 % for girls, and around 10 % for boys). Awareness of issues related to sex education.
2. Appropriate scheduling of instruction (mornings, afternoons), with more emphasis on physical education. Also, the problem of teachers’ health due to a relatively high incidence of tuberculosis in their ranks.

3. A variety of measures to improve the precepts of scholastic hygiene was voiced in this context. For example, one interesting essay suggested that the “delight of school hygiene“ is a significant stimulant for students to take interest in their own hygiene. The idea, presented in Volume VIII (1906) of the excerpted magazine, was probably a reaction to the new *Rules of Operation and Instruction for Primary and Secondary Schools* from September 1905. The strict scholastic discipline of the day, based on „silence and immobility“ in the classroom, was supposed to be partially relaxed and replaced with a more liberal approach, hopefully increasing the students’ personal interest in their own hygiene.
4. Students’ social situation and the problem of alcoholism: the questions discussed in this area dealt with student’s place in the family, his or her homework load, space for schoolwork, student’s nutrition, sanitary conditions, financial standing of the family, parents’ concern about the child’s school attendance. Each of these aspects was presented from two perspectives: A more or less theoretical introduction of the subject matter, followed by opinions and experiences from the field. An initially narrow topic had a tendency to snowball as new and unconventional insights came to light. Positions presented in this manner usually found resonance in both pedagogical and health-oriented communities.

The conclusion of this brief reflection on the personality of Prof. Gustav Kabrhel is clear. He personifies a brilliant scientist who is rightly called the founder of the Czech public health science. This ardent promoter of school hygiene greatly advanced rational health education for the entire student population.

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## GUSTAV KABRHEL - ZAKLADATEL ČESKÉ HYGIENICKÉ ŠKOLY A JEHO PŘÍNOS K PROBLEMATICE ŠKOLA A ZDRAVÍ

*Anotace: Příspěvek přibližuje profesní dráhu zakladatele české hygienické školy a prvního profesora hygieny na české lékařské fakultě Univerzity Karlovy, profesora*

*Gustava Kabrhela (1857-1939). Po univerzitních studiích ve Vídni odešel v roce 1883 do Prahy, kde rozvinul svou specializaci – hygienu – do praktické roviny: roku 1897 založil na lékařské fakultě Univerzity Karlovy Hygienický ústav. Jako šéfredaktor Časopisu pro veřejné zdravotnictví vytvořil prostor k prosazování aktuálních otázek souvisejících se stavem hygieny na obecných a měšťanských školách v českých zemích. Teoretické úvahy byly zde konfrontovány s názory učitelů z praxe. Pozornost se soustředila do několika oblastí: 1. poslání a úkoly nově zaváděného „institutu“ školního lékaře; 2. zdravotní dozor nad stavem školní budovy a jejího zařízení; 3. dodržování zdravotních zásad při vyučování; 4. sledování zdravotního stavu žáků; 5. problematika alkoholismu a sexuální výchovy u žáků. Mnohé tyto otázky se staly pro prof. Kabrhela východiskem k hlubšímu rozpracování při formulování první české učebnice hygieny zvané Zdravověda (1922).*

**Klíčová slova:** veřejné zdravotnictví, školní lékař, postavení žáka v rodině, psychologie zdraví, učitelé a zdraví



## INSTITUTION OF SCHOOL DOCTORS IN THE INTERWAR CZECHOSLOVAKIA

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*Jaroslav VACULÍK*

**Abstract:** *The issues of school medicine in interwar Czechoslovakia were investigated on the basis of materials from the Ministry of Public Health of the First Czechoslovak Republic housed at the National Archive in Prague. As there has been no historiographic study of this matter to date, it produced entirely new information about state healthcare for schoolchildren.*

**Key words:** *school, medicine, interwar Czechoslovakia*

The modern medicine came to the conclusion in the second half of 19<sup>th</sup> century that the high children morbidity causing a low average age (32-34 years) can be prevented only by care of young people's health of school age in particular, in which large percentage of children were mowed down by epidemic contagious diseases. This led to establishing school examinations of pupils that Prague introduced as the first city in Austria in 1885, whereas they were introduced in Hungary as early as in the seventies of the 19<sup>th</sup> century.

The interest in school medicine revived after formation of the Czechoslovak Republic in 1918. An extraordinary attention was paid to Prague, where special school doctors were established as early as 1904. Other cities like Brno, Bratislava, Liberec, Děčín, Plzeň, Ústí nad Labem, Moravská Ostrava, and Hradec Králové introduced the school medical service, too. However, no consideration was given to this health care branch in majority of smaller municipalities with the exception of north Bohemia, where the Děčín, Ústí nad Labem and Teplice-Šanov districts had the system of school doctors elaborated in detail.

The school medical service was not regulated by law minutely in the twenties of the 20<sup>th</sup> century. The Decree of Government dated April 4<sup>th</sup>, 1925 stipulated normatively the health protection of school children at primary and junior secondary schools and imposed the participation of school doctors in the pupils' health care and in the physical education. The Ministry of Public Health issued two instructions for school doctors, namely in 1922 for cities and in 1925 for smaller towns. The decree of Hungarian Ministry of Culture and Education from 1906 applied to primary schools in Slovakia and Carpathian Ruthenia.<sup>1</sup>

<sup>1</sup> Explanatory report of the draft of Act on Social Health Care of School Youth and Medical Supervision of Physical Education of Young People. Prague 1931. National Archive Prague, Collection of Ministry of Public Health and Sport, box 873.

The directive from 1922 defined school doctors as permanent school health authorities, who monitor the development of young people entrusted into their care, take care of their health, and assist in the physical education. School doctors were obliged to check school buildings and rooms in them, to present proposals and opinions on their suitability and on their facilities. They had to record the pupils' health state and its defects into special lists, draw parents' and teachers' attention to children's defects and diseases, and see to their remedy through health authorities. They had to find out before school hours, whether pupils were not affected by infectious diseases. The school had to monitor the health state and fitness of all children for the period of six weeks in order to identify, who would be subject of permanent medical supervision and who would be granted alleviations at school hours. The school doctor had to give advises concerning pupils' sitting order in classrooms, e.g. with respect to short-sightedness, propose exemptions from particular learning subjects and, temporarily, from the school attendance, and recommend less able and retarded pupils for special schools.

The school doctor had to examine all pupils thoroughly twice a year. In addition to that, he had to carry out monthly examinations of classes and check the effects of education, of home preparations, as well as of out-of-school activities on physical and health development of the children. He gave lessons in special physical education, in which remedial exercises were practiced. He was authorized to check health conditions in families, from which pupils came to school.

The doctor's hours of attendance at school were stipulated by a contract that specified the number of hours, during which he provided needed examinations or consultations to poor children, gave lectures on the somatology and hygiene in higher grades, and provided vocational guidance.

School doctors participated in teaching staff meetings, where they had an advisory capacity. They acted as specialists in school hygiene in local and district school boards, too. They informed superior health and school authorities of urgent cases immediately, else they made annual periodic reports.

They received a compensation of 5 crowns per pupil and year for practising school medicine. The compensation for school doctor service was doubled in special schools, i.e. 10 crowns per pupil and year. They were paid 25 crowns per hour of a lectures on health service and physical education.<sup>2</sup>

Two school doctors, Dr. D. Panýrek, senior lecturer and Dr. J. Mazánek, elaborated a proposal of school medicine reorganization in Greater Prague in 1929. Care of young people's health was supposed to secure a better future of the nation and of the state. The activities of school doctors up to then consisted mainly in examining and sorting school children according to their health state. In the future, school doctors were supposed to be permanent health authorities in kindergartens, primary schools, civil schools as well as nurseries.

School doctors were expected to mitigate contagious diseases at schools, search for pupils' health defects, examine pupils newly coming to schools, promote important hygienic principals, vaccinate pupils against small pox, and supervise school buildings. They were bound to visit schools assigned weekly and individual classes monthly. Fur-

<sup>2</sup> Regulation of Medical Service at National Schools. Decree of Ministry of Public Health dated July 25<sup>th</sup>, 1922. National Archive Prague, Collection of Ministry of Public Health and Sport, box 872.

ther, they had to select children for holiday stays, send children to school dental outpatient departments, assist in fighting TBC, and select children for swimming lessons.

Prague was divided into 32 school medical districts. School doctors had to have a special paediatric qualification. They performed their work in compliance with the directives approved by the Municipal Council, to which they reported. City's school dentists made up a special body.

The institution of school nurses as an essential body of the school medical care was newly established. Nurses had the task to assist school doctors in their care at schools and to provide for doctors' orders being implemented in practice. The institution of nurses had existed in England since 1907 and had been established in France, Germany, and the U.S.A. before the World War I as well. It was recommended to appoint 16 school nurses for Prague, so that one nurse assisted two school doctors. Nurses had to prepare the needed instruments, disinfect apparatuses, keep written records, bring in children, measure and weigh them. They had to visit children at their homes, take notice of housing conditions, and report them, too.<sup>3</sup>

The instructions for school doctors of Prague Capital from 1931 imposed that pupils' health state was systematically examined three times during the school attendance, namely in the 1<sup>st</sup> grade, when leaving the primary school, and in the 8<sup>th</sup> year of the school attendance. They should not have been examined in a classroom, but in a special room. The school nurse had to be present, the teacher as well as parents could participate, too. The examinations had to be carried out in morning during school hours; children had to be stripped to the waist at least. The records were subject of medical secrecy and were accessible to teachers and school administration only.<sup>4</sup>

The Confederation of Intellectual Workers of the Czechoslovak Republic pleaded for implementation of the school doctors' institution not only at primary and junior secondary schools but at secondary schools as well. It called attention to this gap in 1931: "The dismal post-war economical conditions have reduced the standard of living, they undermine children's health and psychic energy especially in impecunious and poor families that cannot provide their children with sufficient nutrition, light and airy housing, proper medical care, when they are ill, and holiday recreation in the country in the period of their physical development. The increased death rate of children and young people is the result of these dismal post-war conditions." The institution of school doctors was supposed to contribute to the pre-military training of young people, too.

The requirement for school doctors was raised also in several petitions of secondary schools, e.g. of parent-teacher association of the state grammar school in Kostelec nad Orlicí, which stated that "the institution of school doctors for secondary schools is urgently needed, so as to monitor the development of each child scientifically, provide for the child's health education, and direct its intellectual education accordingly."

The Ministry of Public Health and Physical Education presented a draft Act on Social Health Care of School Youth and Medical Supervision of Physical Education of Young People as a national unified regulation in 1931. Pursuant to this Act, the state heal-

<sup>3</sup> D. PANÝREK, – J. MAZÁNEK: Proposal of Reorganizing the School Medicine in Greater Prague. Prague 1929.

<sup>4</sup> Health Service at Schools of the Capital of Prague. Prague 1931. National Archive, Collection of Ministry of Public Health and Sport, box 879.

th administration had to introduce the social health care of young people in all kindergartens, primary schools, junior secondary schools, secondary schools, and trade schools at their level. The social health care was understood as a systematic monitoring of health state and development of school children carried out by means of regular medical examinations. The social health care was provided by school doctors, who also supervised the out-of-school physical education of young people under 18 in sports clubs.

Special attention of school medical activities was paid to the north Bohemian border region, where the school youth suffered under industrial emissions and consequences of the economical crisis. At the beginning of thirties of the 20<sup>th</sup> century, children from Czech minority schools in Most, who were poor and not entitled to the treatment by doctors of the health insurance office, were recommended to the advisory clinic *Našim dětem* (For Our Children). They received proper treatment and, if needed, medicaments free of charge there. Children were sent to specialized health care institutions (for pulmonary diseases, *Jedličkův ústav*, specialized clinics, etc.) through this advisory clinic. The health state of Czech young people in Most, especially in primary schools, was not very favourable. Findings showed mainly anaemia cases, swollen lymphatic glands, catarrhs of lung apices, enlarged tonsils, and curvatures of spine. Dentitions were examined attentively and poor children were recommended to the dental clinic of the Czechoslovak Red Cross.

The city of Ústí nad Labem built up a generous exemplary medical care that covered all pupils. Attention was also paid to dental, convalescent, and alimentary care that was much needed in the time of the economical crisis in the thirties of 20<sup>th</sup> century. The costs of this care were not small indeed, but “if the school medical care should be discontinued, the youngest generation would be effected by the unemployment in an absolutely undesirable way from the medical point of view”, as the District Office in Ústí nad Labem stated in a letter to the Provincial Office in Prague in May 1935. The cost of school medical care amounted to 75 thousand crowns at Czech state schools in Ústí nad Labem and this care was paid by the municipality. The city of Ústí nad Labem instituted specialists for ear, throat, and eye diseases of school youth and provided orthopaedic examinations, orthopaedic physical education as well as professional care of dentitions for children.

Five doctors practiced general medicine at schools in Ústí nad Labem with one nurse assigned to them. Three eye doctors, three ear and nose doctors, and one orthopaedist practiced specialized medicine at these schools. Seven dentists and one nurse worked in the school dental clinic. This normative regulation of school medical service brought about substantial financial costs to the city.

The worst health conditions prevailed in industrial suburbs of Ústí na Labem as a result of poor housing. Teeth of all children were taken care of free of charge thanks to the school dental clinic established by the Municipality Council of Ústí nad Labem. Career counselling was established in the building of the District Office. Parents were advised here, which profession would be most suitable for their child.

The health state of Ústí nad Labem children had been very unsatisfactory even before the economic crisis outbreak at the end of the twenties of the 20<sup>th</sup> century. School doctors called attention to the necessity of proper sitting, physical education, scouting, sport, life in the open, air, water, and sun.

Housing conditions were pernicious in particular, since the whole family and often several lodgers slept in one small room. They slept on the floor, men and women together.

The health state at Ústí nad Labem schools was hardly satisfactory. 39 children out of 209 pupils of the Czech junior secondary school had to be under permanent medical supervision. 145 children, i.e. more than one half, were anaemic. The school doctor stated that the children needed a lot of fresh air, water, sun, and living in the open. He recommended a lot of skating and sledging in winter and swimming and rowing in summer.

School buildings that did not meet the requirements were to be blamed largely for the children's health state: "It is a very torture chamber for children. Narrow dark corridors, dark classrooms, foul smelling toilets, town gas." Classrooms were not properly ventilated, as they were occupied all day long, there was a continuation school in the evenings. Neither school desks were appropriate for the age of children. "Until we have proper, healthy buildings, the health state will not be better. It is a wonder that the state is not even worse", the report on health state of schools in Ústí nad Labem stated.

Children attended school in a police station building in Krásné Březno, where they shared toilets with criminals and prostitutes. The smell from toilets spread over the whole building in the Czech school in Ústí nad Labem. The classroom in Velké Březno was located northward so that sun did not come there all day long.

The health state of pupils at junior secondary schools was very good according to the school doctor's report from Příbram for the school year 1935-1936. The ventilation of classrooms was sufficient, the rooms were cleaned frequently and heated as needed. Pupils did exercises in the yard or outdoors in the fresh open air, if the weather was nice. The pupils' nutrition was very good. The number of anaemia cases decreased, lymphatic gland swelling cases were treated with iodine tablets. The school doctor advised pupils on body cleanness, oral cavity hygiene, teeth cleaning, speech, and pronunciation. Girls and boys were informed about sexual diseases.

The school council in Znojmo established the school doctor function, too.<sup>5</sup> The doctor examined all pupils and arranged for an immediate treatment of the identified defects. The school doctor examined 1 148 Czech and 720 German children and found 174 cases of diseases: 24 eye defects, 28 throat, nose and ear diseases, 18 lung diseases, and 30 decayed dentitions. Several specialists were willing to treat them free of charge.

The school doctor in Opava sent children with suspected TBC for the examination or treatment to the subsidiary of Masaryk's League Against Tuberculosis. He recommended milk for weak children and it was distributed by the District Care of Youth in the framework of the milk campaign. He recommended stays in the country for weaker town children. Poor children were sent for recreation to camps run by the Red Cross. The general health state of children was deemed to be good..

The condition of dentitions of pupils in Opava, who were systematically and regularly treated once a year, was satisfactory. On the other hand, out of town pupils of junior secondary schools had caries of a more serious nature.

4 176 examinations and 1 473 interventions were carried out in the year 1934-1935, whereas children paid a yearly fee of 5 crowns. Half of pupils of Czech schools

<sup>5</sup> Ortsschulrat im Znaim an die Eltern. Znaim 1929 (Local School Board in Znojmo to Parents. Znojmo, 1929). National Archive, Collection of Ministry of Public Health and Sport, box 874.

in Opava, however, could not pay even such a low fee so that the local school committee of Czech minority state schools was forced to cover the budget deficit by way of collections and voluntary contributions.

Setting up the first school dental clinic in Zlín by the factory owner Mr. Baťa was also a part of the school medical care. The Ministry of Health initiated the action of establishing school out patient departments. The State Institute for Stomatology stated that little had been achieved in the care of teeth and oral cavity of school children up to then. A separate department of the Institute for the prevention and therapy of dentitions and oral cavities of school children was established. All preventive actions disseminated by the press, radio, film or lectures were managed from here. Setting up a permanent and mobile school dental out patient department was planned.

The Central Social Insurance took the opinion that it was in their own interest that “the insured entering the social insurance after leaving schools have the dentitions complete and healthy”. Therefore, they were willing to contribute to the preventive dental care in the school age, namely to cover up to one third of costs of establishing dental school out patient department.

The State Institute for Stomatology pointed out that children paid a very low attention to cleaning teeth. Few children only had a toothbrush of their own, a small number used a common “family” toothbrush, most of them had none. The Institute recommended to introduce obligatory teeth cleaning at schools on that account, which was made impossible by the lack of washbasins.

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## INSTITUTE ŠKOLNÍCH LÉKAŘŮ V MEZIVÁLEČNÉM ČESKOSLOVENSKU

**Abstrakt:** Problematika školního lékařství v meziválečném Československu byla zkoumána na podkladě materiálů Ministerstva veřejného zdravotnictví a tělesné

výchovy první Československé republiky uložených v Národním archivu v Praze. Dosud nebyla historiograficky probádána, a tak přináší zcela nové informace o státní péči o zdraví žáků.

**Klíčová slova:** škola, lékařství, meziválečné Československo



## V. M. BECHTEREW AND FUNDAMENTALS OF HEALTH PSYCHOLOGY

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*Simona KORYČÁNKOVÁ*

**Abstract:** *The paper focuses on a Russian psychologist and physician V. M. Bechterew, who played an important role in laying the foundation for and propagating of good hygiene habits and health psychology in the later period of Imperial Russia and at the beginning of the 'Soviet Era'. Bechterew was concerned with the study of the brain and its morphology, and also conducted significant research in the field of social psychology and good hygiene practices and health regarding children as well as adult population. He tried to deal with the problem of alcoholism in Russia, among other means, also through treatment using hypnosis.*

**Key words:** *V.M. Bechterew, health psychology, child psychology and hygiene, hypnosis*

The scientific study of fundamentals of health psychology in Russia achieved a significant progress at the end of the 19th. and the beginning of the 20th. centuries, when the general situation entered a period of political and social changes, initiated by gradual shifting in thought and world view. The concentration on standard of living, hygiene and basic medical care was an important step that Russia made towards European standards. An important role in the process of modernization was undoubtedly played by a scientist, psychiatrist and physician, one of the founders of Russian experimental psychology - V. M. Bechterew<sup>1</sup> (20 January 1857 – 24 December 1927). He was born in a small town of Sorali in the Vyatka province (Tatar Autonomous Republic), to a family of a low-ranking official who, however, died prematurely and the future psychologist was brought up and educated by his older brother Nikolay. He started his attendance of a grammar school right in the second form (1867). He mentions in his autobiography that there was probably no book on natural science at that time that would not pass through his hands. He further says that he read the book by Darwin, very modern at the time, several times and studied it carefully.<sup>2</sup> He read other works with the same interest, e.g. by V. Wundt and other psychologists. Aged 16 (1873) Bechterew entered Petersburg

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<sup>1</sup> See attachement, p. 10

<sup>2</sup> BECHTĚREV, V. M. *Avtobiografija*. Moskva: Ogoňok, č. 316, 51 s., 1928. (Published posthumously). See [http://ap.sibtechcenter.ru/ap\\_person.tal?identifier=ABekhterVladV2005111563480700](http://ap.sibtechcenter.ru/ap_person.tal?identifier=ABekhterVladV2005111563480700) [on-line 08-11-28]

School of Medicine and Surgery<sup>3</sup> and thus found himself at the centre of the social and political life and, importantly, also the scientific life in Russia at the end of the 19th. century. In his fourth year of study Bechterew finally chose his scientific professional field – nervous and mental illnesses. Later he explained his decision by the direct correlation of the subject with the broad theme of society and social questions, and by it offering a possibility of answering important philosophical questions regarding the knowledge about an individual and personality.

One of the prominent personalities who influenced formation of the young scientist's views was I. P. Merzejevsky, head of the department and clinic for mental and nervous illnesses at the school of medicine, a renowned Russian scientist and psychiatrist. He is known as the founder of a clinical patho-psychological field of study in the development of Russian psychiatry, which brought with it a possibility of examining pathological and anatomical changes in nervous tissues.<sup>4</sup> A great influence on shaping of Bechterew's views was also a leading Russian physician S. P. Botkin, author of a theory known as "nervism", i.e. accentuation of the role of the central nervous system in relation to vitality of the whole organism and its individual functions. In 1877<sup>5</sup> Bechterew joined a military-medical unit as a volunteer, under supervision of Prof. Bergman tended to the injured and in this way went through his first medical practice.

In 1878 Bechterew graduated from the school of medicine with excellent results and obtained a title of military physician. With regard to his study results and practical experience he started work at the School of medicine and began his study to obtain the title of professor under Merzejevsky's supervision. In 1881 he defended his dissertation<sup>6</sup> and obtained the degree of doctor of medicine. Following of temperature in approx. 60 patients who had developed a variety of mental disorders showed the relation between a body temperature and brain activity regarding different types of psychopathology. An important factor was also the phase of disease development. The most relevant to further study and scientific research was the conclusion of the thesis, where Bechterew proved that psychological phenomena can be identified/confirmed by certain objective indicators. These theoretical, experimental and practical results formed a basis for his following work in the field of neurology.

In 1883 Bechterew became a member of the Italian Psychological Society and in 1884 was sent for a two-year study visit abroad. He worked in Leipzig and Paris and met among others V. Wundt, J. M. Charcot, from whom he learnt how to deliver suggestion and hypnosis that he further developed and used in practice. In the spring of 1885 Bechterew went to Munich, where he visited and became familiar with the operation of a clinic and laboratory of a well-known German psychoneurologist Bernhard von Gudden, who tragically died right the following year. On his return to Russia he was appointed Professor and Head of the Department of Psychiatry at Kazan University by the minister of national education<sup>7</sup>. Here he later established a Society of neuropatholo-

<sup>3</sup> Shortly afterwards it was renamed: Military Medicine Academy.

<sup>4</sup> BECHTEREV, V. M. *Problemy razvitija i vospitanija čeloveka*. In *Izbrannyje psihologičeskije trudy*. Moskva: Institut praktičeskoj psihologii, 1997. ISBN 5-89395-042-9. p. 7.

<sup>5</sup> Crimead war (1853-1856), initially between Russia and Ottoman Kingdom, France and Gerat Britain come out the war latter.

<sup>6</sup> *Opyt kliničeskogo issledovanija temperatury tela pri nekotorych formach duševnych zabolevanij*

<sup>7</sup> July 1885, „ministr narodnogo prosvěščenija“

gists and psychiatrists and started to publish a Neurological Journal<sup>8</sup>, where he issued a number of his works on neuropathology and anatomy of the nervous system.

In 1893 Bechterew received an invitation to the Petersburg Military Academy, where he was asked to become a head of the department of mental and nervous illnesses. After moving to Petersburg he began to build here the first neurosurgery clinic in Russia. In the clinic's laboratories Bechterew and his fellow-workers carried out research on physiology of the nervous system and wrote one of his major works entitled '*Osnovy učenija o funkcijach mozga*' [Transl. note: *Outline of the study of the brain functions*].

From 1907-1910 he issued three volumes of a monograph entitled *Objektivnaja psihologija*<sup>9</sup> [Transl. note: *Objective psychology*], where he asserts that psychological processes are accompanied by reflexive motor and vegetative reactions which can be studied and described.

An interesting chapter in Bechterew's medical and psychiatric practice was also his meeting G. Rasputin.<sup>10</sup> As a physician of the Czar's family<sup>11</sup> Bechterew would see him quite often. Rasputin substantially influenced not only the lives of Czar Nikolay and his wife, but also the life of the whole Russia. In a Petersburg newspaper<sup>12</sup> Bechterew made a comment on Rasputin's indisputable ability to hypnotize people around him and especially women. He talks about a special kind of hypnosis that he calls "sexual hypnosis", which Rasputin mastered and used to gain and maintain his influence at the Czar's court. He calls Rasputin an "old man", which is an expression used in the orthodox Russia for spiritual advisers living in monasteries or secluded in deep forests or in the mountains. The case of Rasputin was beyond any doubt understood and used by Bechterew as a proof of his scientific theories regarding the degree of suggestibility and hypnability of an individual and a group (Czar's court). Bechterew used these studies, group therapies and hypnosis in the treatment of alcoholism and addictions to substances of all kinds. It is just the group therapy where, in his opinion, remarkable results can be reached. For Bechterew, the role of suggestion and hypnosis in the clinical practice is irreplaceable.

In 1908 Bechterew founded the first Institute of Psychoneurology in St. Petersburg and became its head. After the 1918 revolution he approached the Soviet of People's Commissars and submitted it a request for the foundation of the Brain and Mental Activity Research Institute<sup>13</sup>, which he afterwards managed until his death.

The death of the prominent scientist is surrounded in mystery. At the end of 1927 Bechterew took part in |The 1st. All-Russian Congress of Neuropathologists and Psychiatrists and The 1th. All-Russian Congress on Education of Children. On 22 December he was elected honorary chairman and on the same day his last public lecture took place on the subject of group treatment by hypnotic suggestion of sick alcoholics

<sup>8</sup> Obščestvo nevropatologov i psijatrov, *Nevrologičeskij věstnik* (it was published under Bechterew redaktion 1918)

<sup>9</sup> BECHTĚREV, V. M. *Objektivnaja psihologija* (1907-1910). Moskva: Nauka, 1991. 440 p. ISBN 5-02-013392-2. See <http://gamecollect.ru/knigi/psihologija/behterev-v.m.-%22ob%2525ektivnaja-psihologija%22.html> [on-line 08-12-01]

<sup>10</sup> Grigorij Rasputin (1864?-1916).

<sup>11</sup> Czarevna Alexandra Fjodorovna suffered from nerve shock and propably from the light grand mal. Her son Alexej suffered from angiostaxis.

<sup>12</sup> Petrogradskaja gazeta. Mart 21<sup>th</sup> 1917. <http://www.anomaliy.ru/article/3919/290> [on-line 2008-12-07]

<sup>13</sup> Institut po izučeniju mozga i psichičeskoj dejatelnosti, pozdžšij Gosudarstvennyj reflektologičeskij institut po izučeniju mozga im. V. M. Bechtěreva

and patients with different types of neurosis. He arrived later at the congress, though, as he had been invited to Kremlin to examine J. V. Stalin.<sup>14</sup> The following evening, according to some witnesses, after the congress discussions and a tour of Moscow laboratories of his former pupil Iljin, he attended an evening performance at The Bolshoi Theatre. After having some refreshments Bechterew suddenly felt faint. On 24 December 1927, at 11:40 p.m. Moscow time it was certified that death had occurred. In stark contrast to an established practice the brain was taken out of the body and the body was burnt without postmortem examination. Although Bechterew left his own school and hundreds of pupils behind him, none of them was able to continue his work and the institute was divided into several units. At the present time, V. M. Bechterew Psychoneurological Institute, Saint Petersburg<sup>15</sup>, is regarded as a world-class psychiatry, neurology, narcology, psychotherapy and clinical centre which operates an advanced network of research, education and treatment of patients.<sup>16</sup>

It is surprising that so few of Bechterew's works were translated into Czech. Czech libraries only offer a fragment of the sources for the study of personality and work of the Russian psychologist.<sup>17</sup> It was interesting to find out that the Russian language Internet offers an enormous amount of reference information on Bechterew and many of his lectures and monographs are available on-line, with exact dating and references to places and times of their writing or presenting. Maybe the Russian scientific and public communities are trying in this way to repay the debt owed to "their scientist", whose work was not published from the 1930s to the 1990s, and thus could not be included in the European and world context for a very long period of time.

The basic postulates of the scientific premises that also determine methodological approaches of Bechterew include e.g. an anthropological orientation and understanding of the human as a holistic ontological unit of being, as a biological and social individual existing in an inseparable correlation with the surrounding world – the nature and universe. A human in his concept is the representative of a biological species equipped with nervous and psychological structures.

His work on the research of brain structure was the first of its kind in Russia. Bechterew was first of all interested in the central nervous system, composition of the white matter of medulla oblongata and the fibres within the grey matter. Based on the completed experiments he managed to establish the physiological functions of individual parts of the nervous system (the optic nerves, auditory nerve, corpora quadrigemina etc.)

One of the basic fields of the neurological research was the problem of location, involving morphology of the brain on the one hand, and analysis of its functional locati-

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<sup>14</sup> Earlier he had been a physician of V. I. Lenina. According to unofficial information Bechterew diagnosed hard paranoia to Satlin.

<sup>15</sup> Sankt-Peterburgskij naučno-issledovatel'skij psichonevrologičeskij institut im. V. M. Bechtěreva, Bechtěreva ul.3, 193019, Sankt-Peterburg.

<sup>16</sup> See for example: <http://hpsy.ru/edu/trainings/x357.htm> [on-line 08-12-01].

<sup>17</sup> See for example library catalogues: Národní knihovna ČR <http://sigma.nkp.cz/F/SEC4LAHY59JTKUL-H4H1TC77UKABJEG28PA7R9NP16YX8Y4XJ54-30629?func=short-jump&jump=000001>; MZK [http://aleph.mzk.cz/F/1N24MPT58GDHECUXDRE6YQTH1K1QDEX2M89QR2KP6LA47G9FJ4-58473?func=find-b&request=BechtereV&find\\_code=WRD&adjacent=N&local\\_base=MZK01&filter\\_code\\_1=WLN&filter\\_request\\_1=&filter\\_code\\_2=WYR&filter\\_request\\_2=&filter\\_code\\_3=WYR&filter\\_request\\_3=&filter\\_code\\_4=WFT&filter\\_request\\_4=&x=0&y=0](http://aleph.mzk.cz/F/1N24MPT58GDHECUXDRE6YQTH1K1QDEX2M89QR2KP6LA47G9FJ4-58473?func=find-b&request=BechtereV&find_code=WRD&adjacent=N&local_base=MZK01&filter_code_1=WLN&filter_request_1=&filter_code_2=WYR&filter_request_2=&filter_code_3=WYR&filter_request_3=&filter_code_4=WFT&filter_request_4=&x=0&y=0) [on-line 08-12-01]

on the other. It needs to be noted that the nature of these researches was quite unique at that time, so there were no previous studies in this field to refer to. The scientific results achieved were path-breaking in its time and revolutionary in a certain way. Bechterew created schematic models of the brain structure and wrote a number of works, such as *Provodjaščije puti golovnogogo i spinnogogo mozga*. Bechterew defined a structural-functional approach, based on linking the brain structure to their corresponding function.

After completing the work on 7 volumes of the monograph on the brain Bechterew devoted himself more to the problems relating to psychology. He acknowledged the right to existence of the two basic fields in psychology – subjective, whose main method is introspection, and objective, the representative of which he considered himself. Objectively examined was, in his opinion, behaviour and outer manifestations of the physiological activity of the nervous system.<sup>18</sup> The research in the field of psychology later becomes part of ‘reflexology’<sup>19</sup> which sees a human as a biological and social personality who can be viewed and analyzed based on responses to outer irritation.

Bechterew was the first to lay the foundation for social psychology in Russia. Apart from formulating its main postulates he also devoted himself to therapeutic group work and endeavoured to identify laws of communication and cooperation of people in different social class variants. He was interested in not only functioning of a group as a whole, but also in the behaviour and responses of an individual.

An essential part of Bechterew’s research work and scientific attention is the care of children’s health from their birth to adulthood. Each phase of a child development was thus described and characterized by Bechterew with regard to physical and psychological development, and complemented by information about the needed practices relating to hygiene, healthy lifestyle and aesthetic-cultural development, that can create favourable conditions for the quality development of a personality. Regarding early childhood, Bechterew places an increased emphasis on the promotion of proper care of the body, proper and regular nutrition and above of all good quality sleep, the latter being according to him a vital part of a healthy personality development. It is just the mentioned aspects that should play a role in parenthood guidance. He frequently carried out experiments with his own children and concluded that children, if taught about cleanliness from the first weeks and months of their lives, they would later maintain cleanliness by themselves. He speaks about the need to change infants’ napkins or cleaning their teeth so that they request oral hygiene themselves when they are 2 and half years old. Bechterew by no means recommends that children should be in any way restricted from play, on the contrary, he emphasizes the necessity to add elements of “child gymnastics” to their games, i.e. simple motor activities practicing leaps, keeping balance, walking across a footbridge and the like. With gradually increasing demands of such exercises involvement of a parent or an adult person who can give assistance and guidance is necessary. Bechterew also recommends that manual work is included in children’s activities from the age of 2 – such as use of a file, and from the age of 3 use of scissors and, somewhat later, a needle as well. A natural part of life is making a bed,

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<sup>18</sup> BECHTĚREV, V. M. *Objektivnaja psihologija* (1907-1910). Moskva: Nauka, 1991. 440 p. ISBN 5-02-013392-2. See <http://gamecollect.ru/knigi/psihologija/behterev-v.m.-%22ob%2525ektivnaja-psihologija%22.html> [on-line 08-12-01]

<sup>19</sup> *Obščije osnovanija refleksologii* (1918), *Obščije osnovy refleksologii čelověka* (1923).

help with household chores, e.g. washing-up. According to Bechterew, children enjoy helping the adults and imitation is the main learning method in this period of a child development. Physical work and in the summer mainly in the open air creates positive habits in children important for their later healthy development.

Bechterew founded a Social Education Institute for Healthy and Handicapped Children within a Child Research Institute, where he studied the child psychology and rejected the method of introspection as wholly inadequate for exploration of psychological contents of the child's mind.<sup>20</sup> His basic method then was analysis of genetic predisposition and motor reflexes of a child, development of speech, children's drawings etc.

Bechterew the teacher gave a great attention to aesthetic education of both children and adults. The use of music and visual arts was a basic element in education for him. In his article on '*Značenijske muziki v estetičeskom vospitanii rebjonka s pervych dnei jego detstva*'<sup>21</sup> Bechterew emphasizes that toddlers, even before they start to talk, respond positively and with interest to music, especially to its rhythmic elements. With regard to further positive use of music, he advises that a child's response to high and deep tones should be followed. He believes that very high and very deep tones negatively affect emotions of an individual (followed children started crying during the trial), whereas harmonious music invokes a feeling of pleasure. Bechterew continues to say that this principle changes with the age and the rhythmic music, with contrasting changes in the tone and timbre of the voice begins to play an important role in the support of organism stimulation and feeling of increased vitality. The use of music in education of mentally handicapped children supports their interest in learning and many of them can, as Bechterew believes, reach excellent results in singing or playing an instrument. Cultural events were organized for patients whose character was not only instructive, but also had treatment and relaxation effects. Music in Bechterew's view plays a more important role in a healthy personality education than e.g. visual arts. The analysis of a child's drawing is still in its infancy, and needs to be brought to a level of objective evaluation of degree of maturity, character and experiences of a child. For the evaluation and scientific analysis of children's drawings, he used the drawings of his own children and compared them to those of children with different intellectual disabilities. The results of such study include e.g. apparent simplification of the outer form with a pronounced tendency toward symbolic abstraction in disabled children.

Of interest are Bechterew's views on teachers and their profession in relation to a healthy development of an individual. Bechterew believed that a teacher's personality has a far greater impact on a pupil than their parents'. He explained this by the fact that a pupil can only follow a teacher in the environment where the teacher's good character traits can be employed, whereas in their parents, during every life and in the household environment, children can also learn about their negative qualities. Therefore the teacher is in a far better position to influence his pupils and teach them not only the subject matter, but also guide them to acquiring the correct behaviour. A necessary condition for the process of influencing and suggestion<sup>22</sup> (and thereby the learning process)

<sup>20</sup> For example *Objektivnoje issledovanie neryvno-psichičeskoj sfery v mladenčeskom vozrastě* (1908)

<sup>21</sup> BECHTĚREV, V. M. *Značenijske muziki v estetičeskom vospitanii rebjonka s pervych dnei jego detstva* (1915). In *Problemy razvitija i vospitanija čeloveka. Izbrannyje psihologičeskie trudy*. Moskva: Institut praktičeskoj psihologii, 1997. ISBN 5-89395-042-9. S.154-163.

<sup>22</sup> Bechterew said the children were suggestible very much.

is imitation, memorizing and repeating. The whole process is significantly influenced, though, by the teacher's personality. If the very methodology of teaching is based on the authority and personal example of the teacher, then the teaching process is beneficial. Bechterew warned, however, against abuse of the teacher's power and authority, when positive imitation changes into a stressful feeling of fear. For the effect of fear is to hinder any possibility of learning and ability to remember.<sup>23</sup> Essential is the correct guidance of a pupil, teaching by using yes/no questions asked in the proper way so as to stimulate a pupil's interest and satisfy his expectation. If, however, pupils' expectations are not satisfied, the teacher has thus created room for autosuggestion which may not develop in the right direction. Pupils should also acquire some degree of a critical view on the newly presented information and ability to work independently. In this way they will gain self-confidence, strengthen their willpower and good character traits. The importance of a teacher's role was also due to the high social status of the profession. In the personality of a teacher and well conducted teaching, Bechterew saw a possibility of social and emotional reformation of society.

The field of research of healthy development of an individual did not only concentrate on children, but also on the adult population. Probably the most widely known scientific endeavour within the clinical practice was the treatment of alcoholism and different types of addiction. Bechterew's laboratory used a variety of treatment methods - hydrotherapy, electrotherapy, physiotherapy and work therapy. Also the wholesome influence of music on the human psyche was widely used. Bechterew viewed alcoholism as a great "evil" threatening the healthy development and shaping of the contemporary Russian society, whose negative effect was also enhanced, apart from the general state of affairs in Russia, by a huge financial profit from alcohol sales flowing to the treasury, which was sharply criticized by Bechterew. "The country that will be the first to liberate itself from the "evil of alcohol" will have the greatest chance of becoming better than the others, owing to the regeneration of its people."<sup>24</sup> Bechterew saw a strong negative impact of alcohol not only in the present, but also regarding the future, as a result of the weakened organisms and influence of fathers as well as impaired genetic inheritance. A plan for the "recovery from alcohol abuse" was presented by Bechterew at the Second Congress of physicians specializing in psychiatry in Kyjev. A resolution delivered by Bechterew contained two main points, stating that alcoholics must be treated as regular patients, deserve the best possible care and modern and appropriate treatment procedures should be available for them. Therefore it is necessary to set up a system of outpatients' facilities where qualified physicians will work, who know how to use hypnosis and other physiotherapy processes, and further, wards for alcoholics will be also established. The state should then introduce a range of reforms, improve education of the common population and make the products of the contemporary European culture available for all. Establishment of an experimental clinic of alcoholism research in Petersburg was to support to some degree at least the scientific research of addiction treatment and training of qualified staff for outpatients' facilities and wards. Bechterew

<sup>23</sup> BECHTĚREV, V. M. *Vnušenje i vospitanije* (1912). In *Problemy razvitiya i vospitanija čeloveka*. Izbrannyje psihologičeskije trudy. Moskva: Institut praktičeskoj psihologii, 1997. ISBN 5-89395-042-9. p. 325-327.

<sup>24</sup> BECHTĚREV, V. M. *Alkogolnaja politika ili alkogolnoje ozdorovljenje* (1912). In *Problemy razvitiya i vospitanija čeloveka*. Izbrannyje psihologičeskije trudy. Moskva: Institut praktičeskoj psihologii, 1997. ISBN 5-89395-042-9. p. 234.

decided to use as his basic method a group therapy involving hypnotic suggestion. It is known that Bechterew Institute achieved good results in the treatment of addictions by hypnosis.<sup>25</sup>

Bechterew was not only a physician and psychologist, but also a thinker and philosopher<sup>26</sup>, whereby he embodied the social and spiritual climate of his time. He was always interested in the relation between a strong individual and a group and the relating question of power and subordination. He grew up in straitened circumstances himself and made no secret of the fact that he had never reconciled himself to the condition of poverty and social oppression. His activities, encompassing the care of health of common people, their education in the areas of health, good hygiene, nutrition and prevention, did not only draw on the latest progress in science, but they also reflected Bechterew's endeavours to generally improve life conditions in Russia, both in the field of medicine and the social and cultural life.

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<sup>25</sup> See attachment. See photo: <http://www.photoarchive.spb.ru:9090/www/showChildObjects.do?object=2000589970> [on-line 09-3-08]

<sup>26</sup> Bechterew wrote also works and books that can be considered as „philosophical“ or „disputative“. His treatise *Bessmertije človečeskoj ličnosti kak naučnaja problema* is a polemic among others with Russian philosopher and poet V. S. Solovjev: they polemized of human finiteness in terms of Christianity, philosophy and science.

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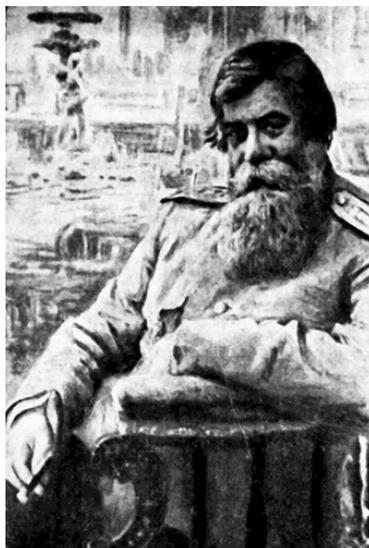
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[on-line 09-3-08]

### **Appendices**



V. M. Bechterew



V. M. Bechterew



Urn containing the ashes of V. M. Bechterew and funeral procession accompanying the urn along the river Něva embankment



V. M. Bechterew working with hypnotized alcoholics

## V. M. BECHTĚREV A ZÁKLADY PSYCHOLOGIE ZDRAVÍ

**Abstrakt:** Článek pojednává o ruském psychologovi a lékaři V. M. Bechtěrevovi, který se významnou měrou zasloužil o formování základů a upevnění návyků hygieny a psychologie zdraví v carském Rusku a na počátku tzv. sovětského období. Bechtěrev se zabýval nejen studiem mozku a jeho topografie, ale významné byly také výzkumy v oblasti sociální psychologie a hygieny a zdraví dětí i dospělé populace. Problematiku alkoholismu v Rusku se snažil vyřešit mimo jiné i léčbou pomocí hypnózy.

**Klíčová slova:** V. M. Bechtěrev, psychologie zdraví, dětská psychologie a hygiena, hypnóza

## SCHOOL SOCIAL CONTEXT AND HEALTH EDUCATION

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**Abstract:** *The paper pays attention to the social school context and to the less challenging school environment, where health education plays a very important role. We have designed and verified the preventive programme intended mainly for the Romanypupils of the lower primary schools. The submitted programme “Health by Play” (Birknerová, 2007) is the project of the primary prevention of the issues with addictive substances focused on alcohol, tobacco and volatile substances. Its objective is to present the active healthy lifestyle to the pupils in an interesting form and to familiarize them with significance of application of the principles of health. The presented research has been realized in the primary school pupils coming from the disadvantaged social environment at the selected schools of the Prešov region and was focused on verification of efficiency of the submitted project of the primary prevention of the habit forming substance issues considering specific features of the pupils. \* VEGA grant 1/0831/10*

**Key words:** *health education, preventive programmes, disadvantaged social environment*

The social environment is understood by Portik (1999) as a complex structure, where effective operation assumes harmonized links between individual elements. Effective socialization of the child and its effective functioning in life (psychomotor, cognitive and affective dimensions) requests more effective work of all those who care about good development of the society, mainly the family. The educationally disadvantaged or less initiative environment is represented - according to Komárik (1996) - by the people whose actions reduce probability of normal healthy development of the child personality. In this connection we can speak about the following existing forms of disadvantage:

- emotional disadvantage, i.e. child neglect, rejection, abuse, maltreatment,
- intellectual disadvantage in the form of untrue information and impulses for intellectual development of the child,
- moral disadvantage in the form of patterns and norms of behaviour that impair rights of other people and support life at the expense of other people.

The child from the socially disadvantaged environment does not have adequate and necessary social stimuli. On the other side, there are very many pulses affecting

development of the child personality negatively, namely in the emotional field, in the field of relations, self-assessment and self-understanding. In the process of teaching the children from the environment as above must be approached responsibly, with specific methods of labour and individual care has to be paid to them. The teachers considering the pupils' needs, interests and their specific features, adapt and modify the process of teaching, as necessary. They apply different effective strategies assisting the pupils and involve them into the common teaching and learning. Improvement, construction and extension of these fields of personality is the best preventive means from drugs and other negative phenomena. Inadequate motivation of psychic development of the pupils coming from the socially disadvantaged environment is manifested mainly by dysfunctional development of ideals, values, attitudes and interests.

Effectiveness of the complex of the primary preventive impacts is called in question by the findings in the field of the first contacts of children and youth with the habit forming substances. The published overviews of school researches in the primary school pupils (Nociar, 1999, 2000; Liba, 2002) document high frequency of early contacts mainly with alcohol and tobacco. They highlight the rising number of children and youth who use the legal psychotropic substances (alcohol and tobacco) and experiment with illegal drugs (mainly marijuana). The data concerning alcohol, tobacco and drugs in young people were accumulated three times (1995, 1999, 2003) within the scope of the European School Survey project on Alcohol and Other Drugs (ESPAD). According to Račková (2009) the epidemiological researches have brought the results confirming rising tolerance to the habit forming substances in all age categories as well as the rising trend of experience of any illegal drug.

According to Horňák (2005), the Romanies themselves do not care of their health. Frequent inadequate level of hygiene, inadequate nourishment, incorrect eating habits, alcoholism, smoking, drug addiction, defective water, etc. can be found. These factors then result in increased number of health problems compared with the majority population. Smoking, consumption of alcohol, inhalation of different substances dangerous for human life, e.g. thinners and glues, affect nowadays the whole Romany families, incl. old men, babies and pregnant women, thus becoming the ethnic-pathological dimension. Incorrect nourishment, bad eating habits, general negligence on own health, missing specialized medical assistance and education affect physically and mentally the Romany population of our days as well as the future generations.

Elaboration and realization of the preventive-educational programmes is very beneficial in combination with successful preventive work. The programme must incorporate development of communication, critical thinking, decision taking, elimination of feelings of anxiety, assertiveness, resistance to influence of others and raising objectives. Liba (2005) states that despite efforts of the teachers, despite the realized preventive activities at schools, the empiric experience pinpoints the fact that alcohol and cigarettes are the everyday part of life of the Romany children and youth. The successful primary prevention therefore urgently requests the real acceptance of the cultural and anthropological features of the Romany ethnic group as the starting point for creation of effective education programmes.

It is advisable to vest the preventive approach to the school which is - besides the family - the strongest formative factor. Evaluation of efficiency of drug prevention

projects in children and youth abroad as well as in our country has revealed that the preventive intervention is most effective from 6 to 8 years of age. Preventive intervention therefore should start at the early age, should be adapted to the child's age and should run (in a certain form) for the whole period of schooling. Early and effective prevention is therefore inevitable. The healing and recovery activities and strategies of prevention must be differentiated according to specific personality features of the pupil, by its attitude to drugs, regional habits, by its knowledge and ability to cooperate. There is no universal key for reliably working activities focused on prevention. Education and all activities realized in the field of prevention of drug addiction should be focused on the healthy lifestyle, i.e. somatic, psychic and social health. Family, school, out-of-school facilities and other educational institutions as well as mass media can actively act against the drugs. Objective of prevention is not only to disseminate the knowledge of drugs and how to treat them, but mainly to create correct attitudes to the habit-forming substances and to train social skills (expression of feelings, to say NO, to resolve conflicts, hierarchy of values) up to the phenomenon of a healthy man.

Health education, health support and/or education for health is not a separate subject and it is even not included as such conceptually. It is realized within the scope of the topics of the relevant subjects. It is assumed that it will penetrate into the whole process of education. The following long-time preventive programmes belong among effective strategies in the field of prevention: School free from alcohol, drugs and cigarettes, Healthy Lifestyle, Healthy school, Before it is too late, Path towards emotional maturity, PEER programmes, P.A.N.D.A. programme, FIT IN programme, Why I am happy alive, Knowledge - Attitudes - Skills, How can I get to know myself? Sweet through addition, We want to breathe clean air, Filip adventures, Do not destruct your wise body, Do/Do not/ speak about drugs, Pupil development programme, Health of Romanians. Projects of prevention work - specific action plans / complex concepts realized at primary and secondary schools are considered in general effective strategies of the primary prevention of drug addiction. To achieve efficiency of prevention, it must be realized cyclically, systematically and on the whole territory.

Based on analysis of the programmes of prevention mentioned above, we have elaborated the preventive programme "Health by Play" (Birknerová, 2007) intended mainly for the Romany pupils of lower primary school. The submitted programme Health by Play is the project of the primary prevention of the problems connected with habit-forming substances and is focused on alcohol, tobacco and volatile substance. It is concentrated on realization of the health-focused inputs and pinpoints the primary prevention of addiction. Its objective is to equip the pupils by the skills and understanding necessary for each of us in the everyday life. The principle is based on the fact that the people are able to acquire the knowledge more thoroughly if the lecture includes the direct experience of what is presented theoretically. The project also intends to present the active healthy lifestyle to the children in an interesting form and to familiarize them with importance of application of the health principles.

The principle of prevention also includes the teacher's duty to inform the children about danger of drugs at the age when they may face the drugs for the first time. The programme grants clear and understandable information for the pupils of the lower primary school about the complex healthy lifestyle in the integrated form, extends and

deepens knowledge of health, how to support, strengthen and protect it. It develops thinking, communication abilities, creativity, mutual perceptivity, perceptivity to other persons and to the environs. Through alternative methods and in particular through games and playing we try to affect the health-focused attitudes of children coming from less initiative socio-cultural environment. The children acquire such skills like active listening, solution of conflicts, communication, responsibility for own decision, interpersonal relationships, cooperation, assertiveness, friendship, empathy, etc. Through adequate forms, methods and means of acting the project is focused on development of the cognitive and affective side and is realized within the scope of integration of all subjects.

The project is based on certain preventive programmes which are also applied at the lower primary schools (We want to breath clean air, Filip adventures, Do not destruct your wise body, Do/Do not/ speak about drugs). To be attractive, we apply different alternative concepts (ITV, Dalton Plan, Creative Drama).

## **Research**

### **OBJECTIVES OF RESEARCH:**

The objective was to review and assess efficiency (informative and formative) of the education process in the primary prevention and of specialized projects of the primary-preventive nature. To prepare and verify efficiency of the project of primary prevention of the problems connected with habit forming substances considering specific features of the pupils, based on the findings.

### **TASKS OF RESEARCH:**

The task was to study the available literature sources, establish the existing state, to select and prepare the methodology of labour and to formulate hypotheses of work. To create the project of primary prevention of addiction, to verify and assess its efficiency in practice. To release - through the project "Health by Play" - a clear and understandable information about the complex healthy lifestyle to the pupils of the lower primary schools (experimental class - EC) by the integrated form.

### **RESEARCH SAMPLE:**

The research was realized in the primary school pupils from the socially disadvantaged and educationally less impulsive environment and in the teachers of selected schools of the Prešov region.

The set was created by 185 pupils 9-12 years old, of which 97 boys and 88 girls. All pupils of the reference (control) and experimental classes were at the beginning of the experiment pupils of the third year, at the end of the experiment the pupils passed the fourth years of the primary school.

The average age of the pupils at the beginning of the experiment was 10,35. Representation of the pupils by the reached age was as follows: 9 years - 18 respondents, 10 years - 46 respondents, 11 years - 81 respondents, 12 years - 40 respondents.

The set of teachers who participated in the process of the primary prevention of

addiction through the education process was created by 87 respondents, of which 31 men and 56 women. The average age of the teachers was 36 years and representation of the teachers by the determined age groups was as follows: up to 30 years - 43 respondents, up to 40 years - 27 respondents, up to 50 years - 10 respondents, over 50 years - 7 respondents.

The research sample was created by the pupils and teachers of the lower primary schools. The experimental class (EC): ŠŠ Chminianske Jakubovany, ZŠ Bajerov. In the experimental class the project Health by Play was included into the process of education. The control class (CC): ZŠ Svinia, ZŠ Červenica; teaching without realization of the preventive project. To fulfil the set research objective we have chosen:

- the Romany school - the Romanies live mainly in the municipalities: Chminianske Jakubovany (EC), Svinia (CC),
- the school where the Romanies people are together with non-Romany pupils - the Romanies live in the municipalities: Bajerov (EC), Červenica (CC).

Selection of the research sample was realized so that its structure may represent the basic set correspondingly. In case of both sets we have realized the so called intentional selection, i.e. the respondents were chosen by the parameters important for the subject of examination (see Maňák et al., 2005), i.e. the number of Romany pupils in classes, number of teachers teaching at the school and willingness to verify the project in practice.

## **CONTENT ANALYSIS OF PEDAGOGIC DOCUMENTS:**

For the needs of the research we have studied the relevant documents and materials, i.e. the documentary information, in our case the final already elaborated information. We have analyzed systematically the data and materials about available programmes of prevention works, realized at primary and secondary schools of the Slovak Republic. We have analyzed objectives of individual projects, we have classified them and chosen the projects that can be realized at the lower primary schools in the pupils of the socially disadvantaged and educationally less initiative environment. Below you will find the programmes that have assisted in creation of the project “Health by Play”:

- Do/Do not/ speak about drugs,
- Do not destruct your wise body,
- Filip advantages,
- We want to breath clean air.

## **Hypotheses:**

**Hypothesis 1:** We assume a significant difference in knowledge of health in the pupils from the disadvantaged social environment; a higher level of knowledge will be manifested in the didactic test by the pupils of those classes, where the project “Health by Play” (EC) was applied, compared with the pupils without such prevention intervention (CC).

Tab.1 Comparison of differences between the experimental class EC and the control class CC in the introductory knowledge test (at the beginning of the year 4)

	EC	CC
Success in points	Number of pupils (48)	Number of pupils (41)
24-22	3	4
21-18	12	10
17-14	27	22
13-8	6	5
7-0	0	0
<b>Average</b>	<b>14,75</b>	<b>15,02</b>

Tab.2 Comparison of differences between the experimental class EC and the control class CC in the final knowledge test after the project of preventive intervention (the project “Health by Play”) was realized

	EC	CC
Success in points	Number of pupils (42)	Number of pupils (37)
24-22	5	3
21-18	19	8
17-14	15	19
13-8	3	7
<b>7-0</b>	<b>0</b>	<b>0</b>
<b>Average</b>	<b>17,66</b>	<b>14,75</b>

Tab.3 Statistic assessment of the differences between EC and CC

Variable	Mann-Whitney U test(s) By variables, type The marked test are significant at the level $p < 0,05000$									
	ET	KT	U	Z	Level p	Z modified	Level p	Number of valid	Number of valid	2*1str. precise p
Input	2124,00	1881,00	948,00	-0,30	0,767	-0,33	0,743	48,00	41,00	0,771
Output	2041,50	1118,50	415,50	3,55	0,000	3,67	0,000	42,00	37,00	0,000

At the output we have revealed the statistically significant difference at the level of significance 0,01 in favour of the experimental class (ET).

**The hypothesis No. 1 was confirmed.** Based on the findings, we can predict positive impact of the integrated teaching, using the project “Health by Play”, on the health knowledge level in the pupils of the fourth classes coming from the socially disadvantaged environment.

**Hypothesis 2:** We assume that the realized projects (programmes) of the primary prevention of habit forming substance addiction, with focus on alcohol, tobacco and volatile substances, do not consider the chosen specific features of education of the disadvantaged pupils (specific perception, ideas, attention, thinking, emotions and temperament, abilities and talent, motivation, speech and language).

Tab.4 Consideration of specific features of education of the disadvantaged pupils in the primary prevention projects

Specific features of education of disadvantaged pupils of the lower primary schools	P1*	P2*	P3*	P4*	P5*	Conclusion
Perception (visual, auditory, time, space)	no	yes	yes	yes	yes	4
Ideas (images)	no	no	no	no	yes	1
Attention	no	yes	yes	no	yes	3
Memory	no	no	no	no	yes	1
Thinking	no	no	no	no	yes	1
Emotions, temperament	yes	yes	no	no	yes	3
Abilities, talent	no	no	no	no	yes	1
Motivation	yes	yes	yes	yes	yes	4
Speech, language	no	yes	no	no	no	1
CONCLUSION (number of “yes”)	2	5	3	2	8	

**\*PREVENTIVE PROGRAMMES:**

P1 – DO/DO NOT/ SPEAK ABOUT DRUGS

P2 – DO NOT DESTROY YOUR WISE BODY

P3 – FILIP ADVANTAGES

P4 – WE WANT TO BREATHE CLEAN AIR

P5 – HEALTH BY PLAY

Under the term “specific features of education of the disadvantaged pupils of the lower primary school” we understand the distinctions which affect their education:

Perception – perception runs more slowly in the Romany pupils due to a higher frequency of damage of the visual organ and the organ of hearing as well as due to the reduced intellect. This makes their orientation in new situations more complex (Horňák, 2005). Inadequate activity is the most explicit specific feature of perception (visual organ). Perception of the colours of the world round the pupils is specific; it can be manifested during the lessons of art education. Inadequate function of the hearing analyzer results in the inability to differentiate phonemes which fact can decelerate development of speech. Time as the linear variable is restricted to the present time only. The positive feature following from the fact above is immediacy and the negative feature is for instance irresponsibility (Ševčíková, 2003). They orient themselves in the space very easily. When they know the result, they do not need any procedure. Intuition and not brain is a good guide for them. Therefore they are successful in the practical life, but often not at school.

Ideas/images - the Romanies do not differentiate between personal wishes, dreams and reality. They are able to identify themselves very strong with their own personal image, to believe in it and to convert it into reality. They are not willing to believe in something what has not passed through their internal process of conversion (Ševčíková, 2003).

Attention – is the inseparable part of the cognitive processes. The Romany pupils often have weak attention, they concentrate themselves worse. They need changes of activities during the process of teaching - possibility to take exercise, rest, chat, (...). Attention of the Romany pupils is scattered, dissipated, they are tired very soon. It is therefore necessary to apply the agents supporting their attention and activity, without

which the process of teaching is quite impossible (movement, colour, news, attractiveness, rhythm, etc.). Their curiosity is thus satisfied and adverse manifestation is reduced (restlessness, crying, shouting, surprise, etc.). (Berki, Šelepák, 1985). The degree of attention depends on impact of the environment. We must develop it in the school environment through suitable activities.

Memory – can be less effective in the Romany pupils. Adequate intensity of nervous processes, i.e. processes of excitement and attenuation, is inevitable for correct creation and support of the conditional connections. The Romany children acquire new knowledge more slowly, it is necessary to repeat certain pieces of knowledge. The acquired knowledge is forgotten more quickly and the pupils are often unable to apply it in the practical life (Hornák, 2005). At school it is therefore necessary to exercise more frequently and to strengthen the acquired knowledge on examples and specific events from everyday life.

Thinking is according to Klíma (1988) motivated in the Romany children by focus on an immediate experience and feeling. They are able to solve practical everyday situations effectively, i.e. the situations connected with satisfaction of their momentary needs. The children are less creative, they accept the reality as it is. In the cognitive processes the trend to stereotypes cannot be seen. It is advisable to extend the theoretical inputs by pictures or by demonstration. The schoolwork should be in the form of play with the maximum positive experience. It is necessary to present a number of examples how to utilize a certain piece of knowledge in the practical life.

Emotions, temperament – Emotionality is a characteristic feature for the Romanies. They are more impulsive and “hot-tempered”. Pleasant things are good things for them. They are unable to control their emotions adequately. In the process of education the educator must be guarantor of a positive, pleasant emotional climate for the child, which brings the feeling of certainty and safety, trust, amicability and friendliness. This fact is valid within a much more higher extent for the Romany pupils. (Zelina, 1996). The Romany children like to play, cry, shout, are temperament and natural. If we want to gain their trust, we must create the environment, where they feel safe and where they appreciate personal interest of the teacher.

Abilities, talent – There is the prevailing opinion in the society that the Romanies have much more explicit musical capabilities and talent for rhythm and movement, compared with the majority part of the population. Incorporation of musical and dancing activities into education is pinpointed as an effective motivation factor (Hornák, 2005).

Motivation – should be dynamic and varied to be interesting for the Romany pupils. It should be based on the everyday life. According to Darák (2003) a story, fairytale is a natural and effective factor increasing interest and motivation of the Romany pupils in the schoolwork. The teachers appreciate mainly its educational, motivation, cognitive, moral, creative, aesthetic and relaxation function.

Speech, language – has a social character and therefore it has to be developed in the social interaction. Activity of the child in the period of speech development should be motivated by its current needs, through a game, by playing. It is necessary to pay attention to physical and speech activity which should be linked in the period of speech development. It is therefore necessary to allocate physical activity to the word (Portik, 2003). According to the research conducted by the Statistic Institute of the Slovak Re-

public in 1994, only 11% of the Romanians think that all school subjects should be taught in Romany, 33% of them prefer only certain subjects in Romany and 45% do not prefer teaching in Romany at all (Radičová, 2001).

**The hypothesis No. 2 has been confirmed.** For easy understanding we have defined specific features of education of the disadvantaged pupils and in the Table below we have compared them (through analysis) with the projects of the primary prevention of habit forming substance addiction, with focus on alcohol, tobacco and volatile substances, applied at the lower primary schools. The determined specific features are taken into account by the projects Do/Do not/ speak about drugs and We want to breath clean air in two cases, three specific features are taken into account in the programme Filip adventures and five specific features - in the programme Do not destruct your wise body. The project “Health by Play” elaborated by us according to specific criteria takes into account eight of the nine specific features of education of the disadvantaged pupils. The projects should pay attention on the preventive function, which can restrict (in its efficient and effective form) the socio-pathologic phenomena in children and youth materially. In the preventive work it is recommended to realize a long-time and systematic prevention in the form of combination and linking of the following three approaches: information, affective and training of skills and abilities (Verešová, Sollár, 2006).

**Research question:** Do the teachers realize programmes of the primary prevention of the problems connected with the habit forming substances at least minimally in the process of education?

Tab.5 Utilization of programmes of the primary prevention of the problems connected with the habit forming substances

	P1*	P2*	P3*	P4*	P5*	P6*	P7*	total
Chminianske Jakobovany (27 teachers)	2	5	0	2	0	0	3	12
Bajerov (11 teachers)	1	4	0	1	1	1	2	10
Svinia (23 teachers)	0	0	3	1	1	0	0	5
Červenica (13 teachers)	0	0	1	2	1	0	0	4
TOTAL (74 TEACHERS)	3	9	4	6	3	1	5	

**\*PREVENTIVE PROGRAMMES:**

P1 – PEER PROGRAMMES

P2 – DO NOT DESTRUCT YOUR WISE BODY

P3 – HEALTH OF THE ROMANIES

P4 – NOT TO DRUGS

P5 – LIVE AND LET LIVE

P6 – PATH TO EMOTIONAL MATURITY

P7 – FILIP ADVENTURES.

We have addressed in total 74 teachers, who answered in writing, what preventive programmes relating to drugs are applied in the process of teaching. The Table documents that the projects are realized at the schools within the minimum scope only. Some teachers have heard about them, but they do not apply them in practice. The teachers are not prepared adequately for realization of the primary preventive inputs. Personal involvement of one teacher - coordinator - dominates.

## Conclusion

The school should create suitable conditions for supporting health-preventive activities, respect individual specific features and needs of the pupils and motivate them for school as well as out-of-school health-supporting activities. The teachers should cooperate with the family, should tolerate ethnic and social minorities and create positive social climate and environment for education.

The ideal situation would be as follows: all teachers have adequate information about the complex drug issue so that they may have anti-drug attitudes that will be reflected in their behaviour. Because the teachers play an important role in the primary prevention of drug addiction, they must be given not only the knowledge about the drug issue itself, about the possibilities of their preventive approach, but must acquire and create specific pedagogic abilities and skills (Končeková, 2005). To draw pupils' attention to the hazards and risks of smoking and drinking alcohol, is an important component of health education. Prevention should become the key factor. The core task is to teach the pupils to say NO when pushed by others, to decide not to smoke and drink, to understand harmful influence of these activities for the state of health. But the facts themselves are not enough. The researches prove that the pupils understand the risks of smoking and drinking, but they still try smoking and drinking as early as at the primary school. Curiosity, to be a match for others or the effort to be better than the others are the winning factors.

The objective of health education is to obtain the adequate information, knowledge, skills, habits, principles and to create attitudes, interests and value standards focused on identification of the health values and on interiorization of the principles of the healthy lifestyle by the teachers and the pupils. These efforts should lead to balanced formation of the cognitive, affective and psychomotor aspects of personality through active care of one's own health which reflects and accentuates bio-psychic and socio-cultural determinism of the personality. (Liba, 2007).

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## SOCIÁLNY KONTEXT ŠKOLY A VÝCHOVA K ZDRAVIU

**Abstrakt:** V príspevku venujeme pozornosť sociálnemu kontextu školy a školskému menej podnetnému prostrediu, kde výchova k zdraviu zohráva veľmi dôležitú úlohu. Navrhli a overili sme preventívny program, ktorý je určený hlavne rómskym žiakom 1.stupňa ZŠ. Predložený program Zdravie hrou (Birknerová, 2007) je projektom primárnej prevencie problémov s návykovými látkami zameraný na alkohol, tabak a prchavé látky. Jeho cieľom je predstaviť žiakom zaujímavou formou aktívny zdravý životný štýl života a oboznámiť ich s významom aplikovania princípov zdravia. Uvedený výskum sme realizovali u žiakov základných škôl zo znevýhodneného sociálneho prostredia vo vybraných školách Prešovského VÚC a jeho cieľom bolo overiť účinnosť predloženého projektu primárnej prevencie problémov s návykovými látkami zohľadňujúceho špecifiká žiakov. \* VEGA grant 1/0831/10

**Kľúčové slová:** výchova k zdraviu, preventívne programy, znevýhodnené sociálne prostredie

# THE IMPORTANCE OF SIMULATION RESEARCH METHOD FOR IMPLEMENTING HEALTH EDUCATION INTO SCHOOL EDUCATIONAL PROGRAMMES

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**Abstract:** *The present curricular research shows that the implementation of the national projected curriculum form into projected curriculum forms at school level is possible only when simulation method is applied. The outcome of this process is a constitutive school curriculum which needs to be subsequently implemented into the implemented school curriculum model, securing a full compliance with all curricular requirements. The implementation of health education into school educational programmes currently involves many problem questions. This paper discusses how these questions can be categorised and solved by means of simulation method.*

**Key words:** *simulation research method, constitutive curriculum model, implemented curriculum model, health education, health education curriculum, school educational programmes*

## Introduction

Various forms and types of curriculum are researched especially in connection to the implementation of curricular reforms. In the US, these reforms were implemented in the 1960s as part of educational reforms; in Germany and Austria approximately ten years later (comp. Walterová, 1994; Janík, 2009).

The Czech Republic is currently undergoing a similar process and we may observe a renewed interest in research into curricular problems due to the implementation of framework educational programmes. Research into curriculum for different educational areas, fields or subjects has emerged. The focus is especially on the process of implementation of curricula into practice and if these curricula appear to succeed or not. Health education is no exception to this trend.

## Methodological starting points for effective implementation of health education into school educational programmes

The research into projected curriculum deals in particular with educational programmes, educational plans, and educational standards. Curriculum in its projected form is relatively easily accessible because it usually exists as a concrete *curricular document* (e.g. an educational programme, educational plan, syllabus, or textbook).

Dvořák (2007) and Janík (2009) argue that *content analysis of curricular documents* is the most common research method into projected curriculum. This analysis is usually based on a certain category system suitable for researching curricular structure as well as other characteristics.

Analysing school educational programmes seems to be a promising area of research into projected curriculum; however, only a few analyses of this type have been conducted in the Czech Republic so far.

Other research of projected curriculum consists in researching textbooks, but proper health education textbooks are being designed only now. Some health education topics may be found in textbooks of biology, civics, family education and others. Even though research into textbooks seems to have evolved into a representative area of curricular research (e.g. Průcha, 1998; Maňák, Klapko et al., 2006; Maňák, Knecht et al., 2007; Knecht, Janík et al., 2008), specific research into health education and handling the subject in textbooks has been neglected.

Research into projected curriculum is carried out either as part of a broader inter-subject approach (e.g. Pühse, Gerber, 2005), or specifically within a selected educational area, field or subject. An extensive research based on content analysis of representative population of educational plans from different countries in the world (Kamens, Meyer, Benavot, 1996) may serve as an example.

It needs to be admitted that there has been only little interdisciplinary research with the aim of clarifying the position of health education in relation to other subjects of school education in the Czech Republic so far. Since the 1990s, the connection between health education and physical education (e.g. Mužík, Krejčí, 1995; Mužík, Mužíková, 2007) and health education and family education (Marádová, 2005) has been defined and studied. At the level of educational content projections, the current debate rather considers what topics should occupy health education curriculum and to what extent, for example: the issues of lifestyle and quality of life (Csémy et al., 2005; Havelková, Kachlík, Raus, 2006; Lukášová, 2006; Pokorná, 2006 etc.), nutrition (e.g. Rouhová, Pillerová, Havelková, 2001; Procházková, 2006), experience (Krejčí, 2004), physical self (e.g. Fialová, 2005), social behaviour (e.g. Prokopová, 2006), prevention of social-pathological phenomena (e.g. Kachlík, 2005; Čech, Hanáková, 2008), health risks and primary prevention (Žaloudíková, 2004, 2009) etc. The focus of other thematic research in the Czech Republic as well as abroad is presented in the collection of papers from the international conference *Health Education and the Quality of Life II* (2009). Publications by Havelková, Reismannová et al. (2009), Machová, Kubátová et al. (2009), or Liba (2010) draw upon specific research findings.

## Curriculum simulation method

Simulation method is an important means of research and curriculum projecting (see Maňák, 2007). Maňák (2007) claims: “Simulation is a procedure leading to designing a model. It enables us to examine complex features such as systems.” (43) The function of a model is “to express important links and connections leading to understanding the expected conception” (43).

Maňák distinguishes among the *fundamental*, *constitutive* and *implemented model of curriculum*, and combines these sub-systems into a *synthesizing model*. As for the simulation of curriculum Maňák states: “Taking into account all circumstances, teachers project in their mind and in the preparation (of a model) a procedure plan leading to implementation of educational aims, which they consider from a methodological perspective. This means that they transform the educational content into adequate portions (quanta of subject matter) in their subject, and facilitate their mastering by pupils by means of appropriate methods. Then they reassure about mastering the subject matter by effective forms of feedback. Often, teachers are not aware of all relationships and links which determine the implementation of given educational aims. They perceive them in general, as they are presented in curriculum. These relations, which are hidden even in curriculum and their sources are considered in the fundamental model of education, are nowadays emphasised as the so called inter-subject relations (inter-disciplinary links), or also within the so called cross-sectional topics. Teachers seem to be helpless. They do not know how these cross-sectional topics should be implemented because sufficient methodology input is absent even in the Framework Educational Programme. The above example demonstrates the limited knowledge of curricular problems and that investigation into their genesis (e.g. by means of simulation) would help their understanding” (49).

As for this paper, the constitutive curriculum model and the implemented curriculum model are of crucial importance.

The *constitutive curriculum model* is defined by Maňák as follows: “The subject of a constitutive model is the designer of the curriculum (typically a national, professional or specialist authority/council) who considers all circumstances, conditions, influences and social interests, and sets clear postulates, focusing on a particular type, kind, specialization, and level of educational institution. The outcome is a curriculum manifested in textbooks, syllabi, methodological regulations and other documents... The constitutive model is generated as a result of social demand for a concrete type, kind, and level of educational institutions” (48).

Maňák further describes the *implemented curriculum model*: “The subject in this model is the teacher who designs plans, procedures and strategies, selects information, considers skills instruction and training, strives for mastering desirable competences etc., and is particular in achieving such educational outcomes that are in compliance with the proposed aims. The objects of the model are both previous models, however, the overall social culture and especially educational situation where the educational process takes place operates as an additional influencing factor. The crucial element in this model is the pupil’s individuality and the studied subject. As a synthesis of all these factors, it manifests itself as a preparation for educational activity, which on the basis

of all the influences and stimuli stated above becomes a model of educational process” (49).

At the end of his study, Maňák emphasises: “The initial stimulus for the simulation of curriculum was the fact that curriculum is not a stable static construction as it sometimes appears to be in its definite user form, but that it undergoes evolution, not only in connection with up-to-date views and scientific theories, but also in its genesis because it originates as an ideal construction, then it is specified for particular types of schools and embedded in school documents that in the forms of norms and standards regulate educational process. This gradual maturation and implementation of curriculum (especially its content) culminates as an educational process (concrete instruction), i.e. an educational interaction between the teacher and pupils” (51).

## **Simulation of health education curriculum**

If we are to apply Maňák’s thoughts on the educational field of health education, the school reality in the Czech Republic is reinforced by a disputable status of the respective educational field both, at the level of projected curriculum form in the Framework Educational Programme for Basic Education as well as at the level of implemented curricula in schools.

In the projected curriculum form (i.e. in the Framework Educational Programme for Basic Education), health education is on the one hand embedded as an individual educational field, on the other hand, it does not have sufficiently defined implementation support. The Framework Educational Programme for Basic Education does not set a minimum week time allocation, as it is e.g. in case of physical education. Next, there is no recommended educational form or organization of subject matter for implementing the educational content of health education (e.g. subjects and years the educational content should be integrated in). Finally, the document does not facilitate the expertise and qualification of health education teachers. Therefore, the definition of health education as an educational field in the Framework Educational Programme for Basic Education rather resembles a cross-sectional topic.

At the level of school practice, the implementation of health education usually appears to be underestimated not only by primary school managements and teachers, but also by pupils and their parents. As proved by research findings (see Mužíková 2008, 2009), a majority of Czech population is not aware of the existence of health education in basic (i.e. primary and lower secondary) education. Schools have not developed sufficient support conditions for this educational field. Contrary to traditional educational fields and subjects, the problem of health education is further complicated by the need to define completely new educational plans as well as curricula within the existing school educational plans. However, for this type of projecting, as already mentioned, schools lack a sufficient number of qualified teachers as well as enough experience.

A possible solution might be to provide schools with research-based, systematically organised stimuli for implementation of the projected form of health education curriculum into school educational programmes (SEP). These stimuli should help to confront the requirements for the educational content as stated in the Framework Educational Programme for Basic Education and implementation possibilities of concrete

schools, and thus serve as a starting point for the constitutive model of health education curriculum within SEP<sup>1</sup>.

In this respect we draw back upon the above quoted Maňák's study (2007). We assume that *the process of implementation of the projected curriculum form at national level (Framework Educational Programme for Basic Education) into the projected curriculum form of school level (SEP) is possible only with the application of simulation method producing a constitutive model of school curriculum (i.e. SEP). The subject (author) of such a model is the teaching staff. The object is the educational content given by the educational conditions in schools. Subsequently, the teachers' task is to implement this constitutive curriculum model into the implemented curriculum model, meeting all curricular requirements. This process can also be reasonable and effective only when applying the curriculum simulation method.*

*The simulation of health education curriculum within SEP is inevitably associated with many problem questions that are currently being dealt with by the authors of SEP, respectively authors of the constitutive model of health education. The **problem questions** can be organised in the following system:*

*a) How will the educational content of health education be implemented and who will be in charge of implementation (instruction)?*

- *Will health education be taught as a separate subject?*
- *Will the required topics be integrated into one or more other subjects?*
- *Will the required topics be taught in a form of projects or block instruction?*
- *Will the instruction be realized as a combination of the above mentioned forms?*
- *How are the teachers concerned qualified? How will they obtain necessary qualification?*

*b) How will the compulsory educational content of health education be completed?*

- *Will health education penetrate the entire school process?*
- *What will the offer of optional subjects, non-compulsory subjects, and hobby forms look like?*
- *What will be the focus of physical education?*
- *What criteria will be important for the evaluation of subjects containing the subject matter of health education?*
- *What criteria will be important for the evaluation of physical education?*
- *How will pupils be assessed in these subjects?*
- *What other educational forms will be organized (courses, excursions, meetings, programmes, projects etc.)?*
- *How will cooperation among teachers, teachers and pupils, and pupils themselves be facilitated?*

*c) How will the educational process of health education be supported in schools?*

- *Will teachers and other school staff serve as good examples to pupils?*
- *Will an adequate social atmosphere and school climate develop?*
- *How will personality education and social education of pupils look like?*
- *How will health education address environmental issues?*

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<sup>1</sup> We assume that the existing limited methodology support for health education was published either before the emendation of the Framework Educational Programme for Basic Education (Marádová, 2006), or does not respect the curriculum simulation method sufficiently (Pernicová, 2008).

- *What forms of cooperation with parents, municipality, institutions etc. there will be?*
  - *How will pupils' diet be regulated (meals at school canteens/cafeterias and outside school, drinking and eating regimen)?*
  - *How will pupils' leisure time be influenced?*
- d) *What other problems related to the implementation of health education in schools are there?*
- e) *What changes may occur during the implementation of health education model within SEP?*

**The answers to the problem questions may include:**

a) *Defining main educational forms of health education*

- If health education is to be studied as a *separate subject* (especially in upper primary school), it should be taught by a qualified teacher<sup>2</sup>.
- If health education is to be implemented by means of *subject integration*, it will be necessary to incorporate the given topics into relevant subjects. Participating teachers should be sufficiently educated in the field.
- If *block project instruction* is to be preferred (especially in lower primary school), it will be purposeful to define and take advantage of inter-subject relations.
- If a compulsory instruction is to be extended by an optional subject, it will be necessary to specify compulsory and optional topics.
- If health education is to be integrated *with physical education* (our research confirmed this intention of primary school heads), a change in the orientation of physical education from movement performance to “health promotion” will be of crucial importance.

b) *Defining additional forms of health education*

- Health education should involve excellent preparation and implementation of preventive programmes – especially in case of social-pathological behaviour (e.g. the compulsory Minimum Prevention Programme required by a methodological regulation of the Ministry of Education, Youth and Sports).
- Implementation of projects promoting health, e.g. Health Promoting School, Healthy Weeks, Healthy Days, and Healthy Teeth is appropriate.
- Introduction of *other forms of physical education* with health and compensation content (optional subject of healthy physical education, regular PE moments, movement-relaxation breaks, PE groups, courses, outdoor stays etc.) can be recommended.
- Health education can be further extended by one time educational forms, e.g. *external educational programmes* organized by specialized institutions (leisure time centres, ecological education houses, K-centres etc.), or meetings with specialists (doctors, medical staff, psychologists, policemen, social workers etc.).
- *Project or thematic days* (e.g. the issue of preservation of human life in extreme situations) and *training for emergency cases* can be also recommended.
- Pupils' participation in various ecological activities is also needed.

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<sup>2</sup> Note: Graduates in health education are not available in the Czech Republic yet, and the number of graduates in family education is very low.

- Schools might offer more *school leisure time activities* (e.g. school clubs or hobby groups promoting health, concretely healthy diet, first aid, healthy lifestyle, health science etc.)
- c) *Defining forms of health education going beyond the school environment*
  - School instruction can be enriched by an offer of *leisure time outside school activities* (trips, outdoor stays etc.)
  - Tight cooperation with parents will be essential (promoting and valuing healthy lifestyle within family, restricting smoking and alcohol consumption, offering joint leisure time activities for parents and children: e.g. joint adventure activities or exercising, organizing talks and courses for parents with the aim to promote health education both, in school as well as in family etc.)
  - Establishing a *counselling centre* for parents and children would be beneficial.
  - *Cooperation with the public*: local municipality authorities, specialized departments of other institution and paediatricians should be specified.
- d) *Focus on psychosocial area*
  - Cooperation among individual teachers and other school staff is crucial since health education should penetrate the school educational process as a whole.
  - Increased attention should be paid to communication between the teacher and pupils in order to create a favorable psychosocial school climate. Pupils often do not trust their teachers enough and are not willing to share their problems with them.)
  - Special care is needed for *children with specific learning difficulties* and *integration of children with disabilities*.
- e) *Specifying material requirements*
  - It is necessary to provide *specialist and methodology materials* for teachers.
  - It is necessary to provide *study materials and aids* for pupils.
  - It seems to be useful to set up *specialized rooms*, or *adjust school facilities/premises*, e.g. for movement-relaxation breaks.
  - The above stated material requirements need allocation of *sufficient funds*.
- f) *Influencing pupils' nutrition and movement activity*
  - Adequate attention should be paid to pupils' *meals, drinking regimen and movement activity* during classes.
  - There is a need for systematic *instruction on healthy eating habits and movement activity* in a daily routine (including effective cooperation with parents).
  - It is appropriate to alter menu in school cafeterias (they should serve meals for overweight children or children with health problems).
  - It is reasonable to consider organising optional *courses on healthy diet and movement activity promoting health* in collaboration with external lecturers.

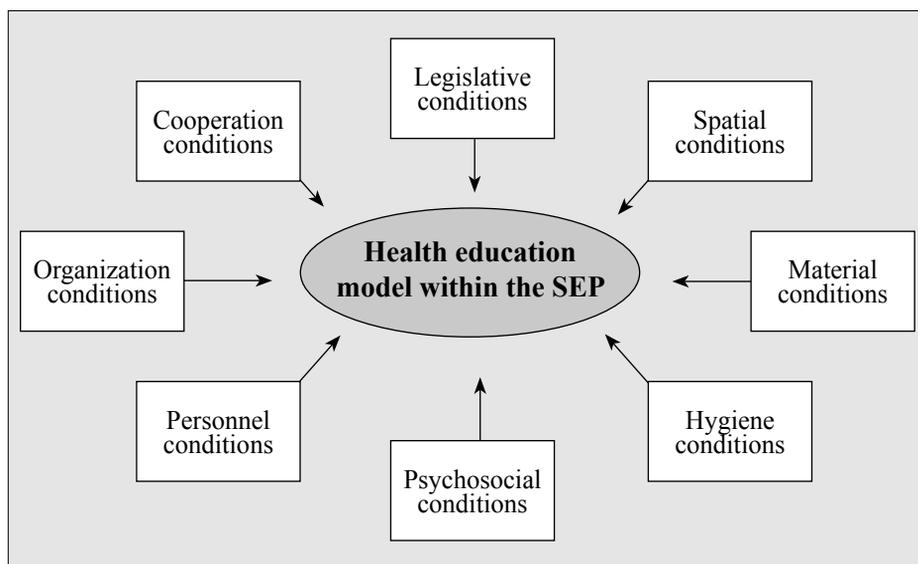
## **Conditions limiting the simulation of health education curriculum**

Meeting educational aims and developing pupils' key competences required by the Framework Educational Programme for Basic Education should be supported by providing adequate *conditions for education*. Undoubtedly, the educational field of heal-

th education is no exception here. Pupils' educational needs, conditions for teaching, general regulations and norms and other requirements can be regarded as *factors limiting simulation of health education at the level of SEP* (see Fig. 2). These factors furthermore reflect the above stated problem questions and suggestions of possible solutions.

When simulating health education, the authors of a health education model within a SEP (i.e. teaching staff, subject committee, and health education teachers) should confront concrete school conditions with both, required as well as optimal conditions defined by legislative and educational documents. These required and optimal conditions will be characterized below as we assume them to be essential starting points for simulation of health education within SEP.

Fig. 1 shows *general* and *specific conditions* for implementing the educational content of health education. We will attempt to elaborate on these conditions with the help of the Framework Educational Programme for Basic Education (2007).



**Fig. 1:** Starting points for simulation of health education within the SEP

An effective and complex concept of health education cannot address only the educational content defined for this educational field. As already mentioned, health education is rather a cross-sectional topic penetrating the entire school life, including general conditions for instruction. The designers of school models of health education should be aware of these aspects and take them into consideration when simulating health education.

The **general conditions** for the complex concept of health education are those that concern the entire educational process as well as other aspects of everyday school life of such nature that they fall into the complex concept of health education.

a) Legislative conditions are defined by educational and legal documents, the fundamental being those below:

- National Programme for the Development of Education in the Czech Republic – White Paper (2001);
- Framework Educational Programme for Basic Education (amended version from 1 September 2007);
- Long-term Programme for Improving the Health of the Population in the Czech Republic – Health for All in the 21<sup>st</sup> century (2002);
- the so called School Act and its amendments;
- The Act on Educational Staff and its amendments;
- Methodological Directive Ensuring Safety and Health Prevention in Children, Pupils and Students in Schools and School Facilities;
- Methodological Directive on Primary Prevention of Social-Pathological Phenomena in Children, Pupils and Students in Schools and School Facilities;
- Regulation on Providing Counselling Services in Schools and School Counselling Facilities;
- Regulation on School Catering;
- Regulation on Hygiene Requirements for Premises and Operation of Educational Facilities for Children and Youth;
- Regulation on Hobby Education;
- Regulation on School Educational and Boarding Facilities, and School Purpose Facilities;
- Regulation on Further Education of Educational Staff, Accreditation Council, and Career System of Educational Staff;

b) *Spatial conditions*, despite being of more general nature, can be considered fundamental for implementing the complex concept of health education. They include:

- particular (universal) classrooms for each class with multifunctional and working equipment;
- premises for physical education (including outdoor or rented) equipped with safe track/surface and sports apparatus;
- space for lesson planning and keeping teaching aids (teachers' offices), equipped with appropriate furniture and teaching aids for health education;
- study zones for active ways of spending leisure time (libraries, study rooms, and information and communication centres);
- space for leaving clothes and shoes (changing rooms), including rooms for changing clothes before and after physical education, in number adequate to the number of exercising grounds, alternating pupils, and separate activities for boys and girls;
- space for pupils and teachers' personal hygiene – lavatories equipped with a sufficient number of hygienic equipment meeting the physiological needs of given age and relevant norms;
- room suitable for treating minor injuries and a short-term stay of the injured, or for dealing with health problems;
- other supporting facilities ensuring school operation (stores, space for waste sorting etc.)

c) *Material conditions* involve especially study materials and aids. When met, they serve as preconditions for the so called “healthy learning”:

- textbooks and study materials for all pupils;

- methodology materials for teachers;
- appropriate didactic aids for pupils;
- information and communication technology;
- other apparatus, tools, and aids for effective education.

d) *Hygiene conditions* besides general hygiene requirements include also conditions for safe education and school life:

- adequate structure of work and relaxation regimens for pupils and teachers with enough relaxation and active movement;
- adequate regimen of classes respecting “learning hygiene” and pupils’ age;
- adequate eating and drinking regimen (for pupils’ age and individual needs);
- healthy environment in the classrooms and school premises (i.e. adequate light conditions, heating, noiselessness, cleanness, ventilation, size of seating and working furniture, and hygienic equipment in compliance with current norms, as defined by legislative conditions)
- observing the prohibition of smoking, alcohol consumption and other harmful substances from school and its surroundings;
- injury prevention;
- clear marking of dangerous objects and parts of school premises;
- regular safety checkups of facilities;
- availability of first aid, medical care or other specialist services;
- teachers’ skills to give first aid.

e) *Psychosocial conditions* are also rather general; however, they are among key preconditions for complex health education:

- creating pleasant environment, healthy learning and open partnership among pupils and teachers as well as between teachers and school management;
- education connected with real life; learning things that can be used in practice and enable hands-on experience;
- age adequacy and motivating assessment – respecting pupils’ individualities, assessment in compliance with pupil’s individual potential, sufficient feedback, tolerating mistakes and failures;
- meeting pupils’ needs (the overall benefit to pupils is a main criterion in the preparatory stage and realization of education);
- favourable social climate (openness and partnership in communication, respect, tolerance, recognition, empathy, cooperating with and helping the others, and solidarity with the class/school);
- protection for pupils against violence, bullying, and other social-pathological phenomena;
- participation of pupils in education and school life;
- early informing of pupils about school and outside-school affairs;
- respect for needs of an individual and their personal problems;

f) *Personnel conditions* limit the overall quality of education and healthy studying environment in the entire school regimen. Those of crucial importance are the following:

- pedagogical staff meeting the requirements stated in the Act No. 563/2004 Collection of Law, able to participate in other school activities too;
- pedagogical staff with sufficient professional skills (i.e. communicative towards

pupils as well as their parents and other teachers and specialists facilitating special services for the school; able to diagnose pupils and motivate them, maintain informal discipline, continuously educate themselves, or critically assess and modify own professional performance);

- school can offer specialist assistance to pupils and their parents (e.g. assistance of special teachers, school psychologists, or teaching assistants);
- pedagogical staff are able to work in a team and succeed in mutual communication and collaboration;
- staff in managerial positions respect the educational content of health education, have excellent managerial, organization and teaching skills, are able to create motivating as well as professionally demanding atmosphere, strive for own continuous specialist and professional development as that of the other employees, have conceptual thinking and working style, are willing to give advice, and can protect teachers from negative outside influences.

g) *Organization conditions* determine educational possibilities of the school. General conditions for complex health education include:

- participation of all teachers in the implementation of the SEP, including health education;
- optimal regimen of instruction adequate to pupils' age and needs in compliance with the content of education and appropriate ways of learning, offering follow-up compulsory and optional education;
- optimal regimen of school life addressing pupils' needs given by their age and safety requirements (relaxation, movement regimen, eating and drinking regimen, hygiene, hobbies, and emergency situations).

h) *Conditions for cooperation* between the school and parents, other institutions and the public create a precondition for expansion of health education outside school and into pupils' lifestyle. They are especially:

- functional and up-to-date flow of information aimed at pupils, teachers, school management, parents, and school partners as well as among the individual participants in education;
- meeting with pupils' parents and other public (e.g. school council) – presenting school plans and aims, ways of instruction, assessing pupils, school regulations, and encouraging cooperation in problem solving;
- educational strategies open to parents;
- opportunity for setting up and operating an independent parents' authority;
- opportunity for meeting teachers and parents;
- counselling parents in educational/up-bringing issues;
- information on individual pupils necessary for individual educational forms;
- opportunity for parents to participate in lessons and educational activities organized by the school;
- building social relations between the school and the public.

The **specific conditions** limiting the implementation of the educational content of health education are as follows:

a) *Spatial conditions*:

- specialized classroom for health education equipped with portable furniture, laboratory equipment (microscope), visual and didactic materials and aids, and audiovisual technology;
  - working zone (e.g. kitchen and first aid room) equipped with appropriate devices, teaching aids etc.
  - relaxation zone and zones for non-demanding movement activities – for group and individual activities and for shared as well as individual relaxation of pupils and teachers;
  - zones for afterschool activities (hobby groups, clubs), furnished with working and relaxation furniture; aids or tools for active/passive relaxation and learning;
  - providing meals in adequately equipped cafeterias and canteens, adjusted to pupils' age and meeting hygienic norms.
- b) *Material conditions* concerning study materials and aids for health education.
- textbooks for health education (that are not available at present) or textbooks with integrated content and elaborated health education for both lower and upper primary school;
  - methodology materials and support for teachers (e.g. health education web portal within the Framework Educational Programme for Basic education);
  - didactic aids for pupils (e.g. resusci anne torso, human skeleton model, tonometer, bandage and other medical material);
  - information and communication technology including multimedia programs with health education issues;
  - apparatus, tools and aids for physical education and recreational movement activity.
- c) *Hygiene and psychosocial conditions* are identical with the general conditions.
- d) *Personnel conditions* significantly determine the quality of health education. They are influenced by teachers' interest in health education itself, and their concern over their own as well as their pupils' lifestyle. Consequently, personnel conditions influence designing study plans and curricula. (For more details see organization conditions below.)
- At present, there may be following teachers working in schools:
  - lower primary teachers without adequate qualification in health education (teachers without university degree, graduates in lower primary school teaching study programme without relevant subjects etc.);
  - lower primary teachers qualified for teaching health education;
  - upper primary teachers without adequate qualification in health education;
  - upper primary teachers qualified for teaching health education (graduates in family education, respectively family education and health education, in future health education);
  - teachers who successfully completed courses (seminars) on health education;
  - qualified or non-qualified school prevention methodologists;
  - external teachers facilitating health education (e.g. with medical, healthcare or pedagogical qualification).
- e) *Organization conditions* reflect themselves especially in *school study plans, curricula* (by means of SEP), *school assessment* of pupils, and *school self-evaluation*:

The *study plan* is to contain:

- a clear-cut division of the plan in lower and upper primary school and a clear decision whether health education in upper primary school will be implemented as a compulsory subject, including time allocations for particular years, or will be integrated into other subjects;
- specifying possible optional subjects with the educational content of health education and their time allocations for individual years;

The *study plan notes* are to include:

- definition of the content, organization conditions and other specifics of the implementation of a compulsory and optional subject/optional subjects (i.e. when the title of the subject and its educational content are not identical with the educational field of health education; furthermore, what field/fields or cross-sectional topics this subject is based on);
- deploying other organization educational forms of health education than lessons.
- The *curriculum* is to state:
- subject title and its characteristics (i.e. content, time and organization definition of the subject);
- in case of integration of the educational content of health education into one or more other subjects, the curriculum should state the educational fields or their parts and cross-sectional topics that provide the educational content for this subject/these subjects;
- educational strategies, i.e. procedures pursued at the level of the taught subject(s) targeted at creating and enhancing pupils' key competences;
- the educational content of the subject, i.e. dissemination and developing expected outcomes to individual years or longer periods; selection and designing the subject matter for individual years or longer periods in respect to the expected outcomes; cross-sectional topics – selection of thematic areas and specifying topics and activities for individual years;
- other recommended information, i.e. inter-subject relations and additional notes specifying the implementation of the educational content;

*Assessment of pupils and school self-evaluation* is to include:

- rules for assessing pupils;
- ways of assessing pupils (marks, oral assessment, combination of both);
- criteria for assessing pupils within health education;
- areas of self-evaluation, aims and criteria of self-evaluation, and tools for self-evaluation within health education;

## **Suggestions for organization educational forms in health education**

As results from *school study plans*, the educational content of individual fields is implemented by means of various organization forms of education. Their selection depends on concrete conditions in particular school. The following forms are appropriate for health education:

- a) *Fundamental organization forms of education for compulsory educational content:*
- separate compulsory subject named health education (or with a similar title)
  - integration of the educational content into another compulsory subject
  - integration of the educational content into more compulsory subjects
  - block instruction, respectively project education exceeding the framework of one subject (especially in lower primary school)
- b) *Additional organization forms of education:*
- voluntary subject
  - optional subject
  - projects (school, class, peer, national, regional)
  - outside-school instruction programmes (K-centres etc.)
  - talks and meetings with specialists
  - excursions to non-school facilities and institutions
  - courses and seminars
  - outdoor exercising
  - “school in the countryside”, curative stays in the countryside
  - school trips
  - other school educational activities (competitions, sports activities and performances)
  - other forms (demonstrations, video programs, computer programs, literature, the Internet)
- c) *Leisure time forms of education and other activities:*
- hobby groups and school clubs
  - competitions
  - children-parent activities
  - curative stays and summer camps
  - trips
  - after-school clubs
- d) *Complex programmes and projects:*
- Minimum Prevention Programme
  - Health Promoting School project
  - programme specified by the school

## Conclusion

We have drawn attention to the importance of a system approach for designing the projected curriculum form within the SEP with application of simulation method. The outcome is a *constitutive model of school curriculum*, which is limited by educational conditions of individual schools.

The above suggestions may serve as the *starting points for simulation of health education within SEP*. We believe that suggestions for organizing the subject matter and other ideas are an open system that should be completed and adjusted according to real simulation of health education in particular schools. This brings opportunities for creativity on the side of teachers who become the *school curriculum authors*.

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## **VÝZNAM METODY MODELOVÁNÍ PRO IMPLEMENTACI VÝCHOVY KE ZDRAVÍ DO ŠKOLNÍCH VZDĚLÁVACÍCH PROGRAMŮ**

**Abstrakt:** Současné výzkumy kurikula ukazují, že proces implementace projektové formy kurikula státní úrovně do projektové formy kurikula školní úrovně je systémově možný jen při uplatnění vědecké metody modelování. Výsledkem tohoto procesu je konstitutivní model kurikula školní úrovně, který je třeba následně implementovat do realizovaného modelu kurikula školní úrovně, a to při uplatnění všech kurikulárních požadavků. Implementace výchovy ke zdraví do školních vzdělávacích programů je v současné době spojena s mnohými problémovými otázkami. Příspěvek ukazuje, jak je možné problémové otázky systémově uspořádat a řešit s využitím výzkumné metody modelování.

**Klíčová slova:** výzkumná metoda modelování, konstitutivní model kurikula, realizovaný model kurikula, výchova ke zdraví, kurikulum výchovy ke zdraví, školní vzdělávací programy



## SELF-EVALUATION TOOLS FOR KINDERGARTENS PARTICIPATING IN THE HEALTH-PROMOTING SCHOOLS PROGRAMME

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Zora SYSLOVÁ

**Abstract:** *The paper presents information on self-evaluation tools for kindergartens admitted to the network of the Health-Promoting Schools Programme. Attention will be given mainly to the new tool for the evaluation of learning results. At the end of her paper, the author informs about the updated version of the INDI MŠ questionnaire and about preparatory work on a tool for the evaluation of process of instruction.*

**Key words:** *self-evaluation, criteria, learning results, fields of evaluation, tools*

Kindergartens admitted to the Health Promoting Schools network have dealt with the issue of self-evaluation since it was established in 1995. Once every three years, the participating kindergartens perform an evaluation of conditions - or principles - they consider critical for the education of pre-school children. Their importance can be evidenced by the following quote: *“The principles of health promotion in the Curriculum of Health Promotion in Kindergartens are an informal curriculum and their scope and content aptly identify the conditions that are necessary for the attainment of results expected of the formal curriculum.”*<sup>1</sup> They are the following principles / conditions:

1. Health-promoting teacher
2. Mixed-age classes
3. Rhythmical order of life and daily order
4. Physical wellbeing and free movement
5. Healthy food
6. Spontaneous games
7. Stimulating substantive environment
8. Safe social environment
9. Participative and team management
10. Partnership relations with parents
11. Cooperation between kindergartens and primary schools
12. Incorporation of kindergartens to the life of their communities

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<sup>1</sup> HAVLÍNOVÁ, M., VENCÁLKOVÁ, E. a kol. *Kurikulum podpory zdraví v mateřské škole (aktualizovaný program)*. Praha: Portál, 2006, s. 11. ISBN 80-7367-061-5

No less - or perhaps even more - important are two integrating principles that influence the kindergarten environment and, consequently, all who exist in it (children, teachers, other staff, parents). They are *Respect for natural needs of individuals* and *Development of communication and cooperation*. A respectful attitude is cultivated by the health promoting kindergarten both in adults (parents, staff) and in children. To satisfy the needs of every individual, the kindergarten must become a model of a communicating and cooperating community. Both principles permeate and integrate other conditions into a single whole leading to the creation of a comfortable environment that makes it possible for children to develop respect for health and practical health-protecting skills.

The first kindergartens to join the Health Promoting Kindergartens Programme (HPKP) have now completed their fifth self-evaluation cycle. The process of its execution is described in methodological recommendations of the HPKP Curriculum (Havlíňová et al., 2000, 2006, 2008). Self-evaluation (i.e. internal evaluation), which the school carries itself without any external assistance, is characterized by the authors as an important and irreplaceable part of work of the school that *“can describe and analyze the situation and problems more accurately than anybody from the outside could. The fact that the school intentionally monitors, compares its results and seeks a solution to any problems it may have is the most valuable contribution of self-evaluation. For self-evaluation to fulfil its purpose and not to be a formality only, it must be conducted regularly and systematically, follow a proper methodological procedure, in pre-defined areas for which the kindergarten had laid down indicators (criteria, indices or quality aspects). Another important prerequisite is that all participants approached it with the understanding that it provides source material for decision-making and planning of the school’s further development.”*<sup>2</sup>

In 1997, a questionnaire evaluating the principles/conditions was designed for kindergarten self-evaluation purposes. In 2004, it was updated to bring it into line with the amended Programme and the Health Promotion Curriculum being prepared, and it was extended to include a questionnaire for parents and a formal curriculum evaluation questionnaire.

When Act 561/2004 Sb. on pre-school, basic, secondary, higher vocational and other education (Schools Act) was adopted in 2005, self-evaluation became an obligatory part of work at all schools. Details of and requirements for self-evaluation of schools are given in Decree 15/2005 Sb., which stipulates the particulars of long-term projects, annual reports and school self-evaluation. The document also identifies the areas that must be evaluated. They are as follows:

- conditions for education;
- process of education;
- school support for children, cooperation with parents, the influence of mutual relations between the school, pupils, parents and other people on education;
- learning results of pupils and students;
- school management, quality of human resources management, quality of further training of teachers;

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<sup>2</sup> HAVLÍŇOVÁ, M., VENCÁLKOVÁ, E. a kol. Kurikulum podpory zdraví v mateřské škole (aktualizovaný program). Praha : Portál, 2006, s. 185. ISBN 80-7376-061-5

- results of work done by school, particularly with respect to the conditions for instruction and economic resources.

Of the six areas mentioned above, only three, i.e. the **conditions, processes** and **results** of pre-school instruction can be generalized for kindergartens. The reason is that cooperation with parents and school management are listed in the Framework Education Programme for Pre-School Education (as well as in the Curriculum of Health Promotion in Kindergartens) among conditions for kindergarten education, and are therefore already evaluated in the first area required by Decree 15/2005 Sb., and separate evaluation is not necessary. The last of the required evaluation areas - results of work done by school - can be evaluated comprehensively taking into account the school's economic resources.

**The INDI MŠ evaluation tool** (Havlíková et al., 2004) is a set of indicators for the evaluation of principles and twelve principles/**conditions** of the formal curriculum, and they are listed under the same name in the evaluation tool. Kindergartens use them to evaluate their success or otherwise in developing and coherently employing the principles and principles/conditions for the attainment of educational objectives that lead to the development of competencies in children at the end of the pre-school period. Each condition is described by a series of specific, concretely formulated statements. They are categorized according to whom they refer to (children, teachers, headmaster, kindergarten, primary school, parents, kitchen staff, etc). They are formulated from a positive point of view, what the fulfilment of each indicator should be like.

The INDI MŠ is designed as a questionnaire. During the evaluation, the evaluators (teachers, parents, chefs, or other invited guest evaluators) write their answers to report sheets. They use a scale of five to indicate how frequently they believe the phenomenon described by the statement occurs in the kindergarten.

- 1) **never** – no, we do not do it, no such behaviour or activity occur among children;
- 2) **exceptionally** – we know of that manifestation (situation), but we manage to achieve it only sporadically, more or less accidentally;
- 3) **sometimes** – we deliberately strive at achieving the objective, steer children towards it, sometimes we succeed but sometimes we fail;
- 4) **often** – we already know very well how to manage things but optimum results are not achieved every time, children know what the desired behaviour is but don't always use it;
- 5) **regularly** – we reliably achieve optimum results, all the children behave in the manner described at all times, we take that type of behaviour for granted.

Mathematically interpretable results help to eliminate subjective statements such as “I like...”, “I think...” etc., and make it possible to better and more accurately evaluate to what extent the given indicator is really fulfilled.

The INDI MŠ also includes a questionnaire for parents. That questionnaire shares some items with other questionnaires. In this way, kindergarten staff can see to what extent their perception of the situation is the same as the parents' perception. This helps objectivize the overall evaluation of work done by the kindergarten. The resulting evaluation process findings contribute towards greater efficiency of the process of school

curriculum planning and implementation. The results show to what extent the kindergarten fulfils requirements set out in the HPKP, and whether the kindergarten has the qualifications to continue in HPKP project implementation.

However, this evaluation tool is no longer satisfactory in view of requirements set out in Decree 15/2005 Sb. For that reason, the authors decided to develop a new tool, this time for the evaluation of learning **results**.

The name of the tool is **SUK**, which is an acronym of the Czech for aggregate indicator, which is the result of an aggregation and generalization of several indicators of the education attained (see the tables in the HPKP Curriculum)<sup>3</sup>.

Health promoting competence of an adult (key competence 3)

### **3 HE IS CAPABLE OF DEALING WITH PROBLEMS AND DEALS WITH THEM**

Health-promoting competences of a child at the end of pre-school period – a child’s target competence for key competence 3		
3 / 5 APPROACHES PROBLEMS ACTIVELY, ACTS IN ORGANIZED MANNER, DOES NOT EXPECT HIS PROBLEMS TO BE RESOLVED BY SOMEBODY ELSE		
	Education subgoals	Indications of education attained
<b>II.3</b>	To hold a view and to defend it	<ul style="list-style-type: none"> <li>• He defends his view adequately.</li> <li>• He is not afraid to express his view.</li> </ul>
<b>III.2</b>	Observes basic social norms of communication	<ul style="list-style-type: none"> <li>• He argues, negotiates</li> <li>• Enunciates clearly, speaks in an adequately loud voice</li> <li>• Uses a proper form of establishing contacts with peers and adults (form of address, use of first names/surnames)</li> <li>• Does not interrupt the speaker, allows him to finish.</li> <li>• Address children using their first names</li> <li>• Says hello, good-bye, ...</li> <li>• Does not turn his back to the person he is speaking with.</li> <li>• Asks politely if he wants something, and says thank you.</li> </ul>
<b>III.3</b>	Wants to cooperate in a group and with a group	<ul style="list-style-type: none"> <li>• Does not assert himself at the expense of somebody else.</li> <li>• Willing to accept the task assigned.</li> <li>• Makes an effort to completing the joint task</li> </ul>
<b>V.4</b>	Actively seeks solutions	<ul style="list-style-type: none"> <li>• Disposes of other people’s litter in a manner that does not threaten his health.</li> <li>• Tells adults about improper behaviour and discusses possible remedies with them.</li> <li>• In different situations, offers (comes up with) more than one solution, and discusses them.</li> <li>• He notes if there is disorder in his vicinity.</li> </ul>

For each competence, 50 SUs/statements that describe the skills required from children were formulated. In view of the interactive concept of education, there are frequent overlaps between the descriptions. For that reason, individual items were „cleansed“ and left in the respective Suk. Their number was thus reduced from 50 to 25. At

<sup>3</sup> HAVLÍNOVÁ, M., VENCÁLKOVÁ, E. a kol. Kurikulum podpory zdraví v mateřské škole (aktualizovaný program). Praha : Portál, 2006, s. 125. ISBN 80-7376-061-5

the end, record sheets with the evaluation scale were designed similar to those for the INDI MŠ.

- **0 – never:** no, does not express, doesn't manage to do; the described element does not exist in the child's behaviour as yet, or only sporadically.
- **1 – sometimes:** is manifested irregularly, not very often, manages it if assisted, the described element occurs sometimes in the child's behaviour, it is not firmly fixed yet, exhibits variations.
- **2 – very often:** yes, it is manifested most of the time; manages to do it well; the described element occurs very often in the child's behaviour, and can be considered as firmly fixed (In Section II (cognitive functions and operations) it is desirable that - in view of school maturity - in almost 100 per cent the answers to items were at level 2).

The evaluation of results shows what competencies the children mastered, what they “learned” at the kindergarten, and what skills and knowledge they acquired. It transpires from the following excerpt that the authors strived to formulate the criteria in a way that would allow the expected behaviour of children to be monitored. Competencies might also be called aptitudes. They are a kind of qualifications for certain “activities”. For that reason, the emphasis was on formulating criteria as descriptions of some activities, rather than attributes or personality characteristics of individuals. The following might serve as an example: *resolves problems creatively; asks for reasons, causes and context; shows interest in what others need, is on good terms with them.* Both tools, i.e. the INDI MŠ and SUK, are in both print and electronic formats.

At present, a tool for the evaluation of the process of instruction is under preparation. The core of the tool is a questionnaire for the evaluation of the formal curriculum, and the original questionnaire for the evaluation of Condition 1 - *health promoting teacher.*

Because of new tools being developed, another amended version of the INDI MŠ was made. Rather than being divided into parts relating to children and to teachers (they are dealt with in another two tools), it will rigorously describe the environment that stimulates effective development of children and fulfils both integrating principles.

The end result should be the creation of tools for self-evaluation of health-promoting kindergartens that will meet the requirements of Decree 15/2005 Sb. and will be in line with the concept of health promoting curriculum, which will help the kindergarten to “*evaluate, plan and change its conditions, and to evaluate the changed conditions and improve on them*”<sup>4</sup>.

## Literature

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<sup>4</sup> HAVLÍNOVÁ, M., VENCÁLKOVÁ, E. a kol. *Kurikulum podpory zdraví v mateřské škole (aktualizovaný program)*. Praha : Portál, 2006, s. 13. ISBN 80-7376-061-5

Rámcový program pro předškolní vzdělávání. Věstník MŠMT, sešit 2, ročník LXI, únor 2005.

Vyhláška č.15/2005 Sb. kterou se stanoví náležitosti dlouhodobých záměrů, výročních zpráv a vlastního hodnocení školy.

Zákon č. 561/2004 Sb., o předškolním, základním, středním, vyšším odborném a jiném vzdělávání.

## **NÁSTROJE PRO VLASTNÍ HODNOCENÍ MATEŘSKÝCH ŠKOL V SÍTI PROGRAMU ŠKOL PODPORUJÍCÍCH ZDRAVÍ**

**Abstrakt:** Příspěvek přináší informace o nástrojích pro vlastní hodnocení mateřských škol přijatých do sítě Programu podpory zdraví ve školách. Pozornost bude věnována především nově vytvořenému nástroji pro hodnocení výsledků vzdělávání. V závěru příspěvku bude autorka informovat o revizi dotazníku INDI MŠ a připravovaném nástroji pro hodnocení oblasti průběhu vzdělávání.

**Klíčová slova:** vlastní hodnocení, kriteria, výsledky vzdělávání, oblasti hodnocení, nástroje.

## EDUCATION TO HEALTH IN THE PRIMARY SCHOOL EDUCATION PROGRAMME

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*Jozef LIBA, Milan PORTÍK*

**Abstract:** *The paper presents the potential of education to health as an effective pro-health intervention reflecting the need to establish the principles of healthy lifestyle to be adapted by primary school pupils. Furthermore, it outlines basic tenets for a special-purpose school subject Education to Health as an integral part of the education system at schools, in accordance with the principles and objectives of the governmental education program. The health-prevention competence within the teacher's profession is introduced and defined as a pivotal paradigm of an erudite and systematic structuring of the expected knowledge and views.*

**Key words:** *Education to Health. Primary school. Professional competence of teacher. Governmental education program. School education program.*

The phenomenon of education as a process of conscious formation of a personality in the sense of recognition and self-recognition cultivates all its aspects, promotes the maintenance of a validated, valid life and creation of a new life, it is a space for intentional enrichment of life. Education is a living, permanent process of structuring the complex of competencies necessary in all aspects of human activities.

Education to health can be considered as one of the dominant target categories of educational activities as it correlates with positive value preferences and desirable stances towards the style of living focused on health as the supreme value of human being. It forms a purposeful reflection of physical, mental and spiritual health and related dynamic interactions between somatic, mental and social demonstrations of health as a result of social and personal influences. The target of the educational efforts should be intentional and continuous creation and interiorisation of pro-health attitudes, values and competences reflected in the cognitive – informative, recognitive effects as well as affective – emotional aspects, focusing on expectations, desirable behaviour. In the educational efforts of schools, the education to health is an important and integral part of the educational complex.

Education to health resting on recognised and valid objectives and attributes represents a process that assimilates, integrates, develops, systematises new findings, ide-

as, and reality, critically analyses and then defines and verifies new paradigms oriented at cultivating the child's personality (pupil). The forming, stabilising and interiorising of the accepted standards, principles, norms, and the value framework purposeful underscoring and accepting of the set of conditions favourable for the personality development within the process of educational activities. We mean a team focusing on educating aimed at personal and social development of the pupil while respecting his/her assumptions. The individual potential within the context of fulfilling the above target has a stage of junior school age, when the sensitivity to external stimuli, characteristic strenuousness, interest and activeness create positive conditions for influencing, intervening, inspiring, initiating, i.e. for an offensive strategy of education to health. The aforesaid stage of ontogenesis related to the primary stage of education in the school hierarchy is irreplaceable when developing important characteristics, abilities, habits and skills.

Primary education (1st form of primary school – 1st -4th year) should according to the international education classification ISCED 1 (Tab. 1) ensure trouble-free transition from pre-school education and family care to school education via a stimulated children's cognitive curiosity based on their personal knowledge and experience. The primary education program should prepare the students to independent work and work in groups so that each of them achieve firm foundations of common knowledge as well as personal experience related to the mutual respect, recognition and esteem. Primary education forms the beginning of the systematic study, i.e. a creation of the basic elements of literacy, fundamental knowledge and attitudes towards the world. The characteristics by Pupalu (2005, p. 47) is fitting within this context, stating that primary education mediates the very basic elements and tools of culture ensuring instrumental and value entrance of children to the public life, in other words, provides the basics of the cultural literacy. Spilková (2004, 2005) stresses the requirement for comprehensive and multilateral cultivation of the child's personality while respecting the potential. According to this author, these are changes in the hierarchy of the targets of education where instead of the traditional trio – knowledge, skills, habits emphasising the memorising of a large volume of knowledge in a defined (ready) form, emphasis is placed on all-round cultivation of the personality of the child, the comprehensive and well balanced development of cognitive, as well as emotional, will-related, social and moral aspects. The formulated target and the attitude are based on the expected major extension of the competence of the teacher, professionogram, implying a complex of competences unavoidable to manage such a conceived profession of the teacher. As stated by Portík (2004), it is about preparing the teacher for the „European dimension“ via programme and conceptual openness, innovativeness, prospectiveness, and responsibility, it is about educating teachers as experts on childhood.

Generally, pre-graduate preparation of primary school teachers emphasises specialised-subject-oriented, didactic and psycho didactic, general-pedagogical, diagnostic and interventional, social, psychosocial and communicative, managerial and normative, professional and personality cultivating, advisory-consulting, informative, explorative, self-reflecting, autoregulative competence, while projecting the professionogram of the teacher almost implicitly accepts the health prevention competence. Given the aforesaid,

we stress that the primary school teacher preparation programme should represent an open system having its internal dynamics reflecting the transformational and innovative changes, trends and requirements. The teacher should be able to analyse his/her own work in the educational reality, and subsequently redefine, modify or potentially innovate what is considered as well proven.

**Tab. 1.** International Standard Classification of Education - ISCED

Grade ISCED	Schooling system grades-description	Slovak schooling system
ISCED 0	Pre-primary education of zero degree – all types of education preceding primary level	Education in kindergartens
ISCED 1	<b>Primary education or first stage of basic education</b>	<b>Lower primary school (1st – 4th class)</b>
ISCED 2	Lower secondary or second stage of basic education. Follows up on the primary education before entering a higher secondary education	Second stage of primary education(5th -9th form) and lower years of 5th – 8th year grammar schools and conservatoires (until the year corresponding to the 9th form of primary school)
ISCED 2A	Second stage of primary education	
ISCED 2B	Completed compulsory education as part of uncompleted vocational training	
ISCED 2C	Vocational training	
ISCED 3	(Upper) secondary education – education following the completed lower secondary education before entering the tertiary stage	The upper secondary education includes four-year grammar school and upper 5th and 8th year grammar school (general education), secondary vocational schools (including upper conservatoire grades) and trade schools (vocational education)
ISCED 3A	Secondary (general) education with a school-leaving exam (grammar school)	
ISCED 3B	Secondary vocational education with a school leaving exam	
ISCED 3C	Secondary vocational education	

ISCED 1 forms the targets of the primary education focusing on staged development of key abilities (competence – combination of knowledge, qualifications, experience and attitudes) of the pupils at the level that is personally achievable for them. The implementation takes place via the following targets of the school:

- provide the pupils with vast possibilities of managed exploration of their immediate cultural and natural environment so as to enhance their imagination, creativity and interest in exploring their surroundings;
- enable the pupils to get to know their own ability and developmental possibilities and become familiarised with the basics of the ability to learn and get to know oneself;
- encourage the cognitive processes and ability of the pupils to critically and creatively think through their own cognitive experience and active problem handling;

- to develop, in a balanced way, the pupils' ability to communicate and understand each other, assess (select and decide) and act initiatively and also based on self-control and self-reflection;
- encourage the development of intrapersonal and interpersonal skills, in particular, enter openly into social relationships, cooperate efficiently, develop social perception and sensitivity towards school mates, teachers, parents, other people in the community and one's own cultural and natural environment;
- guide the pupils towards tolerance and acceptance of other people, their spiritual-cultural values;
- teach the pupils to exercise their rights while fulfilling their duties, bear responsibility for their health and protect and strengthen it actively.

The definition of the fundamental target orientation of the primary education is currently ensured via a government (nationwide) education program (ŠVP) in schools, expressing the main principles and objectives of the state education policy. In terms of hierarchy, it is the supreme target-oriented education program project representing the first, framework level of a two-level participation model of school management, and it remains an open curriculum document to be supplemented as needed and required. The state educational programme represents a starting point and a binding project creating an individual school educational program (ŠkVP) reflecting the specific local and regional conditions and needs. The school educational program saturates the optional contents of education and forms the second level of the participative model of management. It provides the schools with the possibility of profiling themselves and addresses the needs and interests of the pupils. It also makes it possible to use any number of lessons for creative subjects (ov) chosen by the school itself and the school also prepares the curricula. The state and school educational program should ensure the profile of the pupil in the primary education system who is acquainted with the following key abilities:

- social communication abilities;
- abilities in the field of mathematical and natural science thinking ;
- abilities in the field of information and communication technologies;
- abilities to learn;
- abilities to solve problems;
- personal, social and civic abilities;
- abilities to perceive and understand culture and express oneself with cultural tools.

The in-depth analysis of the aforesaid abilities is a model in terms of the content components, whose heterogeneity and stratification place high demands on the pupil's personality. At the same time, the ability (competence) determining efficient development of other abilities is presented only modestly and, principally, in an implicit manner. This concerns the ability of an instructed and active care of one's own health, which is „mentioned“ in the part of *personal, social and civil key ability*, stating that – the primary school leaver concentrates on the quality and suitability of his/her choice of leisure-time activities, actively protects his/her physical and mental health.

ISCED 1 defines the „Health and movement“ field of education covered by the subject of physical education with the contribution of Natural Science, Ethical Education, and other subjects (fig. 1). If we want to perceive such a strategy and accept it as an efficient education to health, then we state (based on several-year-long research efforts promoted by the educational empirical knowledge of the teachers), it is a little efficient procedure. The main problem is to a large extent the scattered nature of health-preventive topics in the subjects taught, which reduces its informative but also formative potential. What is limited is the continuity and necessary succession of the curriculum, the restricted possibilities of relevant evaluation of the education activities. This statement is based upon sufficient knowledge and experience the receipt of which documents multiple adverse health and social-pathological indicators affecting the stage of early school age (obesity, allergy, hypokinesia, passive and little purposeful spending of leisure time, frequency of contacts with drugs ). In line with the aforesaid, we find it important that ISCED 1 provides room in the areas of education (divided into selected subjects) as part of **cross-sectional topics** (Personal and social development, Environmental education, Media education, Multicultural education, Transport education, Protection of life and health, Development of projects and presentation skills) interconnecting, deepening, extending knowledge and positively affecting the attitudes and values also by means of **an optional subject**. We promote such an approach while realising the subject extension in our school curricula. We argue not by proclamative, but real positive experience of schools that have adopted this approach (separate subject taught at school), and the „added value“ of the achieved success is the fact that it is a school with Romany pupils. The integration of health topics in the subjects taught at school has brought about a positive shift in the cognitive as well as emotional and psychomotoric areas.

The cornerstone of the context of structuring the subject Education to health – characteristics, objectives, key competences, strategy, content, evaluation, has been the definition of the education to health as a process of acquiring a corresponding amount of information, findings, knowledge, skills, habits, abilities, principle and creation of attitudes, interests and value standards directed at identifying oneself with the values of health and interiorising the principles of healthy style of living (for detail see Liba, 2010); as a process of acquiring knowledge leading towards orientation in the issues of health, positive way of thinking, and the choice of proper decisions to the benefit of health (for detail see Mužíková, Mužík, Kachlík, 2006). We present a framework content of teaching in the subject Education to health as it was introduced in the school year 2009/2010 at the lower primary education system (Primary school Čaklov, district of Prešov (fig. 2). The education sets and education topics imply target orientation of the Education to health and, at the same time, cross-section topics. The educational context encompasses detailed elaboration of the contextual, performance and evaluation standard of the subject Education to health. We emphasise that is one of the first (if not the very first) project that validated the efficiency of the separate teaching of a subject in relation to the development of pro-health competences of socially disadvantaged pupils. The validated curricula reflecting the current education reality in the relevant field may gain a significant application potential via their recommendation to the Ministry of Education of the SR as part of the State Educational Program. It may also be an alter-

native when implementing health-preventive approaches in the conditions of the school education, not only with respect to socially disadvantaged pupils.

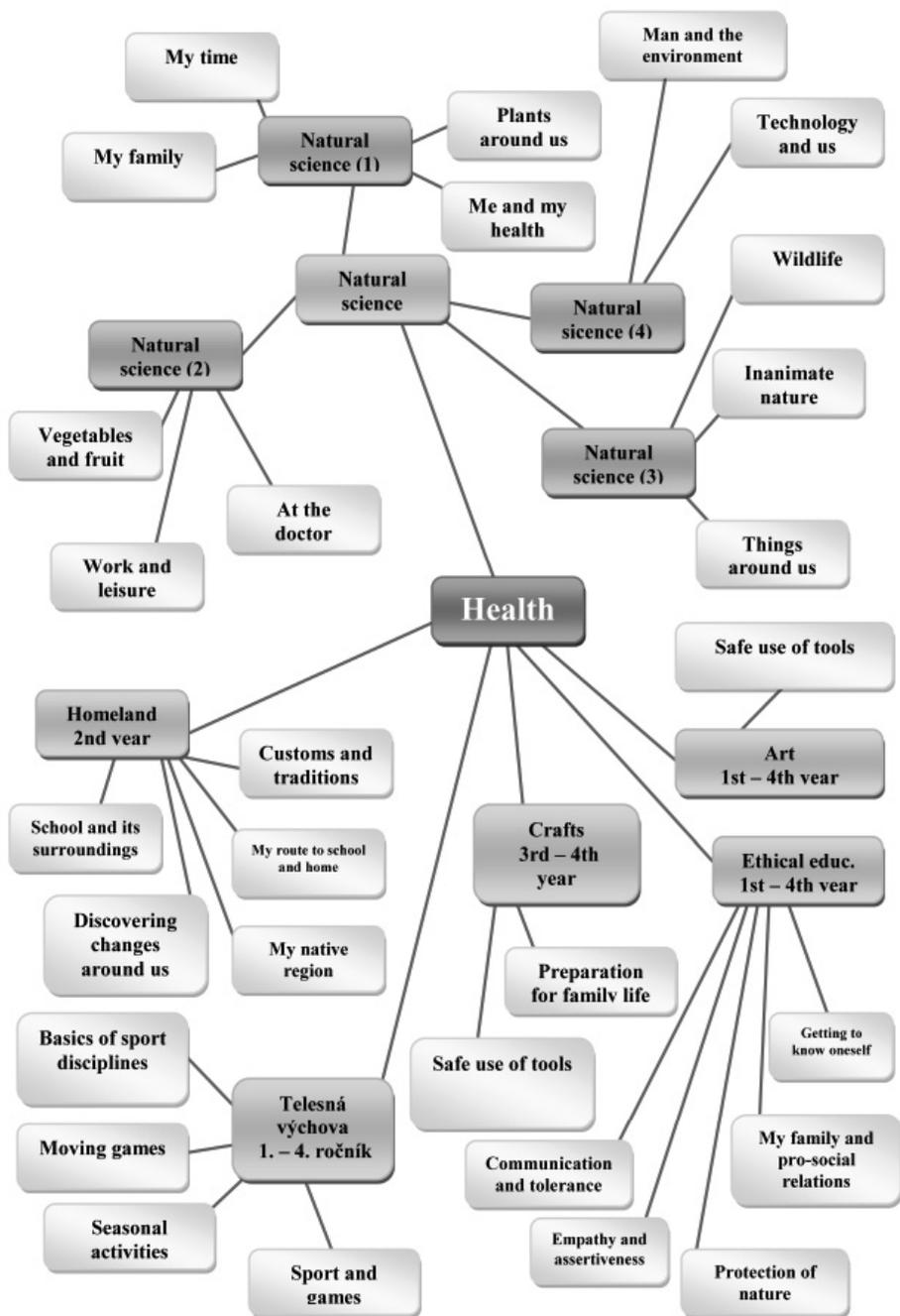
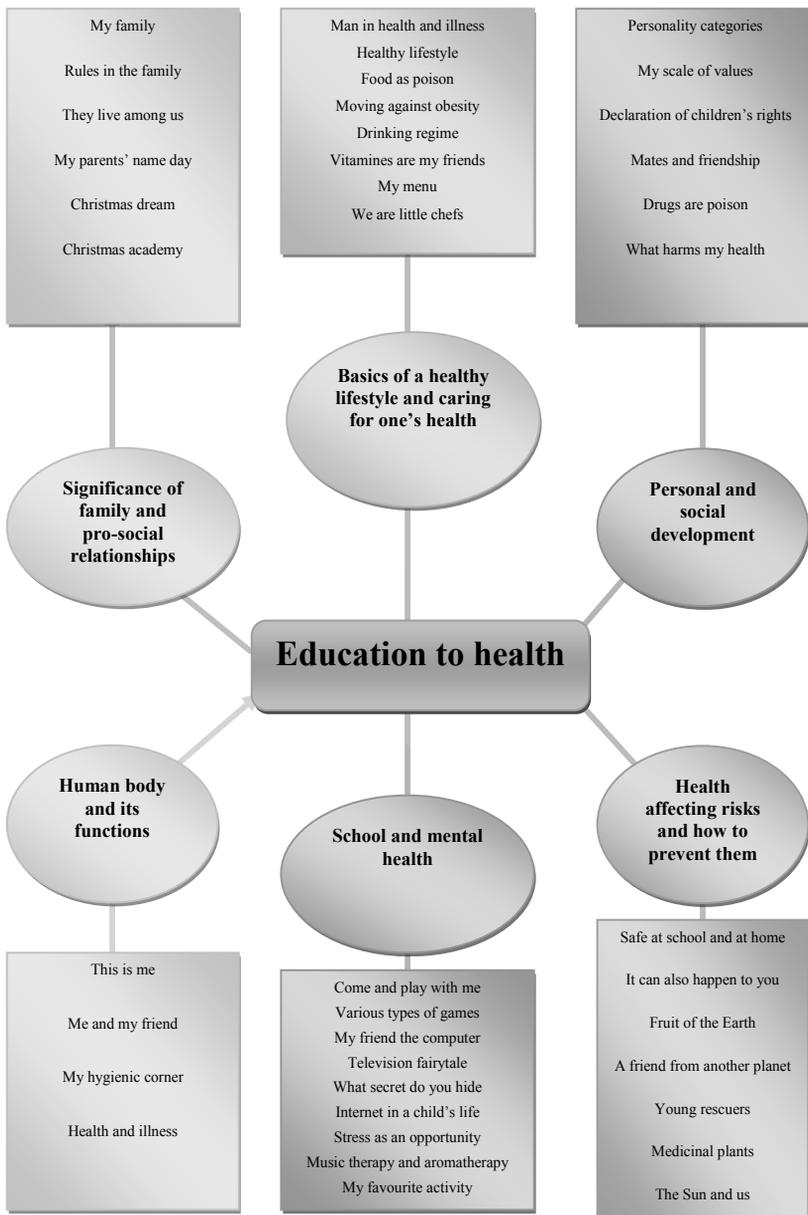


Fig. 1 Education to health in primary school subjects (term map)



**Fig. 2 Subject – Education to health: Example of education sets and education topics (term map)**

We can state that education to health as currently implemented as part of the school curricula saturates sufficiently the cognitive space. We need to stress again that the dominant objective is a positive outcome in the field of emotions, volitional acts and

the pupil's style of living. The health dimension of the education reflected in the education to health should form a synthesis of knowledge, principles, conceptions integrating medical, biological, psycho-social, pedagogical and other approaches and knowledge leading towards a well balanced forming of the cognitive, emotional and psychomotoric aspects of the pupil's personality. The success of the formulated ambition is determined here by the personality of the teacher, mainly in relation to the primary school, which still uses the model of a „single teacher“. The complex position of the education to health as part of the school curricula is reflected in its verbal support (teachers, school management) by introducing the subject that is, however, not embodied in the existing education reality. Our presentation aims at documenting the possibility, fact that the implementation of education to health in an integrated form (subject in ŠkVP) is a precondition (guarantee) for a well-thought, coordinated, continuous and systematic educational activities guiding the pupils in the field of care of their own health, as well as in the field of planning and effective use of leisure time.

Health as a dynamic category determines the openness of the education to health in the sense of accepting the validated facts and reflection and implementation of innovations in the school education practice.

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# VÝCHOVA K ZDRAVIU V ŠKOLSKOM VZDELÁVACOM PROGRAME PRIMÁRNEJ ŠKOLY

**Abstrakt:** Príspevok prezentuje potenciál výchovy k zdraviu ako efektívnej prozdravotnej intervencie reflektujúcej potreby a požiadavky kreovania a interiorizácie zásad zdravého životného štýlu žiakmi primárnej školy. Konkretizuje profilovanie samostatného vyučovacieho predmetu Výchova k zdraviu ako súčasti školského vzdelávacieho programu v súlade s princípmi a cieľmi štátneho vzdelávacieho programu. Predstavuje a vymedzuje zdravotno preventívnu kompetenciu v profesiograme učiteľa ako určujúcu paradigmu erudovaného a systematického štruktúrovania očakávaných vedomostí, postojov a hodnôt.

**Kľúčové slová:** výchova k zdraviu, primárna škola, profesionálne kompetencie učiteľa, štátny vzdelávací program, školský vzdelávací program.



# MONITORING OF TEACHERS' AND TEACHING PROFESSION STUDENTS' QUALITY OF LIFE

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Jitka ŠIMÍČKOVÁ-ČÍŽKOVÁ

**Abstract:** *In the study we follow how teachers and students of education perceive the quality of their life. Our presumption is that the quality of life conceptions cohere with a shaping of value systems. There are changes in the value systems throughout the life that we tried to apprehend. We measured the quality of life through the SEIQoL method. It is appropriate to get information on nucleate value preferences because it does not pose any criteria beforehand. We compare results of the SEIQoL with the common questionnaire WHOQOL that contains 30 indicators of quality of life.*

**Key words:** *quality of life, teachers, students, value systems*

## Introduction

School provides a number of social functions from elementary knowledge acquisition that are necessary for life in society up to the acquisition of social values needed for its functioning. The school and its teachers are expected to conform to the requirements of society. Accordingly, the teaching profession obtains high social status. However, it becomes a stressful activity if conditions of work are not conducive to this compliance. It regularly involves tasks fraught with emotion and necessitates the making of on the spot decisions to solve problems, dealing with a constantly increasing administrative load, students' lack of interest in learning, their lack of discipline, even their violence and aggression. In society there is scant awareness of the conflicts inherent in the teacher's role. On the one hand he/she has to maintain student discipline while serving as an authority for them, yet on the other hand he/she should be like a friend, gain students' confidence and create a congenial atmosphere. In spite of the high psychological stress of teaching, this profession does carry such positives that enable teachers to go on working with enthusiasm and prevent them from succumbing to "Burnout Syndrome", so that at the best of times they do regard the opportunity to teach as one of the main factors defining their quality of life.

Most ideas about quality of life are connected to human health. At the present, the medical aspect of this problem is increasingly seen from its psychological vantage-point. While the teaching profession is not generally considered physically demanding, nevertheless in the middle of their professional career, most teachers experience physical fatigue, for example back-ache and feet-ache after finishing classes. A special problem can also be intensive vocal cords strain (Řehulka, Řehulková, 2006). However, the focal point of medical problems lies in mental stress that may give rise to psychosomatic diseases in its consequences. They might become evident as indigestion, cardiac arrhythmia and haematopoiesis troubles, spasmus bronchialis and respiratory troubles, headaches, increased internal strain and other syndromes of psychosomatic diseases (Nakonečný, 2004).

Psychological questions connected to the quality of life tend to be summarily understood as quantification of satisfaction with one's life. Such satisfaction is understood in this relation as a crucial motivator of activity. The aim of our study is to monitor how teachers' experience is placed within their value priorities, what creates meaning in terms of quality of life for teachers. We monitor what score they attach to their work and which other aspects are important to gain life satisfaction.

## **Research Question, Methods of Investigation and Examined Sample**

In our report we want to deal with comparison of various methods and techniques for quality of life diagnostics. We focus on teaching profession rating in a structure of indicators creating the quality of life.

The most often used methods for assessing this phenomenon are multi-item scales where individual factors have been specified. In practice we meet miscellaneous variations of the WHOQOL (World Health Organization and Quality of Life) questionnaire, concerning quality of life measurement; it offers goals and situations from which an individual, with high probability, assorts personally important items that he/she would not have included in the list without prompting. The questionnaire was modified by Dragomirecká and Bartoňová (2006) for Czech conditions. It contains 30 items – the quality of life indicators and three scales of seven-stage scores dealing with each indicator's importance rating, satisfaction with its realisation rating and expectancy of improvement rating. In our research we utilized the first two scales that mean indicator's importance rating and satisfaction rating.

Another type of quality of life measurement method is the SEIQoL questionnaire (Schedule for the Evaluation of Individual Quality of Life) that does not pose any criteria in advance. It comes from personal ideas of what a respondent considers important in his/her life. The method basis is a structured interview in which the respondent thinks about goals of his/her life. In the questionnaire five life domains are presented so that the satisfaction rating with their realisation and comparison of their importance amounts 100%. The evaluation is arrived at by multiplying the importance rating by the satisfaction rating for every life domain.

The next method that is often used in our country because of a tight number of 21 criteria is the SQUALA method (Subjective Quality of Life Analysis). It proceeds from Maslow's Hierarchy of Needs. The importance rating and satisfaction rating with the stated criterion is scored on a five-stage scale for every item. The items deal with health, basic needs, leisure time, close relationships and orientation on social values.

The aim of our study is to compare quality of life indicators from teachers and students of education and to focus on interpretation of the profession's value among other quality of life indicators. Further, we monitor whether the method used influences the structure of indicators that create an individual's quality of life.

The collection of research data was made from available samples. The students' part of the samples was compiled by students of education from The University of Ostrava and The Silesian University in Opava. Teachers who provided information for our research were from Pardubice County (most of them from Letohrad neighbourhood) and from Moravian-Silesian County (from Ostrava and its neighbourhood). Students' ages ranged from 20 to 22 years, teachers' ages from 22 to 60 years (with the average  $M = 39$  years).

**Table No. 1:** Description of Examined Sample

Method	Teachers	Sex		Students	Sex		Total	Sex	
		F	M		F	M		F	M
SEIQoL	48	48	-	108	95	13	156	143	13
SQUALA	41	32	9	-	-	-	41	32	9
WHOQOL	89	76	12	75	55	10	164	132	22
Total	178	157	21	183	160	23	361	317	44

## Results and Discussion

Results were processed by means of descriptive statistics. Data about monitored variables are stated in the following tables.

**Table No. 2:** Teachers' Preferences of Quality of Life Indicators

Ord. of imp.	Method SEIQoL	Satisfaction		Method SQUALA	Satisfaction		Method WHOQOL	Satisfaction	
		Ord.	%		Ord.	%		Ord.	%
1.	Health	2.	35,6	Physical self sufficiency	2.	69,1	Satisfied life	1.	50,1
2.	Occupation	4.	24,5	Health	1.	71,2	Free society	11.	26,6
3.	Family	3.	25,8	Family relationships	3.	66,2	Kind-hearted partner	8.	32,4
4.	Social relationships	9.	15,8	Love	10.	49,5	Absence of pain	7.	32,7
5.	Children	1.	45,9	Psychical comfort	6.	61,5	Psychical comfort	3.	42,0
6.	Interests	8.	17,6	Feeling of security	4.	65,5	Having family	5.	38,1
7.	Partner	5.	24,3	Free society	9.	51,2	Sense of life	10.	30,6
8.	Material provision	6.	22,2	Sleep	11.	20,0	Quality of life	2.	46,5
9.	Education	7.	19,6	Occupation	7.	57,4	Belief in myself	6.	34,2
10.	Psychical comfort	11.	10,3	Care of myself	5.	62,5	Trouble-free sleep	9.	30,8
11.	Living	10.	12,5	Social relationships	8.	52,4	Satisfaction with work	4.	40,5

**Table No. 3: Students' Preferences of Quality of Life Indicators**

Ord. of imp.	Method SEIQoL	Satisfaction		Method WHOQOL	Satisfaction	
		Ord.	%		Ord.	%
1.	Health	2.	27,2	Plenty of energy	5.	38,5
2.	Family	4.	25,8	Having family	2.	46,1
3.	Education	5.	17,6	Kind-hearted partner	4.	40,7
4.	Partner	3.	26,5	Sense of life	7.	36,2
5.	Friends	6.	15,4	Free society	10.	32,5
6.	Occupation	8.	14,0	Not to be alone	6.	38,1
7.	Psychical comfort	7.	15,4	Psychical comfort	8.	32,9
8.	Material provision	10.	9,2	Social support	3.	44,2
9.	Freedom	9.	10,4	Absence of pain	11.	28,8
10.	Belief in God	1.	36,2	To decide imp. things	9.	32,7
15.				Satisfaction with work	1.	63,5

All three methods require the respondent to cite importance rating and satisfaction rating with their realisation for every indicator of the quality of life. We work by analogy according to the SEIQoL method so that we derive a new variable from the data related to the importance and satisfaction level by multiplying them at every item. The definite value in all scales is the variable on which we base further research.

By analysis of the three questionnaire methods used for the quality of life indicators research, we might claim that by means of all the methods the basic values and domains, to which the respondents of our sample aim and which show the basic subjects of human effort, were confirmed. These domains are health, family and occupation that create the base for other relationships, partial goals and closer specification of respondents' effort. On the contrary, among the results of our sample, career development needs and other indicators of personal self-assertiveness are missing.

We have tried to determine whether both the groups, the teachers and teaching profession students, differ from each other as to from the point of the quality of life indicators' importance and in the satisfaction level with a monitored indicator. The analysis bases were the total score of the WHOQOL a SEIQoL questionnaires dealing with the quality of life. (We could not use the SQUALA questionnaire for this statistic processing because it does not have students' sample.) The results show that both the groups are not statistically different in dealing with the total value of individual quality of life indicators' importance. However, the satisfaction values are significantly different ( $t = 2.032$ ,  $P = 0.047$ ). The students show a higher level of satisfaction with quality of life (average students' level is 224.505, and teachers' level is 189.767).

Our hypothesis that questionnaire methods which, while evaluating the quality of life, offer goals and situations from which a respondent can select important items for himself/herself and which he would not state by himself/herself until prompt has been confirmed. If a respondent, while working with the SEIQoL method, shall mention five basic goals, their personal importance and satisfaction rating with their realisation, he/she does not mention the various attributes of the same domain but he/she is inclined to generalize. When one works with items that differentiate basic values, for example as regards the health: Absence of pain, having trouble-free sleep, not to be depressive, to

act independently, to be able to have a rest, to be satisfied with healthcare or similar, the importance of the individual indicators becomes minor. Results presented in the Table No. 2 and 3 clarify this aspect clearly.

On the contrary, questionnaires with many items dealing with an indicator, e.g. social relationships, might discover which kind of relationship an individual or a group is missing, which relationships annoy them or which relationships they long for or endeavour for. Also the content analysis of health in the WHOQOL questionnaire might prefer the item «Plenty of Energy» that the group of students mentions in the first place. For this group good health needn't represent Absence of pain as we show in Table No. 3. From the results of our pilot research one may come to a conclusion that if we work with an individual or a smaller group, the SEIQoL questionnaire is the right method to address basic issues or a respondent's problem. For broader investigation of bigger samples, the questionnaires with stated items that might illuminate some important problem are more sufficient. E.g. teachers' good sleep indicator appears at the WHOQOL and SQUALA questionnaires among the first ten quality of life aspects while at the SEIQoL questionnaires we have not met this problem at all (Šimíčková-Čížková, Vašina, 2006, 2007, 2008, 2009).

The next question we query within the study concerns differences in quality of life indicators between the teachers and students of education. Because we did not make a correlation analysis, we cannot ascertain statistically important differences between the presented goals but we can only claim that both the groups mention preference for the same aspects, however, they differ in the satisfaction rating that they enjoy with them.

The importance of occupation for the quality of life is confirmed by both groups of our respondents. This indicator is given higher preference by teachers according to differences caused by age and respondents' experiences. The SEIQoL questionnaire construction as referred to above influences this aspect for the quality of life structure. The two next questionnaires WHOQOL and SQUALA split the questions connected with occupation into several items. This indicator importance in the quality of life structure moves, however it stays in its first half.

## Conclusion

At The Ostrava University Education College we pay attention to the theme of "Quality of Teachers' Professional Life" in the long term. In our report we are concerned with comparison of the methods for the quality of life investigation and with the importance of occupation in the structure of indicators that create the quality of life.

Our study shows positives and negatives of the methods which we used. The WHOQOL and SQUALA multi-item questionnaires might warn of some more considerable problem in the domains of health, close relationships or social values. For young people the health indicator might be Plenty of Energy while in adult age or in age of discretion the health indicator will be determined by indicators that are connected to Absence of Pain or Disease, Good Sleep or similar. If an occupation indicator is stated by the item "To be satisfied with work", it has smaller importance in the hierarchy of life effort than Occupation domain as the important quality of life indicator.

Our investigation reveals a similar structure of the quality of life indicators for teachers as well as for students of education. The differences in importance ratings cor-

respond to the needs according to respondents' age and life experience. The students are more satisfied with the quality of their lives in comparison with the teachers and this is confirmed by the significant differences in statistical description. However, there are not significant differences concerning which quality of life indicators are considered important by both the groups.

Questionnaires with more items differentiate quality of life indicators and they are more suitable for monitoring of goals and values in bigger groups where they might cover more important aspects of some quality of life domain. Projective methods of SEIQoL type demonstrate a picture of principal-core domains of an individual quality of life and they create space for continued contacts with respondents especially in therapeutic activities.

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## SLEDOVÁNÍ KVALITY ŽIVOTA UČITELŮ A STUDENTŮ UČITELSTVÍ

**Abstrakt** Ve studii sledujeme jak vnímají učitelé a studenti učitelství kvalitu svého života. Vycházíme z předpokladu, že představy o kvalitě života souvisí s utvářením systému preference hodnot. V tomto systému dochází v průběhu života ke změnám, které se snažíme prostřednictvím našeho šetření postihnout. Kvalitu života jsme ověřovali metodou SEIQoL. Je vhodná pro informaci o preferenci hodnot – jádrových,

protože neklade předem žádná kritéria. Výsledky této metody srovnáváme s běžnou dotazníkovou metodou WHOQOL, která obsahuje 30 indikátorů kvality života.

**Klíčová slova:** kvalita života, učitelé, studenti, systémy hodnot



## TEACHER'S SATISFACTION WITH HEALTH

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**Abstract:** *The report deals with the construct of life satisfaction with emphasis on satisfaction with health and relation of life satisfaction to selected demographic factors (marital status, sex, age). The sample consisted of 386 respondents- teachers, medical staff and employees of banks. We used Fahrenberg's questionnaire of life satisfaction.*

**Key words:** *life satisfaction, satisfaction with health, teachers, medical staff, employees of banks*

### The definition and characteristics of life satisfaction

Satisfaction with life is one of the fundamental goals people try to achieve. In general, the word satisfaction means a subjective evaluation standard of various phenomena, states, activities and objects, including one's self, experienced as a pleasant feeling of joy, success or satisfaction with previous work or activity (Strmeň, Raiskup, 1998).

R. Veenhoven (1996) considers satisfaction to be "a state of mind. It is an evaluating assessment of something." There are two aspects included in this concept: satisfaction and pleasure, where both cognitive and affective assessment are involved.

Life satisfaction means appreciation of life, which is subjective and includes various aspects of one's life. J. Fahrenberg et al. (2000) describe it as individual evaluation of past and current life conditions and life expectations. D.C. Shin and D.M. Johnson (1978) define life satisfaction as global evaluation of one's quality of life according to criteria chosen by oneself. Satisfaction assessments are dependent on the comparison of people's conditions with those they think to be ideal or suitable. The global character of life satisfaction is accentuated also by D. M. Haybron (2001), who thinks the overall positive attitude towards life to be essential and impossible to be reduced to a mere summary of separate experiences of contentedness and discontentedness.

One of the main premises of life satisfaction is, according to E. Diener and C. Diener (1995), a positive assessment of oneself. Positive assessment of one's life is connected with ego cultivation, autonomy, assertivity, success and self-evaluation and is dependent mainly on general ability of coping with life and achievement-connected behaviour.

D. H. Mayborn (2005) concludes the dependables of one's life satisfaction by the formula  $S = Co + Ci + W$ , where S – satisfaction (permanent measure of happiness) Co – construction (the inherited aspect of overall happiness, disposition for experiencing hap-

piness), Ci – circumstances in life, W – will-controlled factors (inner circumstances).

As mentioned in A. J. Barrett a P. J. Murk (2006), life satisfaction is impossible to follow directly and therefore it is a latent variable. Latent variables are defined as factors that are necessary to be measured indirectly, which is based on operational definitions.

B. L. Neugarten, R. J. Havighurst a S. S. Tobin (1961, in Barrett, Murk, 2006) characterize the theoretical frame providing an operational definition of the latent variable life satisfaction which is saturated by five components:

1. Enthusiasm vs. apathy – related to enthusiasm as the general answer for life; it doesn't describe any specific kind of activity, such as engaging in social activities etc.;
2. Resolution and bravery – active acceptance of personal responsibility for one's life in opposition to passive acceptance of things happening in life;
3. Congruence between desired and achieved goals – expresses the difference between goals one wants to achieve and those they achieved;
4. Self-concept – is based on current emotional, physical and intellectual dimensions;
5. Emotional inclinations – related to optimism, happiness and other positive affective reactions.

When assessing overall life satisfaction, J. Fahrenberg et al. (2000) mention ten areas of life, where individuals evaluate their personal satisfaction with each of them. Similarly, C. E. Lance et al. (1989) see overall life satisfaction as a linear additive function of satisfaction in separate areas. The more satisfied people are with separate fields of their life, their job, family, health and so on, the more satisfied they are with life in general. The overall life satisfaction is in this point of view given by the sum of satisfaction in separate areas of life.

With regard to the stability of life satisfaction, part of the authors (Lykken, Tellegen 1996, Tellegen et al., 1988) supports the opinion that life satisfaction is mostly hereditary. However, genetic influence on life satisfaction determinates the frame, in which changes may occur with regard to the changing age of the person. People get used to accommodating changes in life situations, in which life satisfaction temporarily raises and declines (Headey, Wearing, 1989). According to J. Křivohlavý (2001), the subjective view of life satisfaction may change under the influence of circumstances, time and experience. Other authors (Andrews, Whitney 1976, Campbell, Converse, Rodgers 1976) note that life satisfaction tends to stay stable.

According to R. A. Emmons (1996; in Lejková, 2001) and J. C. Brunstein (1993, in Lejková 2001), being successful in the effort of achieving the goals which are personally significant is of essential importance for keeping life satisfaction and emotional wellbeing; that is why personal values are closely connected with life satisfaction. Similarly, I. G. Khakoo (2004) highlights the importance of subjective determinants (individual and collective experience, values and interactions) in assessing life and D. M. Hayborn (2001) praises situational context in assessing life satisfaction. Other authors, for example E. Řehulka and O. Řehulková (1999), K. C. Land (1999) and Veenhoven (1996) consider personality or situation to be the predictors of life satisfaction.

In psychological research, the concepts of happiness, well being and satisfaction

are used for describing positive temper (Džuka, Dalbert, 1997). According to various authors, life satisfaction together with affective elements create a relatively complete picture of subjective well being (Andrews, Whitney 1976, Herzog, Rodgers, Woodworth, 1982). The concept of life satisfaction is often mistaken with subjective health status. According to various research findings, it is a component which includes the perception of one's health and overall level of the quality of life.

In this paper, we specify life satisfaction as a subjective criterion of positive self-assessment and evaluation of one's life conditions; we consider it to be the result of one's relationship to their environment and it is based on a model, according to which the overall life satisfaction of a person is determined by the satisfaction in separate life areas, including family, friends, health, work and leisure time.

## **Life satisfaction and teachers**

Current discussion about teacher's profession states that teachers are not able to follow the changes in social context, aren't well prepared for creating new contents, cannot react to the changes of environment, consequences of social processes including migration and multiculturalism, changes of characteristics of children's population and its rising heterogeneity and threats such as drugs, violence and diseases (Braslavsky, 2001). Ten years ago, the situation in education, which is not very positive (working environment, motivation, salary conditions, results of education), was pointed out by V. Rosa, I. Turek a M. Zelina (2000). They also appealed on general restructuring of the educational system. According to the authors, for changing schools, changes in the philosophy of schools (changing directive school into a humane one), changes in curriculum (meaning not learning unnecessary information), changes in teachers' training (emphasising the possibilities of social and personal development of future teachers during their pre-gradual training, their agreement with humanization of education and mainly accenting the teacher – student relationship), changes in school management (its decentralization, creation of national standards) and similar are necessary. The claims stated above have been projected into the new law on education, effective since September 2008; however, their practical realization is doubtful.

Facing challenging requirements from society and critique of teachers' profession, the teachers themselves are discontent. From the point of view of the situation and circumstances in which teachers work (weak salary conditions, not enough possibilities of development in their specialization, rising number of students with behaviour problems), they are usually considered to be discontent, which is confirmed i.e. by the departure of young and perspective teachers to other professions. Therefore, we were interested in how teachers are satisfied with their lives.

## **The study**

The goal of the study is to analyze teachers' satisfaction with health, compare it with the satisfaction with health in medical staff and bank employees and observe a sample of teachers for the relationship between life satisfaction and its areas and the factors of age, sex and family status. Our study is a part of a complex research on life

satisfaction of Slovak teachers (life satisfaction related to social support, monitoring the influence of personal characteristics to the life satisfaction of teachers, Popelková et al., 2009).

## **The sample**

The sample was composed of 386 university-educated people in total, aged 23–65, of which were 197 teachers (primary, secondary), 102 medical staff (doctors, nurses) and 87 bank employees from the towns and villages in the west of Slovakia. There were 167 men (43.3 %) with the average age of 41.65 and 219 women (56.7 %) with the average age of 40.31. The sample of 197 teachers (elementary, secondary school) consisted of 88 (43.3 %) men and 109 (56.7 %) women, average age of 41.65. There were 26 teachers in the age group 23–32, 71 teachers in the age group 33–45 and 100 teachers in the age group 45–65. By marital status, there were 155 married, 29 single, 3 widowed and 10 divorced teachers.

## **Used methods**

The Questionnaire of Life Satisfaction (QLS) by Fahrenberg, J., Myrtek, M., Schumacher, J., Brähler, E. (2001) was applied. It enabled us to capture individual satisfaction in ten areas of life: health, work, economical situation, leisure time, marriage and relationship, relationship to one's children, self, sexuality, friendship, acquaintances and relatives, housing. The overall value of QLS, being the index of overall life satisfaction, consists of the sum of these elements. Life satisfaction is defined as individual evaluation of past and current life conditions and life expectations. Scale values characterize relatively permanent self-evaluation.

## **Result analysis and interpretation**

### **Satisfaction with health**

In the area of satisfaction with health, we compared the sets of teachers, medical staff and bank employees. The area of satisfaction with health is represented in the questionnaire by satisfaction with physical and mental health, fitness and occurrence of diseases or pains. We found out the following rank of average values of satisfaction with health (from highest to lowest value): bank employees, medical staff, teachers. Significant difference in the monitored area occurred between teachers and bank employees (table 1, 2). Teachers are significantly less satisfied with their health than bank employees. The result corresponding with ours is introduced in B. Vašina and M. Valošková (1998), who found out more negative health assessment in teachers compared to people working in the area of economics. There was no significant difference found between teachers and medical staff in evaluation of physical and mental health. Though health is a significantly subjective area of human life, we assume that the results given can be influenced by the type of profession. The profession of a teacher and the occupation of people working in healthcare have similar characteristics: everyday face-to-face contact with several people (patients, pupils/students), working conditions,

salary etc. The profession of a teacher is burdened by considerable demands in multiple areas. Teachers are asked to educate themselves continuously, to fuse educational and psychological approach to pupils/students. High demands put before the personality and role of a teacher can represent stress and an incentive for the initiation of health problems – physical or mental. P. R. O'Connor and V. A. Clarke (1990) consider the profession of a teacher to be a so-called “stress” profession. This claim is based on research findings by the authors, in which they noticed an increased morbidity of teachers and their premature retirement. The findings of multiple studies (O'Connor, Clarke, 1990; Fialová, Schneiderová and others), which found connection between health and stress in the profession of a teacher, have made us consider the potential influence of higher workload on our sample. M. G. Borg and R. J. Riding (in Daniel, 1996) mention these sources of stress: pupils' behaviour (breaking discipline, ignoring the authority of the teacher etc.), bad work conditions (low salary, unclear circumstances of teachers' career and so on), relationships between co-workers (for example lack of help, bad school management) and time pressure (lack of time for creating syllabi, individual approach to students etc.). Burnout syndrome is very connected with teachers' health (Fialová, Schneiderová, 1998). Results of their study proved that the factor of emotional exhaustion mirrors the state of teachers' health. E. Řehulka and O. Řehulková (1998) find a 10 % increase of neurosis together with the need of seeking professional help. Specifically, they found psychosomatic problems, communication disorders, role conflicts and so on.

When interpreting higher satisfaction with health in bank employees compared to the satisfaction of teachers, we consider also a different approach of bank management to their employees. Apart from specialized workshops and educational courses, which are oriented to gaining knowledge and abilities at the area of banking, bank employees are provided with other benefits in the form of health care, for example complex health checks at private practitioners and specialists, to which a certain amount of money is allocated. Usually, sports activities in which the employees are engaged as a team, are financially supported. According to our opinion, schools do not provide teachers with proper health care of such kind.

## **Intersexual differences in life satisfaction of teachers**

In the area of overall life satisfaction of teachers, we didn't find any intersexual differences (table 3). When comparing the average values we noticed above, though statistically insignificant, a higher satisfaction in the male group with health, financial situation, leisure time, partnership/marriage, children and in sexual area. Statistically significant differences were confirmed in two areas, satisfaction with partnership/marriage and satisfaction with financial situation.

Higher satisfaction of male teachers with their financial situation is a surprising finding. Teachers' profession is among professions, where the salary is not very high, in spite of university education (average gross monthly wage of teachers is EUR 590). The traditional understanding of the masculine role contains the task of financial safeguarding of the family. It can be considered that male teachers gain financial means also from other sources, have a different income, or it is the wife whose income is higher and

she becomes responsible for securing the family financially. Also, higher average age of male teachers in our sample (43.4) can be connected with the finding in the sense of life satisfaction increase with increasing age (Diener et al., 1997)

Research monitoring in the area of life satisfaction from the point of view of intersexual differences brings uneven conclusions. Several studies, using different research methods, proved insignificant influence of sex on life satisfaction (Diener, Diener 1995, Pavot et al. 1991, Blatný 2001). According to Diener et al. (1997), life satisfaction slightly grows with age in male population and negative emotions decrease. In women, life satisfaction and also negative emotions stay relatively constant. As far as positive emotions are concerned, we can talk about their decline with higher age in both sexes. When validating Freiburg personality questionnaire (the sample of 2035 respondents), the results proved correlation between life satisfaction and sex. Men described themselves as more satisfied (Fahrenberg et al. 2001). Men tended to be more satisfied also in Herschach's study (1999). The differences in satisfaction between men and women are also dependent on expected roles of men and women in the culture concerned. The traditional female role presumes a higher level of caring for others, connected with higher responsibility.

## **Marital status and life satisfaction of teachers**

No significant differences were found in life satisfaction of single teachers and married teachers or teachers in a partnership (table 3). The area of satisfaction with marriage or partnership in the Questionnaire of Life Satisfaction (Fahrenberg et al., 2001) is characterized by the duties resulting from marriage, common activities, personal dispositions of the partner and the support provided by one partner to the other. We noticed a higher average value of life satisfaction in single teachers from our sample, however, the difference is not statistically significant.

Our findings are different from the results of F. K. Willits and D. M. Crider (1998), J. Fahrenberg et al. (2001), who reported higher life satisfaction of people living in marriage than of singles. Satisfaction in marriage is an area which has, according to multiple authors (e. g. Plaňava, Rajmicová, Blažková, 2003, Fahrenberg, et al., 2001), a positive influence on the life satisfaction of an individual. The comparison of satisfaction in different areas of life in singles and married teachers in our sample proved a significant difference in the area of partnership or marriage in favour of higher satisfaction in married teachers. D. Rhyne (1981) stresses that interpersonal characteristics contribute to the satisfaction in marriage in higher measure than the personal or socio-demographical ones (education, age, income etc.). In connection with the result, we are considering the influence of high divorce rate in Slovakia, which has lately risen to 58%. R. E. Lucas et al. (2003) characterized different levels of change in life satisfaction in years which follow the marriage. They talk about substantial individual differences concerning the degree of change of life satisfaction: some people mentioned distinctive decrease of life satisfaction after marriage, others got back to their original level after several years of marriage and in others, life satisfaction gradually increased. Almost every respondent in the research of the authors mentioned significant increase of life satisfaction immediately after marriage.

We believe that the current trend of an increasing number of young people living alone and increasing age of marriage can also be connected with the findings mentioned.

## **Life satisfaction and teachers' age**

One of our goals was to analyze teachers' life satisfaction according to age. We didn't find any relationship between teachers' age and life satisfaction. When comparing average scores, young teachers are more satisfied with their life. Life satisfaction decreases in middle-aged and stays level in late adulthood (table 4, 5). The answer to the question of the relationship between age and life satisfaction is not explicit (Fahrenberg, 2001). With increasing age, satisfaction with health is likely to decrease; satisfaction with financial situation can conversely rise, because with increasing age, it is not necessary to provide for children and personal needs decrease.

Research on life satisfaction with regard to age yielded inconclusive results. A study from the seventies of the last century evaluated eight major surveys including a thousand to ten thousand respondents (Herzog et al., 1982). Four of the eight surveys have shown that life satisfaction significantly positively correlated with age, three surveys showed no relationship and one came to the conclusion that the relationship between age and life satisfaction is significantly negative. The model of the negative relationship between age and life satisfaction is also shown in Hnilica's (2006) research findings.

It can be considered that the overall satisfaction and hence also satisfaction with various areas is likely to change in the course of teachers' life. During young adulthood, the basic criteria of maturity are coping with the career start, which means a professional role, creating a stable monogamous relationship, marriage and parental role (Vágnerová, 2000). For teachers in middle adulthood, lower life satisfaction may be associated with lower satisfaction in various areas of life. With increasing age the probability of health problems occurring in relation to biological changes also rises. In this period, the relationship with the professional role is also changing – either the need for self-realization is satisfied, or resignation appears (Vágnerová, 2000). In connection with the age of their children, people in middle adulthood also realize their own aging and weakening of physical and mental powers and their own vulnerability and finality of their own life.

We consider the balanced life satisfaction of the oldest age group of teachers, related to the life satisfaction in the middle-aged group, to be a positive finding. In the late adulthood, the career is gradually closing, the “empty nest” period in the family is coming and a possible change in partnership may consequently occur (Vágnerová, 2000). Shift of values, from hedonism and performance, typical for youth and younger maturity, towards cultural and spiritual ones, characteristic for older maturity, can also be considered (Kováč, 2007). Perhaps, the financial and general independence of children also contributes to the financial situation and overall life satisfaction of teachers. Higher satisfaction with the financial situation at older people and its share on overall life satisfaction is confirmed by multiple research studies (Schumacher, Gunzelmann a Brähler 1996, Harrer et al. 1993). L. Golecká (2002) says, that an aging person can, in spite of irreversible changes, experience the later evolutionary periods of life positively

through flexible adjustment of old goals to new life circumstances, and thinks the flexibility of accommodation of older people to be a possible predictor of life satisfaction.

## Conclusion

A comparative survey, which included groups of teachers, medical staff and bank employees, enabled us to monitor the differences in overall life satisfaction. The factor of professional differences has not been identified as a determinant in experiencing overall life satisfaction. In separate areas of life satisfaction, we found significant differences in satisfaction with work and health. Teachers are, compared to medical staff and bank employees, the most satisfied and are significantly more satisfied in this area than bank employees.

In the area of satisfaction with health, teachers feel lower life satisfaction, which is significantly lower than in bankers, who, compared to teachers and medical staff, are the most satisfied with their health.

In teachers' sample, we were investigating relations between life satisfaction, sex, marital status and age. Demographic factors (sex, marital status – single/married, and age) did not prove themselves to be significant determinants of teachers' life satisfaction.

Male teachers are generally more satisfied with their lives than females, which is mainly caused by the areas of marriage or partnership and finance. The feelings of overall life satisfaction in men are related to the perception of satisfaction in marriage or partnership and financial area. The research results incline to characterizing the profession of teacher as a mission, similarly as in doctors or lawyers (Řehulka, Řehulková, 1998).

In spite of relatively high overall teachers' life satisfaction, satisfaction in the area of health is the lowest. Its relation to stress is undeniable and is a warning sign. A teacher, who is physically and mentally healthy, contributes to the education of a healthy generation and nowadays, when teachers feel the increase of intensity of their duties (ongoing implementation of teachers' professional development concept, high standards in the field of lifelong education, relatively low social prestige of teachers), the significance of various ways of prevention comes to the fore, including interventions in teachers' health area, which should be a part of their vocational training, as well as overall change of lifestyle, as inevitable premises of successful stress prevention.

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**Table 1** Average values and standard deviations of satisfaction with health – teachers, medical staff and bank employees

profession		N	AM	SD
SH	Teachers	197	33.73	7.18
	Medical staff	102	34.62	7.29
	Banking	87	36.55	5.38

Legend: SH – satisfaction with health

**Table 2** Differences in satisfaction with health in the three monitored groups

SH	T	Sig.
Teachers – Medical staff	-1.013	.312
Teachers – Bank employees	-3.286	.001**

\*\* level of significance  $p < 0.01$

**Table 3** Intersexual differences and differences between married and single teachers in overall life satisfaction

Overall life satisfaction		N	AM	SD	T	Sig.
Teachers	Men	88	235.85	36.88	.907	.036
	Women	109	231.32	33.11		
Teachers	Married	155	243.27	33.51	1.012	.389
	Single	29	235.59	42.03		

**Table 4** Average values and standard deviations of overall life satisfaction according to teachers' age

Age group	23 – 32			33 – 45			45 – 65		
	N	AM	SD	N	AM	SD	N	AM	SD
Teachers	26	251.27	30.77	71	230.41	30.97	100	230.77	37.24

**Table 5** The relationship between overall life satisfaction and age of teachers

		Age
Teachers	CŽS Correl. coefficient	-.136
	Sig.	.057
	N	197

Sig. – level of significance

## SPOKOJNOSŤ UČITEĽOV SO ZDRAVÍM

**Abstrakt:** Príspevok sa zaoberá konštruktom životnej spokojnosti s dôrazom na spokojnosť so zdravím a vzťahom životnej spokojnosti k vybraným demografickým činiteľom (rodinný stav, pohlavie, vek). Výskumný súbor tvorilo 386 respondentov - učitelia, zdravotnícky personál a zamestnanci bánk. Použili sme Fahrenbergov Dotazník životnej spokojnosti.

**Kľúčová slova:** životná spokojnosť, spokojnosť so zdravím, učitelia, zdravotnícky personál, zamestnanci bánk

# STRESSORS IN THE WORK OF PRIMARY AND SECONDARY TEACHERS IN THE CZECH REPUBLIC (mainly the stressors caused by the pupils to the teachers)

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*Rudolf KOHOUTEK, Evžen ŘEHULKA*

**Abstract:** *The paper is concerned with psychological researches of stressors at the Czech schools, informs for instance about results of research of the National Institute of Public Health of 2002, V. Holeček of 2001, Z. Mlčák of 1999 and 2002, K. Paulík of 1998, K. Provažník and with research of Fontana and Abouserie of 1993 in British primary schools, research of Z. Židková and J. Martinková of 2003, E. Urbanovská of 2006 and of 2009, M. Blahutková and M. Charvát of 2009 and research of R. Kohoutek of 2009 that was focused on teachers' stress caused by the pupils. Most frequently are these stresses and psychotraumas initiated during social communication with the pupils having difficulties and disorders in behaviour and from injuries at school.*

**Key words:** *stressors at schools, stress and psychotraumas of teachers, Czech schools, British schools, difficulties, pupils with behavioural disorders, serious injuries at schools*

As claimed by the psychologist Z. Židková, ca 28 % of the European Union population suffer from stress of professional origin. Primary and secondary school teachers undoubtedly belong among them.

Research studies of **teachers' stressors**, i.e. agents, events or stimuli that initiate the stress psychosomatic reaction of the teachers at the Czech primary and secondary schools have been conducted rarely yet.

At the beginning we would like to present the information concerning some of them. At first we will deal with the research of the National Institute of Public Health from the first years of the third millennium (2002).

Results of the study of the specialists of the **National Institute of Public Health** confirm:

*high psychic workload in nearly 80 % of teachers,  
excessive stress in 60 %,  
reduced resistance to stress in 25 %,  
nutrient deficiencies in 90 % of teachers.*

The study was realized (in cooperation with the Czech - Moravian Trade Union of Workers in Education) in 2002 and 87 teachers from 12 Prague primary schools (13 man teachers and 74 woman teachers) took part in it. This sample is relatively restricted and does not incorporate the country teachers. The research was focused on psychic workload, stress, hardiness (resistance to stress, personality resilience, increased resistance), risky types of behaviour and attitudes, awareness of teachers about their state of health and on other health risks.

The increased psychic workload of the teaching profession was proved repeatedly in a number of research projects. Increased occurrence of the risk factors for cardiovascular diseases and other health risks were confirmed as well. This research was extended by the questionnaire through which attitudes and knowledge of the teachers concerning the issue of a healthy lifestyle were established.

The results confirm a high psychic workload in nearly 80 % of the examined persons; the following events and risk factors participate in it within a higher degree:

- *inadequate financial and social appreciation of the work, uncertainty of teacher position and status;*
- *pressure on permanent presence at work irrespectively of health and personal reasons (necessary stand-in of the colleagues);*
- *psychic workload (it is the work under time pressure connected with high demands in the field of actions and mutual cooperation and connected with the risk of health threat to other persons);*
- *physical factors (in particular noise).*

Psychic workload is manifested in particular by reduced attention and increased feeling of responsibility, which fact affects motivation, relations on the workplace, dealing with people, labour and health risks, stress, fatigue, drop of work performance, etc.

The somatic state of health of roughly 60 % of teachers shows problems with performance and physical fitness (increased fatigue, short-time diseases), vegetative dysregulation (headache, dizziness, perspiration, fainting, resents heat or cold).

Psychic state of nearly 75 % of teachers shows numerous subjective problems, e.g. concentration disorder, worse memory, neurotic tendency, frustration, insomnia, depression, persistent and physical fatigue after the work.

Evaluation of answers of the set of respondents has revealed that excessive stress in ca 60 % of persons is caused in particular by four assessed load situations: bad attitude of pupils to work, demanding teaching of the pupils with bad behaviour, low social prestige of the teachers and inadequate financial remuneration.

(V. Blažková, P. Malá. *Rodina a škola/Family and School*, 1/2007).

The Brno psychologists Zdeňka Žídková and Jaroslava Martinková published the study "*Psychic Stress of Primary Teachers*" in the journal *České pracovní lékařství/Czech Occupational Medicine*, No. 3, 2003.

The primary school teachers are included in the specialized literature sources, based on a number of studies, among the professions with increased psychic load. Scope of activities of the teachers has been changed materially during the last 10 years, as clai-

med by Žídková and Martinková; not only the educational component, but also social integration is pinpointed. Presentation of the underlying documents concerning psychic load of the teachers for purpose of job categorization was the very objective of the study. The questionnaire research accommodated 142 teaches (from 13 primary schools in different municipalities of the Blansko region) and the following indicators were monitored: subjective evaluation of the psychic workload, physical symptoms of fatigue, long-time neurotic disorders - 8.5 % of respondents confirmed long-time health problems, problems connected with the burnout syndrome (10 %) - satisfaction with the profession and work stress. The results have proved a higher psychic load at work; time pressure, excessive responsibility and loss of performance were evaluated negatively. Overload is manifested as increased nervousness and psychic fatigue at the end of the working day; one third of teachers stressed long-time neurotic disorders, one tenth of them - strong burnout symptoms. The most frequently represented stressors were as follows:

- position and status of the teacher in the society (33.3 %),
- problems with pupils (e.g. 21.1 % of respondents show lack of interest in learning),
- problems with discipline - 12.0 %,
- responsibility for health and safety of other persons was highlighted by 21.12 % of man teachers and woman teachers.

The increased psychic workload of the primary school teachers is discussed repeatedly by the Czech as well as foreign researchers and also this study confirms that a greater attention has to be paid to the teaches as the prominent profession from the point of the psychic load.

From the research conducted by Fontana and Abouserie in 1993 it follows that in the sample of British primary school teachers 72 % of them suffer from moderate stress and 23 % of them suffer from serious stress. The reasons are evident. Many requirements and demands are raised towards the teachers, both by the children themselves, and by the parents, colleagues or by the superiors. The teachers must continuously keep in mind the requirement for discipline and quiet in the classroom. They do not have strictly determined hours necessary for exercise of their work. Many of them continue at home with preparation; they are deprived of one part of their leisure time and the time for relaxation. They are also subject to criticism from many sides - teachers, inspectors, schoolmasters. They do not have adequate possibilities (incl. the financial ones) for further education. The teaching profession is also very demanding, because the teacher works the whole day in a relative isolation, alone with children only, without the opportunity to consult the problems directly with the colleagues and without the adequate support.

Fontana and Abouserie (1993) have also established close correlation between neuroticism and high stress level and also between introversion and stress (manly in men).

According to Kyriacou, main sources of the teacher stress can be broken down into seven fields:

- pupils with bad attitudes and motivation for work;
- pupils who disturb and general bad discipline of pupils in the classroom;

- frequent changes of educational projects and school organization;
- bad operating conditions (state and equipment of buildings and classrooms, school operation funding), incl. personal prospects for a better position;
- time pressure;
- conflicts with colleagues;
- the feeling that society underestimates work of the teacher.

(Kyriacou 2004, p.151)

Z. Mlčák (1999) finds sources of the teacher stress in the following basic interaction fields:

- **teacher and curriculum** (e.g. too complex schoolwork).
- **teacher and pupils** (e.g. negative relationship of the pupils to the school),
- **teacher and colleagues** (e.g. missing support from the colleagues),
- **teacher and school** (e.g. too much paperwork, low salary),
- **teacher and parents** (e.g. lack of respect and good manners),
- **teacher and external authorities.**

The Ostrava psychologist and the university teacher, professor Karel Paulík and the Plzeň psychologist and university teacher, active at the Faculty of Education of the West Bohemia University, V. Holeček, have examined the stressors connected with the teaching profession in the Czech Republic, namely in the primary and secondary school teachers and from the point of view of them.

Based on the research conducted with the respondent teachers, K. **Paulík** (1998) has elaborated the hierarchy of fourteen stressors (load factors):

1. *low social appreciation - prestige,*
2. *inadequate salary,*
3. *fall into line with administration authorities, which the teacher often disagrees with,*
4. *lack of time for rest and relaxation,*
5. *teaching in the classes with a very different level of pupils,*
6. *inadequate cooperation with parents,*
7. *bad attitudes of the pupils to work,*
8. *lacks of school aids and supplies for learning,*
9. *bad behaviour of the pupils,*
10. *teaching in classes with a high number of pupils,*
11. *work connected with rush and hurry,*
12. *many people do not bring the necessary aids and supplies to school,*
13. *problems with pupil motivation,*
14. *lack of space for group/team work.*

According to K. Paulík 10 % of teachers have unsatisfactory state of health (shown by Židková, 2003).

In the research conducted in the period 1999 - 2001 with 317 teacher respondents, V. **Holeček** (2001) determined seven stressors which are shown in the sequence from the most frequently to the least frequently represented ones:

*work overload by man and woman teachers;*  
*school management and operation by higher authorities;*  
*problem pupils;*  
*unsatisfied need of self-fulfilment (“frustration”);*  
*problem parents;*  
*unsatisfactory working environment of the school;*  
*problem colleagues.*

***Under the work overload*** we understand the pressures due to fixed-term work, quick changes of educational projects, accumulation of tasks, pressing for time, short breaks, excessive paperwork.

***Management*** under this term in the research above we understand not only the specific management and organization of the school in question, but also the higher authorities, i.e. Office of Education, Czech School Inspection, municipalities, inadequate evaluation by them, inappropriate requests, etc.

***Problem pupils*** - i.e. the pupils and students with behavioural disorders, learning disability, the pupils who do not cooperate with the teachers, who have bad attitude and motivation to the school and work there, they escape from school, have no discipline, their aggressiveness and indiscipline in the classroom rises.

***Unsatisfied need of self-fulfilment*** (“frustration”) - partial disillusionment, bad prospects for improvement of teacher status, feeling of underestimation of teacher work by the society, low financial remuneration of a very complex work..

***Problem parents*** are the parents with rising aggressiveness, with uncritical approach to their children, inadequately threatening man and woman teachers by the police, court proceedings, etc.

***Unsatisfactory working environment of the school*** bad material, technical and psychohygienic conditions (state and equipment of the building and classrooms), lack of funds for the optimum school operation, for purchase of suitable aids and equipment.

***Problem colleagues*** have conflicts (e.g. in the staff room), certain of them are unprofessional, inadequately cooperative, insidious, alcoholism can also appear, they fail to render adequate support to their colleagues, etc.

In certain cases the stressors are combined (e.g. problem pupils and their problem parents). In other cases the teacher stressors at school are combined with the stressors connected with their private life (e.g. problems with pupils and problems with divorce).

All stressors above can be considered - in certain constellation and intensity and mainly in combination with the private stresses (e.g. the family ones) and with a certain level of personal sensitivity - the overloading psychosomatic capacity, endangering health of the teachers, i.e. their physical, mental and social comfort.

Eva Urbanovská (2006) from Palacký University in Olomouc has investigated sensitivity of the teenagers to the school load.

She has monitored the stress situations, mainly the teacher - pupil relationship, the school classification, the field of art and music education and physical culture, the field of teaching and learning process, interpersonal pupil relations, dining room and catering.

Through the questionnaire, establishing the degree of subjective psychic load and sensitivity to certain actions of the school staff, she has acquired the following most stressing (most frequently presented) answers:

*The teacher examines personal things.*

*When speaking, the teacher splutters or his mouth smells bad.*

*More written examinations during a single day.*

*You feel poorly and the teacher will not let you to WC.*

*The teacher will never recognize your opinion.*

*The cooks place the meal on the plate by their bare hands.*

*The teacher gives evidential preference to certain pupils.*

*You have not prepared to the exam and you may be excluded from school.*

*You must learn many schoolwork till the next day.*

*The mark (grading) seems to be unfair.*

*An unexpected written examination.*

We have investigated primarily stresses of the teachers **causes by pupils (from their point of view)**.

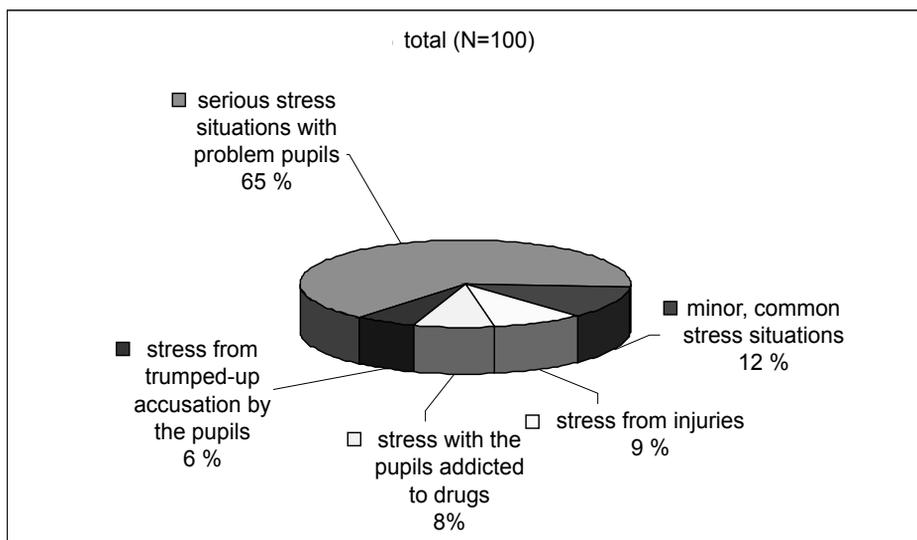
The colabouratory respondent/research group was created by the randomly chosen 25 man teachers and 75 woman teachers of the Czech and Moravian secondary schools.

We asked the man and woman teachers to describe in writing the stress situations caused by the pupils, i.e. the situations that the teachers have experienced during their school practice and that could harm their state of health (physical, social and mental comfort).

The questionnaire method was extended by the method of group and individual interviews.

We have achieved the following results:

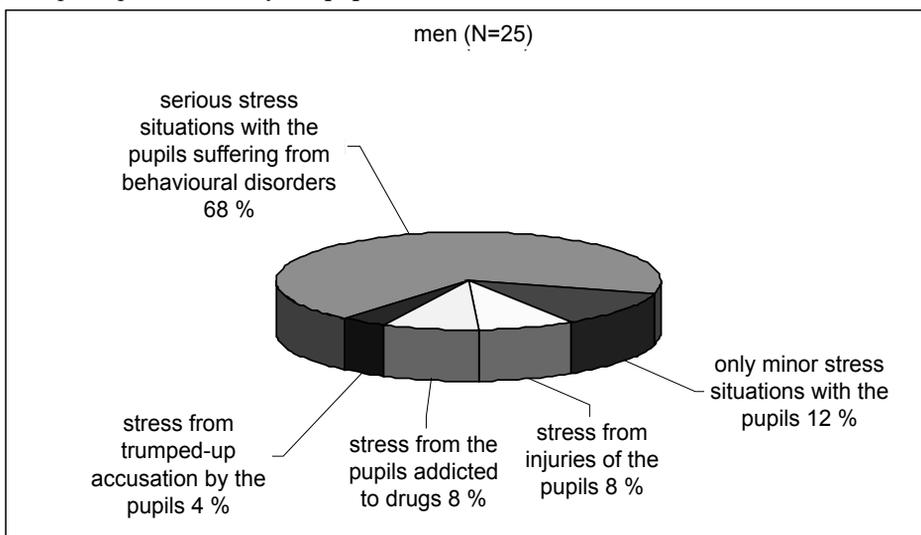
65 % of **man and woman teachers** have experienced **serious stress situations** during their teaching practice connected with the pupils with behavioural disorders and difficulties (these pupils have shown difficulties, personality disorders, psychic disorders, bad discipline, thefts, destruction of school property, personality and psychic disorders), bad discipline, thefts, destruction of school property, truancy, intellectual passivity (extreme lack of interest in learning), verbal aggressiveness and certain of them even committed brachial violence towards the man and woman teachers); 12 % of man and woman teachers have experienced only minor, **common stress situations** during their teaching practice caused in the major cases by verbal aggressiveness of pupils; 9 % of man and woman teachers show serious stress following from **injuries and self-inflicted injuries** at school (in rare cases even mortal injuries and suicides); 8 % of man and woman teachers show serious stress following from **risk behaviour** of the pupils addicted to drugs, alcohol and nicotinism; 6 % of man and woman teachers show the stress following from false, deceitful and trumped-up accusation **by the pupils** from unprofessional behaviour.



Distribution of these findings had similar parameters both in man and woman teachers.

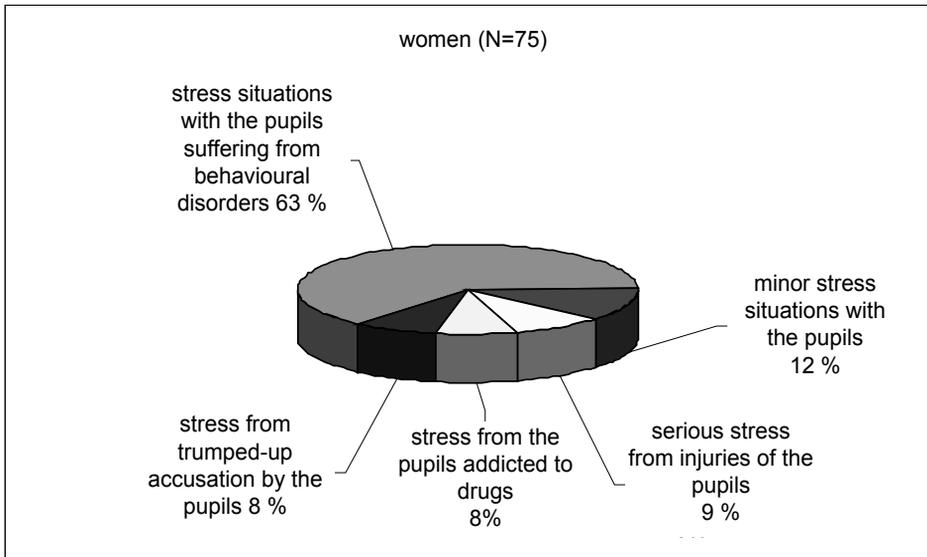
#### Results in **man teachers** (N=25)

68 % (i.e. 17 men) had *serious stresses* during educative communication with the pupils suffering from behavioural disorders and difficulties; 12 % (i.e. 3 men) experienced only common and *minor stresses* during educative communication with the pupils; 8 % (i.e. 2 men) experiences stress from *injuries* of the pupils; 8 % (i.e. 2 men) experienced stress due to behaviour and communication of the pupils *addicted to drugs*, alcohol and nicotine; 4 % (i.e. 1 man) experienced stress following from false, amoral, deceitful and trumped-up accusation *by the pupils*.



Results in **women** (N= 75):

64 % (i.e. 48 women) had *serious stresses* during educative communication with the pupils suffering from behavioural disorders and difficulties; 12 % (i.e. 9 women) had only common and *minor stresses* during educative communication with the pupils; 9 % experienced serious stress from *injuries and self-inflicted injuries* of pupils; 8 % experienced stress due to behaviour and communication of the pupils *addicted to drugs*, alcohol and nicotine; 8 % experienced stress following from false, amoral, deceitful and trumped-up accusation *by the pupils*.



## Classification of teacher psychotraumatization

Both the macro-traumatization and the micro-traumatization can be broken down into the primary and secondary one. Another possible classification: individual and group psychic traumatization which is relatively typical for the sector of education.

**Primary** psychic traumatization means the situation, where the teacher himself is the victim of bullying, corporal punishment (that might be originally intended for somebody else), humiliation, e.g. experiences emotional discomfort (e.g. anxiety, fear, fright, humiliation, shame), helplessness, failure, dehonestation, hostility from the environment, aversion, feeling of injustice, ridicule, irony, mocking tone, making people fool, power handling, persecution.

**The primary psychotraumatization** is usually experienced most intensively from among all types of traumatization. It impairs mental and emotional comfort most intensively. Hormonal and nervous reaction of the organism to stress is evidently most intensive here and exhausting materially. Long-time chronic primary traumatization can shatter the organism to such an extent that the teachers experience even the so called

**burnout syndrome.** This is quite typical for the so called helping professions (teachers, physicians, nurses, psychologists, policemen).

The German psychologists Hennig and Keller (1995) show that the number of teachers suffering for a high burnout degree ranges from 15 % to 20 %. Statistic data for the Czech Republic will most probably be similar.

The primary psychotraumatization - short-time as well as chronic - can be caused purposefully, intentionally as well as unintentionally. The number of traumatizations, which the teachers are subject to, is a serious reason for winning the statute of the public figure/official.

Experience of the teacher of the automotive educational establishment is the example of the primary psychotraumatization:

*After the Christmas holidays the students were still full of New Year's experience and parties and therefore decided to terrify him. When he stood before the blackboard they threw a petard under his feet. The frightened teacher did not suffer any physical injury, but was incapable to teach due to psychic problems. He has nightmares till now, what could happen not only to him, but to other student in the classroom, what injuries and psychic traumas could arise from this situation.*

The class teacher of the ninth-formers presents a remarkable example of the primary psychotraumatization:

*Mother of one student called that the ninth-formers, "refreshed" by a high marijuana dose, forced a younger classmate to expose himself and to dance, namely during the day on a bus stop. Everything was recorded on the cellular phone. The invited parents of the ninth-formers apologized their sons before the schoolmaster saying that smoking marijuana is their private thing and that they will not get in their way. The fact that the son forced a naked schoolmate to dance was apologized by his mother (businesswoman) that his son hates socially weaker persons and behaves accordingly. The teacher had neurotic problems following from the parents' reactions for a number of days.*

Under the **secondary psychotraumatization** we consider the situation when the teachers are not exposed directly to traumatization of their own person, they are not the direct victim, but were witnesses of *direct* traumatization of somebody who is close to them, e.g. their colleague. They perceived their traumatization socially, which affected their own experience and their own psychic comfort negatively.

The secondary psychotraumatization is usually less intensive than the primary one. Experience of a teacher during the "hop brigade" can serve as an example of the secondary traumatization of the teacher:

*To accelerate their work, the students, fixing the hook by which the wire was suspended at the 4 meter height, took one hook more from the bag, put it into the mouth and when fixing the next wire, they put the hook out of the mouth. The hooks were dirty and so the teachers knew how the students accelerate the work and warned them repeatedly. One student, lifting the rod, bent his head back, the hook slipped into the mouth and the student swallowed it. The classmate came to say what happened. With respect to the hook size the teachers rejected to believe it. Moreover, the affected student washed the hook away by tea and continued working. The teachers left him bring to the hospital in Podbořany, where the physicians were also suspicious. But the X-ray revealed the hook in the student's stomach..*

*The teachers clubbed together, let the hook (taken out of the stomach) gild and presented it to the student as a memento.*

## Symptoms of psychic traumatization

**Hyperarousal**, hyperexcitation, hypervigility, i.e. excessive excitation, excessive alertness and activation or even hyperactivation, psychic tension, energizing, timorousness, nervousness, permanent expectation of a danger, conflict, new stress, frustration, is the first and most frequent manifestation of psychic traumatization. It can be a short-time, long-time or can arise from a certain situation only.

Such reactivity seems to be the permanent state for certain teachers as the consequence of personality or temperament disorder or professional deformation, typical for their behaviour and actions. The pupils and students usually say that these teachers have “choleric behaviour” or choleric temperament accompanied by the tendency to cry, scold, sneer, ridicule, treat with irony, be capricious, to use corporal punishments and to dehoneat the pupils and students considered somehow problematic by such teacher.

We could say that the teachers with stabilized hyperexcited behaviour consider such behaviour and such actions effective method of intimidation and adaptation which reduces a major part of hyperactivity, assertiveness or even aggressiveness from the side of active and self-confident pupils and students, because it initiates anxious reactions or even the feeling of fear of the teacher.

**Intrusive** behaviour and experience, created by annoying, insistent, reoccurring obsessive feeling of psychic traumatization, in certain cases even with the tendency to compulsions, is the second most frequent symptom of psychic traumatization. Permanent recalling a traumatic situation and thinking of what has happened is usually accompanied by the so called flashbacks, leading to a similar experience and similar feelings that were called by the original real traumatic situation.

The so called **psychic constriction**, a certain internal psychic choking, clenching, pursing, a certain psychic immobilizing narrowing, throttling which can be of not only acute, but even of chronic nature, is the third most frequent symptom of psychic traumatization. We are speaking about deformed perception having the character of a passive defensive adaptation mechanism. It causes even a certain temporary anaesthesia towards the experienced psychic traumatization. It is an escape reaction.

The teachers show for instance the following symptoms of their psychotraumatization:

- feeling of exhaustion or increased fatigue,
- reduction of self-confidence,
- concentration disorders,
- panic attacks,
- internal unrest,
- feeling of internal stress,
- backache,
- anxiety and fear,
- headache,
- tearfulness,

- moodiness,
- affective lability,
- sleep disorders,
- lack of appetite,
- increased consumption of psychopharmaceuticals,
- higher consumption of cigarettes,
- abdominal pain, vomiting,
- gastrointestinal disorders,
- nausea or even dizziness,
- allergic problems,
- sub-depression and depression,
- overall increased neuroticism,
- irritability, fretfulness,
- apathy,
- feelings of psychosomatic job burnout,
- incapacity to work.

## Level of psychic vulnerability

Not a single person, neither the child nor the adult, has the same level of psychic vulnerability (neither acute nor permanent, long-time).

Some people are more resistant, resilient - they have the so called a “thick skin”. But other people are sensitive or even hypersensitive. It is advisable to train and develop resistance to the load, indomitable personality, defiance and hardiness.

This fact should be considered, in particular in the sector of education.

Sensitive or hypersensitive people, exhausted by the passed diseases, injuries or operations, persons with low self-confidence and self-assurance, less psychically integrated persons are more susceptible to psychic traumas.

It can be even an inborn, genetically conditioned feature to a certain degree.

A sensitive person experiences the psychic trauma by itself if it traumatized anybody from its environs, though unintentionally, accidentally.

## Therapy of psychic traumatizations

### *Psychosocial and pedagogic support and assistance for establishment of the acute psychic traumatization*

The psychically traumatized person must at first be given the possibility of **de-fusing**, i.e. the possibility of spontaneous heart opening to get rid (at least partially) of the accumulated and explosive emotions during the chat (let off steam). It is the laic social support of the colleagues, fellow workers, friends, non-specialists or relatives. Even the adult who has passed the acute psychic traumatization should be given the possibility to cry, weep, to unburden and vent the feelings, to relax. It is not advisable to persuade him that he is brave and therefore he is able to cope with the situation without weeping, crying and without help of other persons.

**Debriefing**, i.e. a single official advice (often a group one), is another suitable

procedure for the affected person; during debriefing urgent professional analysis of the traumatic event will be carried out and adequate anti traumatic intervention or corrective professional care will be proposed.

In some cases professional and specialized **anti traumatic intervention** may be necessary.

We are speaking about a longer-time specialized advisory or psychotherapeutic care performed by psychologists or psychiatrists and special social teachers, belonging to the so called helping professions. Change of the class or school can also be considered a solution.

The long-time acting unregulated load results, sooner or later, in exhaustion of the organism, claims Pavla Čísařová (2002) in the journal *Psychologie dnes* and continues:

**“Physical environment** where the teachers move plays a not negligible role in the teacher stress. Lack of time and space for regeneration during the working day has adverse impact on the human psychics. This is not a new idea. The teachers, who in the most cases share the cabinet with more colleagues, desire to have a small room where they could be alone at least for a moment.

The idea of such a room is mostly connected with the room for smokers which is absolutely not the place where non-smokers could rest. “Construction of an **anti-stress room** stands the test of time in certain foreign companies,” says Hana Kasíková. “It is the sound insulated room, where the person in need can cry and let off steam and accumulated stress.” The question, whether something like this is applicable under the conditions of our schools, may remain open as well as the question of long-time efficiency of such strategy of stress coping. Maybe it is more advisable to let off steam alone than before the class..

The trend focused on **self-awareness** of the teachers in certain groups, possibility of a social support and its utilization, seems to be a more effective direction. The necessity of more systematic education of the teachers during the first two years of their teaching practice rises to the surface. “Compared with certain other professions, e.g. physicians, teachers can utilize a specialized supporting staff, who could assist in coping with their problems, within a restricted scope only,” points out Václav Mertin. “If we reject X-ray, biochemical analysis or another necessary examination, the physician will not take care for us. The teacher must educate all children, though the parents reject to visit a psychologist, speech therapist or psychiatrist with the problem child.”

“In addition to memory loss, reluctance to work, original associations are lost as well,” claims Hana Kasíková. “The courses of personality education for the teachers we therefore return to the roots of creativity, being the refreshing source of energy.”

According to Václav Mertin prevention of the burnout syndrome in the teachers should go by two paths/directions. “The teacher must learn how to treat his/her professional life in a more progressive way - to have out-of-school interests, groups of friends; being the top sportsman, the teacher should take care of his own regeneration. But there is the path of necessary prevention covering the whole society. Each teacher should pass the lifelong education obligatorily, as least 14 days annually. The well educated teacher is not afraid to go to school, because he is ready to what has been prepared by the pupils, parents, management or inspection for him; he is more self-confident, is able to defend his work much more better and is less dependent on a single profession.“

The psychologist Antonín Mezera thinks that after a few years of teaching practice the teachers should mandatorily change the school environment and population of the pupils they teach. “The teachers should be given the possibility or even the duty to teach not only at the primary school (after five to ten years), but also at the secondary school, special school or college. They should be given the possibility to devote themselves for instance to the work of the educational advisor, methodologist or inspector. In the field of the theory of management such method is named **job rotation**, but the sector of education is unfortunately relatively very resistant to the changes of this kind.”

Besides the “crying room”, states Pavla Císařová, even the alternative, presented by C. Henning and G. Keller in their “*Anti-stress Programme for Teachers*”, seems to be fanciful in our system of education. We are speaking about **sabbatical**, i.e. a free year. Like in Switzerland (...), each teacher should be given the possibility to experience a free year after 7 - 8 years of teaching. He can utilize it at his own discretion - to regain strength, to educate himself, etc. The sabbatical can be funded so that the teacher will be granted the salary reduced monthly by 1/7–1/8.

Křivohlavý (2001) recommends internal and external methods and procedures for burnout prevention. The **internal procedures** are as follows: not to raise the goals impossible to obtain, to develop positive thinking actively, to determine priorities, to search for the sense of life. The **external procedures** include social support, improvement of the climate in the organization and modification of the working environment.

Urbanovská (2009) is concerned in details with the strategies of stress coping (in secondary school students). She has described the so called strategy of control, strategy of avoidance and strategy of resignation.

Blahutková and Charvát (2009) have pointed out importance of high share of sports and physical activities in stress elimination.

Professional load of man and woman teachers at the Czech primary and secondary schools is so serious that a much more higher than before diagnostic, educational and therapeutic attention and care of specialists has to be paid to it.

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## **STRESORY UČITELŮ ZÁKLADNÍCH A STŘEDNÍCH ŠKOL V ČESKÉ REPUBLICĚ (zejména stresory způsobené učitelům žáky)**

**Abstrakt:** Příspěvek se zabývá psychologickými výzkumy stresorů na českých školách., informuje např. o výsledcích výzkumu Státního zdravotního ústavu z roku 2002, V. Holečka z roku 2001, Z. Mlčáka z roku 1999 a 2002, K. Paulíka z roku 1998, K. Provazníka a o výzkumu Fontany a Abouserie z roku 1993 na britských základních škola, Z. Židkové a J. Martinkové z roku 2003, výzkumu E. Urbanovské z roku 2006 a z roku 2009, M. Blahutkové a M. Charváta z roku 2009 o výzkumu R. Kohoutka z roku 2009, který se specializoval na stresy učitelů způsobené žáky. Nejčastěji jsou tyto stresy a psychotraumata způsobené během sociální komunikace žáky se závadami a poruchami chování a úrazy žáků.

**Klíčová slova:** stresory na školách, stresy a psychotraumata učitelů, české školy, britské školy, dificulty, žáci s poruchami chování, úrazy ve školách

## DISSEMINATION OF THE EDUCATIONAL PROGRAMME “NON-SMOKING IS A NORM” INTO SCHOOL PRACTICE

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Iva ŽALOUĐÍKOVÁ, Drahoslava HRUBÁ

**Abstract:** *The primary prevention programme “Non-smoking is a Norm” has been completed after a period of five years, and its evaluation both as a pilot study in schools in Brno and in a broader test study throughout the Czech Republic has come to a close. Its broad practical application is now being conducted with its inclusion either in school curricula or in the specific educational programmes of individual schools that have expressed an interest in using it in health education. It is being used as a tool in the primary prevention of risk behaviours, primary oncological prevention and the prevention of cardiovascular disease by providing comprehensive healthy lifestyle education.*

**Key words:** *drug prevention, school oncological prevention, health education, risk behaviour, school preventive programme*

### Introduction

The programme “Non-smoking is a Norm” has been completed and tested in a pilot study at ten schools in Brno and a broader test study at fifty schools throughout the Czech Republic. Following evaluation and an assessment of its effectiveness, efforts will be directed at supporting the practical use of the programme within a specific educational programme in Czech schools. The programme is currently being disseminated into wide-ranging practice. The programme is offered to schools by means of training held within the framework of drug prevention education at pedagogical-psychological centres, by the National Institute for Further Education within its annual programmes for training teachers in health education, by Regional Hygiene Centres, and at individual schools within the framework of teachers’ preventive activities and work. Every school has to draw up a Minimal Preventive Programme every year that corresponds to certain prescribed requirements. The educational programme “Non-smoking is a Norm” helps implement risk-factor prevention. It makes a particular contribution to oncological

prevention, the prevention of cardiovascular disease, and health education, primarily in relation to the observation and promotion of a healthy lifestyle among schoolchildren.

How should preventive education aimed at a target group be conducted? How should such a programme be drawn up and how should it then be implemented in practice? When is such a programme effective? A number of authors have considered these questions. Here we would mention the approach taken in Holland under the title “ABC in Health Education and Health Promotion”.

## **The introduction and implementation of the programme of prevention**

Health education can be unplanned, spontaneous and unsystematic, or targeted with a systematic approach thought out in advance, including planning, an analysis of the current situation, the preparation of a targeted programme of prevention, its authentication and evaluation, and the progressive dissemination of prevention. Three basic stages can be identified in preventive work, loosely based on H. De Vries, author of “ABC in Health Education and Health Promotion” (De Vries, 2008).

### **This ABC of health education and promotion is comprised of:**

- 1) stage A – Analysis of the problem
- 2) stage B – Behavioural change
- 3) stage C – Continued prevention

### **A – Analysis of the problem**

- 1) Identification of the health and social problem that needs to be targeted, including epidemiological studies. This also takes in social diagnostics, i.e. what determines the perception of people’s problems, their needs, their quality of life, etc. This must be done in such a way that it is clear what the priorities of the shared community are. Also an **epidemiological diagnosis** to determine the specific health problem.
- 2) This is followed by an analysis of the environmental behaviour and factors that relate to the given health problem. This analysis is known as a **diagnosis of environment and behaviour**.
- 3) The next step is to **identify the target group**, what group has the greatest share in the risk behaviour. This group will subsequently be guided with a targeted programme of prevention, since it is at the highest risk of developing an illness. The important thing here is to identify the group of the population affected by a problem that those concerned are conscious of and want to resolve and change.
- 4) An analysis of why people succumb to risk behaviour must also be performed. This step is known as an **education and organisation diagnosis**. If we do not know why people indulge in high-risk behaviour, we cannot draw up the kind of educational programme that motivates them to change. An analysis of the motives leading to risk behaviour must be performed before an educational programme is drawn up. This analysis will include discovering the determinants of

behaviour, such as demographic data, environmental factors (age, socio-economic status, gender, etc.) and cognitive factors such as attitudes, social influences, and expectations of personal capabilities. It is important to know what is influencing behaviour and what convictions need to be changed. For example, a smoker may be convinced of the advantages of not smoking, but doesn't know how to stop smoking. This means that he needs information in order to increase his personal ability. Information about how to stop smoking will increase his level of self-appraisal and reinforce his personal capability and determination to smoke smoking.

- 5) The next step analyses **how to approach the target group, how to influence it**. This includes careful analysis of the needs of the target group. The same also applies to those who are to implement the programme.

The aim of this analysis of the problem is to gain a clear definition of the problem, and to identify the problem in behaviour that is associated with the problem and the target group that needs to be focused on.

### **B – Behavioural change**

The results of the analysis provide information for **formulating the goals** of the programme of prevention. The choice is made during this phase as to whether the given behaviour needs to be altered by means of education, what type of prevention is necessary, what kind of programme should be selected and how its effectiveness should be assessed in a pilot study.

- 1) The first step is to discover whether a change in behaviour can be achieved by education, by focusing on regulation, or by means of a combination of both. Passive smoking, for example, can be changed by regulation.
- 2) A decision must then be made as to whether this is to be a case of primary prevention in the form of education, secondary prevention in the form of early detection, or tertiary prevention – treatment.
- 3) Creation of the programme, effective intervention aimed at **behavioural change**, the assessment of resources and barriers to implementation. The essential thing is to focus on factors that determine the receipt and processing of information.
- 4) The programme created **must be tested** and verified, as it is important to analyse whether the programme fulfils the intended purpose and whether it is positively evaluated. This testing must take the form of a comparison of results obtained from a test group and a control group, in order that an ineffective programme is not disseminated. Specialists in various fields associated with behavioural change, such as psychologists, sociologists, health service workers, doctors and teachers, should work together on the programme.

### **C – Continued prevention**

The tested programme is subsequently promulgated according to a strategy in a number of stages, such as dissemination of the programme, its acceptance, its incorporation into regular use in, for example, schools, and its institutionalisation, for example its introduction into all schools.

An ABC scheme in health education:

**A**

**ANALYSIS OF THE PROBLEM**

1. needs
2. the individual–environment
3. target group
4. determinants
5. approach

**B**

**INTERVENTION AIMED AT BEHAVIOUR,  
CREATION OF THE PROGRAMME**

1. goals
2. methods
3. testing

**C**

**CONTINUED PREVENTION**

1. co-operation between experts
2. dissemination of the programme
3. tactics and strategies

## **The goal of health education is behaviour change**

### **Psychosocial determinants of behaviour directed at health**

The basal content of educational programmes of prevention is **behavioural change**, for example an endeavour to stop smoking, eat healthily, observe the principles of good nutrition, keep healthy eating habits, ensure you get enough exercise every day, etc. There are many socio-psychological theories about how to achieve behavioural change, such as those elaborated by A. Bandura in his work Social Cognitive Theory (1986), by Ajzen in his Theory of Planned Behaviour (1991) and others. These authors agree that behavioural change is achieved via a **plan – planned behaviour**, which can be influenced and measured.

## **Attitudes - plan - behaviour**

De Vries (2002) created the I-Change model, which incorporates a number of socio-cognitive models in which behaviour is the result of a plan, planned behaviour and the capability of the individual. In changing a plan in behaviour, he considers work on three main factors, given as the ASE Model, important.

The ASE Model

A – ATTITUDES

S – SOCIAL INFLUENCE

E – SELF-EFFICACY

**Attitudes** express the view of the individual on the positives and negatives of certain behaviour, the pros and cons in two dimensions – cognitive, such as the acceptance of rational viewpoints, and affective – how he likes the materials with which he is working, how attractive the models used in intervention are, etc. It is important to differentiate rational and emotional convictions about the newly adopted behaviour.

**Social influences** can be described as the process by which people directly or indirectly influence the ideas, feelings and action of others. This includes social norms, adoption of the behaviour of others, social pressure, and social support. A. Bandura's theory of social learning introduces the term **observational learning** as an important determinant of behaviour. People, and children in particular, learn about smoking by watching and observing their contemporaries and their parents when they smoke. They imitate these models. Direct social pressure is exerted here by their parents, their contemporaries who smoke and, frequently, the media. Social norms have played a significant role in the prediction of limiting smoking, but less so than in the prediction of the beginnings of smoking.

**Self-efficacy** or capability expresses the **individual's expectations relating to his ability to implement the desired behaviour**. It does not reflect his true skills, but rather his convictions about these skills (if he is convinced that he will stop smoking, then he will probably achieve it). This relates to his conviction about his ability to behave in a certain way in a certain situation. Behaviour is determined by capabilities and the desired behaviour.

*A plan for change* can be characterised as meaning that **people plan to change their behaviour**. This process goes through the stages of contemplation or rumination about change, active behaviour, and maintaining this behaviour or returning to the old behaviour in the case of failure. Planning includes **the ability of the individual to turn a plan into the desired behaviour**. Planning one's action becomes a strategic goal of prevention. Action planned in this way might be (in the case of giving up smoking, for example) a visit to the doctor, removing ashtrays from the home, telling one's friends about one's plans to stop smoking, etc. This model has been implemented successfully in Holland in preventing smoking.

## Behavioural change

There are two aspects to behavioural change:

1. The individual aspect, where it is important to focus on attitudes, social influences and perceived abilities – the expectation of one's own personal capability as to whether one can achieve the desired behaviour.
2. The environmental aspect, which is influenced by social, economic, political, cultural and legislative factors. Change is possible only if these factors are also changed.

These two aspects are not mutually exclusive. The important thing is a good understanding of the two aspects.

According to socio-psychological theories, a change in behaviour from the individual perspective occurs in four stages:

1. the acquisition of information
2. the acceptance of this information
3. the decoding of this information
4. a response in behaviour, new behaviour, an attempt at new behaviour

A preventive programme must, therefore, be prepared in such a way that it **initiates behavioural change**. The message or information must be attractive to the recipient and must respect the specifics of the target group. Among adolescents, for example, use should be made of comics, video recordings, peer methods, work in groups, role-playing, the deduction of clear conclusions, the use of persuasion in an unforced form, no-smoking posters, etc. Information received is processed on two levels – a central cognitive level and a peripheral affective level, where more attention is devoted to the attractiveness of the programme. Personal ability to make change can be supported and increased by exercises in assertive behaviour, training techniques and skills for saying no, role-playing, etc. The active engagement of the target group in the programme is also important. A specimen programme is drawn up on the basis of this model, and is then tested on the target group. The further dissemination of the programme takes place only after testing on a pilot group to see if the programme is effective. Experts in various areas must be engaged in the project. The creation of a project team must include a number of co-operating groups. See image 1 below.

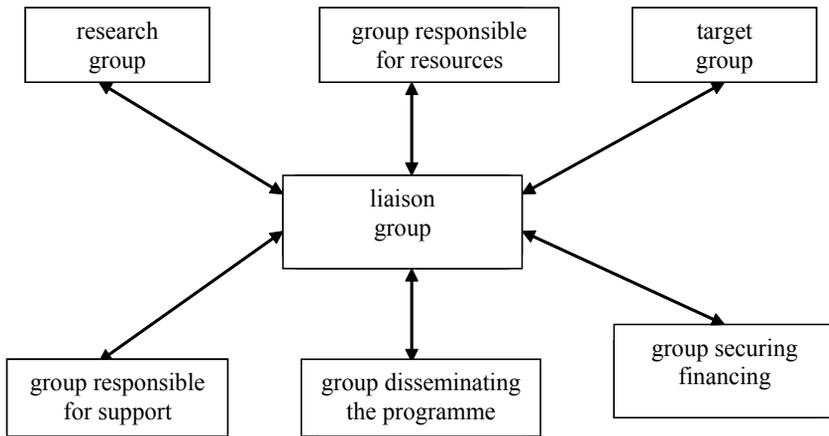


Image 1. The composition of the project team

**Health promotion is an ever-repeating never-ending process.** According to the actual conditions and the given situation, it is possible to begin with an analysis, to continue with the drawing up of intervention aimed at the given behaviour, and to end with an endeavour to disseminate and continue the programme. It is, however, no less important to note that **health promotion and its planning is a continual process.**

## Dissemination of the programme „Non-smoking is a norm“

The programme “Non-smoking is a Norm” is offered to schools for use in health education at the primary level. It is currently being used in 440 schools throughout the Czech Republic, notably in schools in districts such as, for example, Česká Lípa, Nový

Bor, Pardubice, Chrudim, Lanškroun, Ústí nad Orlicí, Přelouč, Tábor, Hradec Králové, Litoměřice, Terezín, Vlašim, Trutnov, Brno, Slavkov, Žďár nad Sázavou, Moravský Krumlov, Zlín, Vsetín, Opava, Bohumín, Nový Jičín, Karviná, Bruntál, Ostrava, Frýdek-Místek, Hodonín and Břeclav. During its introduction into practice, we applied the approach given above in the ABC in Health Education according to H. De Vries, see below. Stated here are details on the analysis of the problem, the creation of the preventive programme, the testing of its effectiveness, and the specific dissemination of the programme “Non-smoking is a Norm”.

**The ABC scheme in non-smoking education and support for a healthy lifestyle within the programme “Non-smoking is a Norm”:**

**A**

**ANALYSIS OF THE PROBLEM**

- |                               |                                    |
|-------------------------------|------------------------------------|
| 1. Needs                      | (smoking, initial experimentation) |
| 2. The individual–environment | (the norms of society)             |
| 3. Target group               | (7–11 years of age)                |
| 4. Determinants               | (analysis of motives)              |
| 5. Approach                   | (the needs of the target group)    |

**B**

**INTERVENTION AIMED AT BEHAVIOUR,  
CREATION OF THE PROGRAMME**

- |            |   |
|------------|---|
| 1. Goals   | (to delay initial experimentation, becoming a no-smoker)  |
| 2. Methods | (a programme of education/prevention, regulation at the state level, restricting smoking in public) |
| 3. Testing | (control group and test group)  |

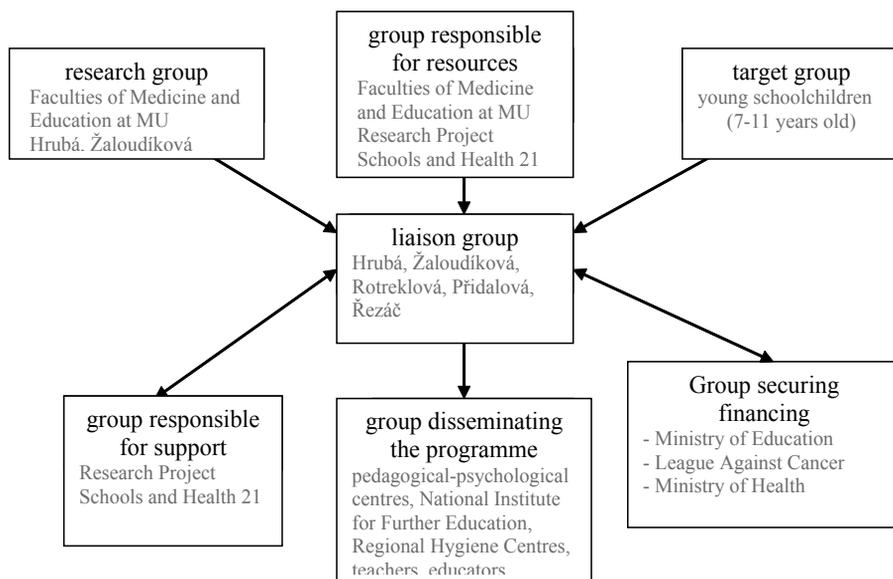
**C**

**CONTINUED PREVENTION**

- |                                   |  |
|-----------------------------------|--|
| 1. Co-operation between experts   | (teachers, psychologists, doctors)   |
| 2. Dissemination of the programme | (pedagogical-psychological centres, the National Institute for Further Education, Hygiene Centres) |
| 3. Tactics and strategies         | (institutionalisation)   |

In the first part of problem analysis we discovered that it is appropriate to focus on younger schoolchildren in view of the recommended approach to the prevention of smoking, which recommends beginning intervention two or three years before the risk behaviour appears. In our region in the Czech Republic, in view of the fact that the first experiments with smoking occur at an age of around ten, this means beginning prevention at the age of seven, i.e. in the first year of primary school. The target group is, then, children aged seven to eleven – young schoolchildren at the primary level. The clear definition of the problem is that the aim of intervention is to delay initial smoking among children (experiments with cigarettes) until a later age, to restrict passive smoking, and

the acceptance of a conscious decision to become a non-smoker. The programme also aims to increase knowledge and influence attitudes and behaviour, and applies the methods of interactive work, group work, discussion, motivational stories, role-playing, etc. We have checked that it is positively evaluated. This check was conducted by means of a comparison of the results recorded in a test group and a control group in order to avoid the dissemination of an ineffective programme. This programme is the result of co-operation between experts in a number of fields – educationalists, psychologists and doctors, and is being disseminated by the National Institute for Further Education, pedagogical-psychological centres and hygiene centres. Teachers are trained in the use of the programme and take part in a workshop where they are awarded a certificate and register their guarantor, who sends feedback about the programme’s introduction into teaching at the specific school in question. The programme has also been assured by a team of colleagues, see image 2.



**Image 2. Team assurance of the project of non-smoking education and health promotion “Non-smoking is a Norm”:**

The first information about the implementation of the programme in schools is already available to us. Teachers generally implemented the programme over the course of two months and informed parents of the programme at class parent meetings. Co-operation with parents mostly took the form of discussions on smoking in the home, and eighty percent of parents gave it a positive assessment and expressed interest in its continuation in higher school years.

They used motivational stories and video recordings, and created individual characters for dramatisation themselves. They frequently connected the subject matter of elementary teaching with other subjects such as reading, art, physical education, music

and maths. They also looked for some of the terms used on the computer and in encyclopaedias, applied the programme at open-air school and connected the programme with the projects Children's Day without Injury, Fruit at School, Healthy Teeth, Earth Day, and drug prevention. More than half of teachers put the children's work in their school portfolios. They like the form of interactive work throughout the entire programme. Within the programme, not merely the cognitive dimension, but first and foremost the affective aspect must be supported and developed in order to make the programme attractive for children so that they look forward to it and take a positive attitude to the subject. Children are, however, most strongly motivated towards a certain type of behaviour by their parents – social learning models.

In conclusion it should be said that the aim is to support primary prevention and create a programme to promote health and a healthy lifestyle that can be used in schools to increase the health literacy of primary school children.

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## **DISEMINACE EDUKAČNÍHO PROGRAMU „NORMÁLNÍ JE NEKOUŘIT“ DO PRAXE ŠKOL**

**Abstrakt:** Primárně preventivní program Normální je nekouřit byl po pěti letech dokončen a jeho evaluace uzavřena jak v pilotní studii na školách v Brně, tak i v širší ověřovací studii v celé ČR. V současné době probíhá jeho rozšíření do praxe zařazením do kurikula školy, respektive do konkrétního školního vzdělávacího programu jednotlivých škol, které projeví zájem využít jej ve výchově ke zdraví. Uplatňuje se především v primární prevenci rizikového chování, primární onkologické prevenci a prevenci kardiovaskulárního onemocnění, a to komplexní výchovou ke zdravému životnímu stylu.

**Klíčová slova:** protidrogová prevence, školní onkologická prevence, výchova ke zdraví, rizikové chování, školní preventivní program

## SMOKE-FREE HOMES: VISION OR NECESSITY AND FUTURE REALITY?

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*Drahoslava HRUBÁ, Iva ŽALOUĐÍKOVÁ*

**Abstract:** *The programs „Smoke-Free Homes“ support the restriction or full prohibition of smoking in homes where children are living. The rules offers the different levels of controls: smoking may be fully prohibited within the whole home („gold grade“), or allowed in only single well ventilated room („silver grade“); the lowest level is the simple agreement to do not smoke in the presence of children or other non-smokers („bronze grade“). There may be even another variants of these strategies. The scientific common opinion emphasizes the full protection of children in the smoke-free homes as main task; of course, the step-by-step approach is possible. Not only foreign, but also the Czech school-based anti-smoking educational programs include partially these problems: the initiation of parental co-operation and training children’s skills in anti-smoking defense strategies.*

**Key words:** *programs „Smoke-Free Homes, full protection of children, school-based anti-smoking educational programs, anti-smoking defense strategies*

Passive or involuntary smoking consists of the inhalation of air contaminated with smoke from the smouldering end of a cigarette (known as sidestream smoke) and the residue of the smoke exhaled by an active smoker (mainstream smoke). The US Surgeon General published evidence of the fact that exposure to air polluted in this way can cause medical problems in non-smokers as long ago as 1986. Toxicologists from the Environmental Protection Agency later classified cigarette smoke as a proven human carcinogen (class A – EPA 1992) and scientists are continually uncovering new knowledge on the dangers of passive smoking. The public has still not, however, perceived this information as a call for the active protection of the most sensitive people – children.

A Czech study assessing the success of the educational intervention programme “Non-smoking is a Norm” designed for pupils in years 1 to 5 of primary school found that around 75 % of children aged between six and eleven are exposed to the influence of smokers among their closest family members: almost 30 % of children have parents who smoke, more than 20 % have grandparents who smoke, while almost another 10 % have both parents and grandparents who smoke. If smoking behaviour among other relatives that children also see frequently (aunts, uncles, older siblings) is added to these figures, then around just a quarter of children are unaffected by this high-risk behaviour

on the part of adults (Hrubá 2008 a). Similar figures are given by another Czech study in the Teplice-Prachatice programme (Dostál 2008) and in a study from Scotland, where more than 80 % of children aged between 8 and 15 are exposed to a smoky environment, most frequently in their own homes (Bromley 2005). Studies from the USA show that the number of children exposed to cigarette smoke in the home environment is around five times higher than the number of adults exposed, and has amounted to around 35 % for the last 20 years (King 2009). Even in families in which the adult members of the family do not smoke, as many as a quarter of children are exposed to smoking on a daily basis when visitors to the home are allowed to smoke (Schuster 2002). Cars in which children travel with their parents are another site of medically-significant exposure. According to a recent study from Ireland, for example, almost 15 % of schoolchildren are frequently exposed in this way (Kabir, 2009). These are merely selected examples taken from the extensive specialist literature.

Passive or involuntary smoking represents a greater risk to children than it does to adults for a number of reasons. Damage to the health caused by the action of the toxicants in cigarette smoke, to which children are the most sensitive, is a direct consequence. Various diseases occur more frequently among people exposed to cigarette smoke, in particular diseases of the respiratory system, resulting complications (particularly inflammation of the middle ear), exacerbated asthma, and the necessity of more frequent hospitalisation (US DHHS 2006). Many studies also indicate the more frequent occurrence of leukaemias (Siegel 1993, Korte 2000). According to numerous scientific studies, the concentrations of the chemical substances in a smoky environment reach such levels that they represent significant toxic exposure for which there is no safe threshold (US DHHS 2006, Matt 2004). The seriousness and urgency of this problem is further augmented by the fact that children do not generally have the ability to avoid time spent in a smoky environment effectively or to move away from the vicinity of smokers (Thomson 2006).

The higher illness rate among such children is often accompanied by poorer school attendance and poorer school performance, for which reason life for children growing up in a family of smokers represents a set of causes of various negative conditions in later life (Muller 2007). The international study Health Behaviour in School-aged Children (HBSC), in which 32 countries in Europe, North America and Israel are participating, is gathering data that makes it possible to assess the relationships between smoking, social position, satisfaction with school work, and school performance. A sectional study encompassing Scandinavian countries and the UK has confirmed unambiguously that below-average school performance was significantly associated with a higher prevalence of smokers (Schnohr 2009).

A second significant risk is the fact that smoking among parents and other people with whom children have a close relationship can inspire them to imitate this behaviour, which has been proven both by numerous foreign studies and by our own study (Eurekac 2005, Hrubá 2008 b). Mothers that smoke increase the risk of smoking among their children more significantly than fathers that smoke (Kandel 1995, Rosendahl 2003, Rainio 2008, Hrubá 1996). When parents give up smoking, however, the frequency of smoking among their children also falls (Chasin 2002, Bricker 2005, Rainio 2008). A prospective investigation has shown that if parents give up smoking soon, when their children start attending school at the latest, the protective effect of their children's continuing life in a

non-smoking environment lasts until early adulthood – the number smoking at the age of 20 will be almost halved when compared to their contemporaries whose parents did not give up (Bricker 2009).

The social aspect, and specifically poverty and a low level of education, is repeatedly confirmed when risk factors influencing smoking in families with children are sought. Further important factors are the presence of a larger number of adults in the family, the children's parents and grandparents living together in the same home and, in particular, an adult person other than one of the child's parents having the dominant position in the home. Children in families in which one of the partners is not a biological parent are also more frequently exposed (King 2009).

The significance of the influence played by a family of smokers as a model of behaviour is sometimes called into question in reference to social developments in developed countries, where puberty begins at a younger age and the use of information technology and the number of activities in which children are engaged outside the family is on the increase. The reduction in the process of socialisation between schoolchildren and adult members of the family (Niemi 2002) and the reduction to the amount of time for mutual contact between parents and adolescent children (Zuzanek 2000) are also associated with this. These circumstances lead to logical expectations that children's greater degree of independence of their parents will also be reflected in the area of smoking. Such expectations have not, however, been confirmed by a study from Finland, which discovered that smoking among parents represents a permanent influence on the level of smoking among children that neither social and cultural changes nor earlier adolescence are able to modify (Rainio 2008).

The use of various pieces of technology (time spent watching television or videos, playing computer games, using mobile telephone networks) has been associated with worsened school performance in a number of studies (Durkin 2002, Gentile 2004). Experts and politicians are engaged in wide-ranging discussions relating to computer games and programmes with violent content, as a number of pieces of research have indicated a correlation between such activity and a higher level of aggressiveness among the young (Gentile 2004). The use of the Internet among adolescents has also been linked to an increased occurrence of various psychological problems such as loneliness, anxiety and depression (Kraut 1998). On the other hand, there is no doubt that modern information technology has many positive aspects, such as reinforcing visual capabilities and memory (Green 2007) and closer contact with friends (Valkenburg 2007).

A recent American study (Ohannessian 2009) investigated the use of modern technology in relation to smoking and alcohol consumption among the young, and discovered a number of interesting associations that should be considered when drawing up comprehensive prevention programmes:

- a correlation was found in boys between the length of time spent watching television daily and starting smoking at an earlier age;
- a significant association was found between smoking among children and children spending more than an hour a day sending and receiving e-mails or drinking a large amount of alcohol and coming from homes in which there was an occurrence of alcoholism among their parents;
- in contrast, no relationship was found between the consumption of legal drugs

and playing computer games, using telephones or searching the Internet.

Various models have been drawn up to explain the influence of parents on smoking among children, such as the theory of social learning (imitating observed behaviour), the theory of problematic behaviour (based on the interaction of the individual with the surrounding social environment), and the theory of social dependence (according to which children's relationship with their parents in early childhood influences their behaviour during adolescence and adulthood) (Scragg 2008). The attitudes held by parents towards smoking, the rules on smoking in place in the home environment and social models are all important factors influencing children and smoking behaviour (Jackson 2002, Kodl 2004, Wakefield 2000). Parents that smoke are generally more tolerant of children's experiments with smoking and, later, with regular smoking by their children, and provide them with tobacco products or the economic means to purchase them (Scragg 2003, Hrubá 2007). The children of smokers begin smoking at an earlier age (Hrubá 2008 b) and more frequently become regular and addicted smokers, which leads to their health being put at risk in later life as a consequence.

In these circumstances we currently have, in essence, three alternatives (Jarvis, 2008):

1. to do nothing to protect children, as has been the case so far
2. to take measures to prevent the exposure of children to passive smoking
3. to force parents to give up smoking

The first of these alternatives must be rejected as highly unethical, and the conditions associated with the remaining two alternatives examined.

In spite of the amount of specialist literature convincingly documenting the medical risks of passive smoking, and in spite of various educational campaigns, it is repeatedly shown that adults' knowledge of this issue is limited or confused (Philips 2007). Studies analysing the causes of a persisting unwillingness or inability to assure children a non-smoking domestic environment have been undertaken in Liverpool and Australia, and have found a number of social, physical, psychological and economic factors that parents perceive as an obstacle to the active protection of their children against exposure to a smoky environment. The following specific reasons have been given: the difficulties associated with continual child supervision, inadequate possibilities for smoking outside the home, the parents' wish to smoke in the pleasant and private environment provided by the home, a lack of understanding of smokers (addicts in particular), and fears about their negative reactions to efforts to restrict smoking in the home (Hill 2003, Robinson 2009). Mothers generally make efforts to protect children against exposure in infancy, but few continued such efforts when the children were older (Robinson 2007). Similar experiences have been recorded in the Czech Republic (Kukla 2008).

The places in which children are subjected to greatest exposure to passive smoking are clearly in the home and in the car; in these places children are offered considerably less protection than in public places. Plans for measures reducing this exposure come up against ethical questions relating to the use of forced measures leading to changes in behaviour in these private places.

From the viewpoint of social norms and laws, parents have the right to bring up their children without state interference, with the exception of situations in which their action or lack of action may expose their children to serious danger. There are already

a number of legal measures for protecting children: the protection of children against physical violence and sexual abuse, the legal requirements to wear helmets and use safety belts, etc. It is clear in this context that parents that smoke in the presence of their children are not acting in their best interests and represent a proven health risk to their children. Legislative measures would, therefore, be a logical step (Daschille 2005).

The fundamental approach to the issue of state interference in the privacy of its citizens encompasses the questions of **autonomy, discrimination, benefit and entitlement** (McCarty 2003). **Autonomy** is understood as free action (according to a set of personal rules formed on the basis of knowledge) that is not limited either by the interference of others or by personal limitations. Within a community of other people, however, boundless autonomy inevitably places limitations on others, for which reason it must be regulated in many areas of behaviour. From the viewpoint of exposing children to passive smoking, the autonomy of behaviour of adult smokers is in direct contradiction of their obligation to protect their children against harm (Beauchamp 1994).

Another point of view is offered by an analysis of the full meaning of autonomy, with particular emphasis on the reasoned choice of action based on good information. Is a smoker actually a fully competent person, when his or her behaviour is influenced by addiction to a psychoactive drug? Is he or she not rather a person who needs help from society in the form of information, education, appropriate restrictions and, most importantly, treatment? If the majority of smokers began to use the drug on a regular basis in childhood and developed an addiction to it at this age, then the whole momentous process began at a time when these smokers were unable to consider all the consequences of their behaviour, and they were certainly not acting autonomously. It is, therefore, necessary to take advantage of all possible ways of providing the necessary information and effective treatment. The treatment of smoking must not, of course, be forced upon people, but offered. If smokers accept this offer, then their autonomy is truly strengthened and their previous behaviour will cease to be a health risk to themselves and their surroundings. They will also feel the benefit socially and economically.

The general term “**benefit**” is sometimes confronted with **paternalism**, the central problem of which is “who decides what is good and proper?”. People are generally willing to accept the views of the experts, and the least problems in this regard are traditionally seen in medicine. Nevertheless, even here the relationship between the doctor and the patient has been altering from the previously highly paternalistic stance towards something approaching an equal partnership. The fundamental condition to this change is that the patient be fully informed (of his or her illness and the possibilities for treatment) and his or her will either to make an independent decision or to leave the course of further action up to the doctor (Buchanan 2008). In relation to the behaviour of smokers, the emphasis is placed on the rights of the smoker to the comprehensive provision of information not merely in general terms, but also on the level of the individual personification of risk.

The legitimacy of state-imposed restrictions on the rights of smokers to smoke anywhere is based on scientific documentation of the medical damage caused to non-smokers exposed to cigarette smoke, and relates first and foremost to children. If an adult smoker is not fully autonomous because he or she either does not have enough information and/or is acting under the influence of addiction, then the application of

restrictive measures to benefit the non-smokers he or she is putting at risk is fully justified. For many smokers, directives restricting smoking in the presence of non-smokers result in an increased interest in supplementary health education and in stopping smoking. Education and treatment are the path leading towards the attainment of true autonomy.

Effective defence has been created to **protect non-smokers**, with legislative measures prohibiting smoking in public; in the USA bans on smoking in the workplace and public places were first laid down in the state of Minnesota (1975). At the present time, certain forms of restriction are applied all over the world. The most comprehensive approach to the protection of non-smokers to date is contained in Article 8 of the Framework Convention on Tobacco Control, FCTC – WHO 2003; the Czech Republic is one of the few countries whose politicians have yet to ratify this document. Research to date shows that once people understand the purpose of protecting non-smokers against exposure to tobacco/cigarette smoke, they support the legislative measures adopted, and this includes smokers who did not at first agree with the regulation of their behaviour as smokers. Restrictions on smoking in the workplace, in schools and medical facilities, on public transport, in restaurants and bars and other public places gradually has the desired influence, i.e. a negative attitude to smoking taken by the majority of society (Hyland 2009).

In practice, however, these restrictions tend to protect adults, while **millions of children remain unprotected** against exposure to the toxicants produced by their smoking parents, relatives and visitors in their private homes and cars. Although many smokers, influenced by bans on smoking in public, are willing to assure a non-smoking environment in the home if they share it with non-smokers (Borland 2006), this approach is uncoordinated and attempts to intervene in this area have so far been sporadic.

There is a system of Family Courts in the USA, one of the areas they consider being the issue of domestic exposure to passive smoking, particularly among children with chronic respiratory diseases. In individual casuistries for which expert witnesses have defined the contribution made by exposure to passive smoking to the damage caused to children's health, a requirement for a complete ban on smoking in their presence has been enforced (Daschille 2005).

Smoking in cars has been assessed in a number of countries from the viewpoint of the safety risk presented by a driver holding or handling a cigarette and thereby having impeded control over the vehicle, in a manner analogous to the use of a mobile telephone. The majority of the legal restrictions relate to drivers of public transport vehicles, though such bans also relate to the drivers of private cars in a number of countries. Legislative prohibitions of smoking in vehicles in the presence of small children have been applied in three US states (Arkansas, Louisiana and California) for a number of years, and are being considered by the legislators in a number of others (Jarvie 2008).

Programmes for “**Smoke-free Homes**” have been created in the UK to support the restriction or complete prohibition of smoking in homes with children. These projects are similar, and their rules allow for the differentiation of various levels of restriction, from the complete prohibition of smoking anywhere in the home (“gold

promise”), allowing smoking in one well-ventilated room (“silver promise”), to an agreement not to smoke in the presence of children or other non-smokers (“bronze promise”) (Ritchie 2009). There are also other variants on these strategies regulating smoking in homes and cars, smoking at an open window, and smoking in corridors and WCs, though these are considered ineffective by the experts (Matt 2004).

The experts assessing these projects agree that the principal aim must be the comprehensive protection of children, which can only be assured by an agreement on the complete prohibition of smoking in the homes in which they live. In view of the aforementioned problems, however, a step-by-step approach may also be supported, beginning with not smoking in the presence of children and non-smokers, to limiting smoking to selected areas where children and non-smokers do not go, up to the final goal of a complete ban on smoking in the home (Ritchie, 2009). A study analysing social determinants influencing the risk of the early initiation of experiments with smoking found that important factors included not only smoking among family members and exposure to a smoky environment, but also children’s perception of the attitudes held by their parents to smoking and whether or not they felt able to discuss their personal problems with their parents (DiNapoli 2009).

In the programme for young schoolchildren “Non-smoking is a Norm” almost two-fifths of children (year four pupils) stated that someone smoked in their home. Less than a third of their parents admitted to this, however (tab. 1). The majority of parents – 86 % – agree with the bans on smoking in public places defined in the legislation of the Czech Republic and, somewhat surprisingly, there were no differences between respondents who smoke and respondents who do not smoke in this regard; around just 6 % do not agree with these bans, while more than another 5 % consider the scope of the banned places excessive. The majority of respondents are, however, sceptical about whether legal means protecting non-smokers in public places will influence the behaviour of smokers that puts those closest to them in danger in their own homes.

Tab. 1: Figures given by children and parents on smoking in the home (in percent)

DOES ANYONE SMOKE AT HOME?:	CHILDREN	PARENTS
Never	59.2	69.0
Sometimes	16.7	9.6
Yes	24.1	21.4

The problem as to **how to address the community of smoking parents** and those who do not smoke themselves, but do not actively protect their children against other smokers, remains to be resolved. Attention is focused in this regard primarily on doctors and other medical staff, who have a unique opportunity to draw parents’ attention to the risks associated with exposure to passive smoking, not merely when treating children for their illnesses, but also during the numerous preventative examinations. A number of monitored studies have already been published, and indicate a certain degree of success. Action taken by nurses directly in the homes of families with children has resulted in reduced exposure of children to cigarette smoke, though no decline in the number of smoking parents was recorded (Greenberg 1994). Ano-

ther study based on the same principle of home intervention had an extremely small effect (Tanski 2003) and a similar lack of success has been recorded by the work of Hovell (2000) and Muller (2007). An overview of 18 programmes provided by the Cochrane database did not provide conclusions that would indicate the unequivocal recommendation of any of them (Roseby 2003). In spite of certain confusion and the associated unwillingness of paediatricians to try to shape the smoking behaviour of parents, the recommendations from the experts are unambiguous, and take in approaches protecting children against exposure, advice on giving up smoking and help in the treatment of addiction to smoking (Tyc 2008).

Another possibility is provided by school-based anti-smoking educational programmes that prepare children in the use of various methods for ensuring a certain level of protection against toxic exposure in families. A unique set of anti-smoking educational programmes designed for children of various age groups has been created in the Czech Republic: in nursery schools children learn about the health risks of smoking from stories, colouring books and acted scenes, after which they try to avoid being in the vicinity of smokers spontaneously. Follow-up programmes for young and old schoolchildren continue both to provide further knowledge about the health risks and to expand the children's knowledge about the economic and ecological damage caused by smoking. They also initiate parental co-operation in various kinds of "homework" and teach children strategic approaches in negotiating with adults on conditions respecting the right of children to the assurance of home safety, including protection against exposure to passive smoking. These school programmes also include training of the skills necessary to recognise high-risk situations and ways of refusing offers of drugs and other kinds of high-risk behaviour. A programme with a three-level form of intervention has been created for schoolchildren who already smoke actively or who are already addicted (Hrubá 2001).

The anti-smoking influence schools have lies mainly in the fact that they assure a non-smoking environment and thereby reduce the exposure of children and adolescents to passive smoking. They also provide health education, not merely theoretical, but also the training of practical skills. They may, however, also modify the impact of inappropriate social models provided by the family and positively shape non-smoking behaviour among the young. Good relations at school and successful study results had a significant preventative influence in a group of pupils aged 13 to 15 in the HBSC study (Roberts 2007), its Scandinavian part (Schnohr 2009), among adolescent girls (DiNapoli 2009), and among secondary school pupils from Slovakia (Salonna 2008). Not merely teachers, but politicians as well, should accept that the comprehensive formation of a supportive and creative environment in schools is a significant priority and should support its implementation with all available means. They can, in this way, contribute towards improving the health of the population and reducing inequalities in health.

## Conclusion

1. The protection of children against exposure to the toxicants in cigarette smoke is an important priority in primary prevention. There is an ethical problem to this clear aim in the conflict of views held by two groups of the population: on

one hand there are the liberal views on the privacy of the home, including the rights of smokers to freely behave in a way that puts others at risk; on the other there are documents from the WHO (2001) and UNICEF (1989) defending the rights of children to, among other things, protection against the effects of tobacco.

2. Health professionals, and paediatric specialists in particular, must take greater advantage of the unique possibilities open to them, inform patients of the health risks of passive smoking, and motivate them to take the kind of measures that would restrict or entirely preclude the exposure of children to cigarette smoke.
3. School education can endeavour in an effective manner to increase children's practical skills in avoiding involuntary exposure to cigarette smoke.
4. Attention must be paid to shaping the desired attitudes in society and creating effective strategic approaches to protecting children against passive smoking in the home. These should avoid stigmatising parents who smoke, particularly among lower social groups, while also supporting children's rights to grow and develop in a healthy environment.

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## NEKUŘÁCKÉ DOMOVY: UTOPIE NEBO NUTNOST A BUDOUCÍ REALITA?

**Abstrakt:** Programy pro „Smoke-free homes“ podporují omezení či úplný zákaz kouření v bytech s dětmi. Pravidla umožňují odstupňování omezení od úplného zákazu kouření v celém bytě („zlatý stupeň“) přes povolení kouření v jediné dobře větrané místnosti („stříbrný stupeň“) až po dohodu nekouřit ani v přítomnosti dětí ani v přítomnosti ostatních nekuřáků („bronzový stupeň“). K těmto strategiím existují ještě různé varianty. Odborníci se shodují, že hlavním cílem musí být komplexní ochrana dětí, kterou lze zajistit jediné dohodou o úplném zákazu kouření v jejich domovech; lze podporovat etapovitý přístup. Školní výchovné protikuřácké programy nejen v zahraničí, ale i v České republice zahrnují i tuto problematiku: iniciují spolupráci rodičů na různých „domácích úkolech“ a učí děti strategickým postupům při jednávání s dospělými o podmínkách respektujících právo dětí na zajištění domácího bezpečí, včetně ochrany před expozicí pasivnímu kouření.

**Klíčová slova:** nekuřácké domu, komplexní ochrana dětí, školní výchovné protikuřácké programy, expozice pasivnímu kouření



## TEN-YEARS-OLD SMOKERS DIFFER FROM THEIR NOSMOKING EQUAL IN AGE

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*Drahlava HRUBÁ, Iva ŽALOUĐÍKOVÁ*

**Abstract:** *The participants of the „No-smoking is a norm“ semilongitudinal study have advanced into the 4th degree. According to the data from the pre-test, 23 % of ten-years-old children have tried to smoke, 7% of them smoked repeatedly. Later on, in post-test, 24 % of children experienced with smoking, more than 10 % of them repeatedly: thus within six months the number of repeatedly smoking children has enhanced by 3,3 %, while the number of never smokers has decreased by 2,1 %. Smoking children significantly more often than never smokers lived in smoking families and had smoking friends. They also more often expressed their admiration or the neutral attitudes to smoking adults, and – on the other hand – less critical opinions. The significant differences were not only between never smokers and smokers, but also between those who had only one attempt and repeatedly smoking children ( $p < 0,001$ ). For children, the main source of cigarettes is the home environment: parents, siblings, other relatives or free available cigarette packets; the friends as tobacco offers also have grown up. Despite of the existing ban of sale tobacco to minors, some ten-years old children could successfully buy it. Even single attempt with smoking was associated with the higher consumption of alcoholic beverages compared to never smokers. Only less than one quarter of repeated smokers did not drink any alcohol during the last month, but more than one quarter of these children reported drinking of two or more sorts of alcohol (including destilates) repeatedly. There were no differences in the frequency of fruit, vegetable and diary products consumption between smoking and nosmoking children. However, smokers have consumed more often 2 or more portions of salt and/or sweet delicacies daily.*

**Key words:** *smoking, schoolchildren, life style, differences*

### Introduction

Smokers generally differ from non-smokers in other characteristic features of their way of live – worse eating habits, greater consumption of coffee and alcoholic drinks, less exercise, greater sexual promiscuity, the more frequent occurrence of other risky aspects of everyday life (not using safety belts in cars, hitchhiking, driving under the influence of alcohol, etc.). This information has been obtained largely from investi-

gations of the adult and adolescent population, both abroad (Nutbeam 1989, US DHHS 2000, Nelson 2006, Flouris 2008) and in a number of Czech studies (Nová 1997, Csémy 2005). The set of behaviours known as “lifestyle” is formed gradually over the course of one’s entire life and is determined by two factors in particular: traditions and social conditions. Traditional elements (national, regional, family, professional, religious) are highly persistent. They may, however, be modified by popular fashion trends, which need not conform to the recommendations of the experts; health education, on the other hand, is positively focused and particularly effective when accompanied by social support for the desired behaviour.

Children generally have far less scope in choosing their way of life than adults do, as they are socially and economically dependent on the family and school environment. Opportunities for behaviour differing on an individual basis gradually increase with increasing age. They start getting pocket money that they can spend how they like, parental supervision of their free-time activity is reduced, and their skills in the use of modern communication technology makes monitoring and guiding by adults essentially impossible. The psychological changes accompanying adolescence motivate children to seek their own position in society, and at the same time make it difficult for them to consider the consequences of the methods they employ to achieve this goal. The teenage period is considered extremely important, and may influence the individual throughout the remainder of his or her life.

The school educational programme “Non-smoking is a Norm” is unique in the fact that it focuses on studying and influencing the way of life among younger school-children aged from six to eleven. Using a test group of children and a control group, it makes it possible to monitor developmental trends for certain aspects of risk behaviour, their determinants and their “accumulation” at a time at which the children are still influenced to a significant extent by their families and schools. This work describes the differences among ten-year-old children (pupils in year four at primary school) with different smoking behaviour.

## **Methodology**

As in previous stages, an anonymous questionnaire was used in year four, which the children completed once before beginning the series of lessons (a pre-test in November–December) and again around four months later after the programme ended (a post-test in May–June).

A number of questions taken from the previous investigations were asked again at the year-four stage. The children “graded” their attitudes towards smoking among adults, stated whether or not they had friends who smoke, whether they had ever tried smoking themselves, whether they had smoked in the week before the administration of the questionnaire, and whether they had tried smoking repeatedly. In contrast to the preceding investigations, smoking among parents and other relatives with whom the children come into contact was not determined, but rather if anyone smoked at home or not.

The consumption of selected food groups (fruit, vegetables, dairy products, savoury snacks and sweet treats) among the children was also determined as the

programme also takes in other aspects of a healthy lifestyle, and nutrition in particular. The consumption investigated related to the preceding day and the children chose from the answers offered and added details of further food types not included in the possible answers given. The figures were entered into the computer for processing as portions of individual food groups. A separate question related to the consumption of various types of alcoholic drink in the preceding month (beer, wine, liqueurs/spirits); if the children stated the repeated consumption of two or more types, these figures were recorded separately.

In view of the fact that the group of ten-year-old children included a sufficient number of children that had tried smoking either once or repeatedly, the figures obtained were also used to evaluate the differences between non-smokers and the two groups of smoking children (without differentiating the test and control groups). Statistical significance was assessed using t-tests in the EPI INFO programme.

## Results

The final post-tests were completed by fewer pupils (985) than the original pre-tests (1,085). A fall in numbers was seen in both groups – the test group and the control group. This was the result of greater absence from school in the period before the summer holidays. One school did not set either the introductory or final test following a change of teacher.

Almost a quarter of children in year four had tried smoking. During the period between the pre-test and the post-test the number of children that had tried smoking repeatedly increased by around 3 % (from 7.0 % to 10.3 %), while the number who had still never tried smoking fell by more than 2 % (table 1). In isolated cases children mentioned that they had tried smoking a water pipe in the family.

Table 1 Smoking and non-smoking children in year four

	TEST	SMOKED		
		NEVER	ONCE	REPEATEDLY
Number of children	pre	831	173	75
	post	737	146	101
Percent of total	pre	77.0	16.0	7.0
	post	74.9	14.8	10.3

Ten-year-old boys stated experiments with smoking significantly more frequently than girls. The number of children that had never tried smoking fell during the period between the pre-test and the post-test for both sexes – by almost 4 % in boys and by a little less than 2 % in girls. The increase in the number of children that had smoked repeatedly during this period is also different for the two sexes – by 5 % in boys and by more than 3 % in girls (table 2).

Table 2: Differences between girls and boys in figures about experiments with smoking (percent of answers). The statistical significance tested for differences between the sexes in each investigation

	PRE-TEST			POST-TEST		
	BOYS	GIRLS	p <	BOYS	GIRLS	p <
Tried smoking:						
once	17.2	15.0	ns	16.0	13.3	ns
repeatedly	7.8	4.0	ns	12.7	7.3	0.01
never	75.0	81.0	0.05	71.3	79.4	0.01

Children that smoke live significantly more often in families that smoke and have friends that smoke. Children that smoke repeatedly again differ significantly from those who have only tried it once ( $p < 0.001$ ) in seeking out contemporaries who smoke (table 3).

Table 3: Differences between children with various types of smoking behaviour: exposure (% of responses)

Statistical differences: p1 = one-off smoking : have never smoked  
 p2 = repeated smoking : have never smoked

Smoking at home	TEST	SMOKED				p2<
		NEVER	ONCE	p1<	REPEAT.	
No one	pre	65.5	48.3	0.001	37.3	0.001
	post	64.2	45.2	0.001	38.0	0.001
Occasionally	pre	15.4	18.0	0.05	14.6	ns
	post	16.6	17.1	ns	21.0	0.01
Yes	pre	19.0	33.7	0.001	46.7	0.001
	post	18.9	37.7	0.001	41.0	0.001
A friend smokes	pre	16.4	54.4	0.001	73.3	0.001
	post	17.8	46.6	0.001	74.0	0.001

Children that smoke more frequently express admiration of smoking among adults (awarding a “grade” of 1 or 2), or a neutral stance towards this behaviour (“grade” 3). In contrast, significantly fewer of them are critical of such behaviour (awarding “grades” 4 and 5). In terms of their attitudes towards men smoking, children that smoke again differ significantly from those who have only tried it once so far ( $p < 0.001$ ) (table 4).

Table 4: Difference between children with various smoking behaviour: attitudes towards smoking among others (% of responses)

Statistical differences: p1 = one-off smoking : have never smoked  
 p2 = repeated smoking : have never smoked

	TEST	NEVER	SMOKED ONCE	p1<	REPEAT.	p2<
Smoking among women						
1+2	pre	0.9	9.4	0.001	2.7	ns
	post	1.2	2.8	ns	8.2	0.001
3	pre	7.4	15.9	0.001	39.7	0.001
	post	7.4	25.2	0.001	24.5	0.001
4+5	pre	91.7	74.7	0.001	67.5	0.001
	post	91.4	72.0	0.001	67.4	0.001
Smoking among men						
1+2	pre	2.4	8.7	0.01	28.8	0.001
	post	1.6	4.1	0.01	19.2	0.001
3	pre	11.7	24.4	0.001	34.2	0.001
	post	13.7	30.3	0.001	42.4	0.001
4+5	pre	85.9	66.8	0.001	37.0	0.001
	post	84.6	65.5	0.001	38.3	0.001

The children choose all the offered answers about the source of tobacco products that corresponded to the truth, for which reason the number of answers exceeds 100 % for children that have already tried smoking repeatedly. It is clear that the main source for both one-off and repeated smokers is the home environment, i.e. parents, relatives, siblings, or freely accessible home supplies of tobacco products – between 60 % and 80 % of smoking children obtained cigarettes in this way. The frequency with which tobacco products are given by friends and contemporaries increases among repeated smokers. In spite of the prohibition of the sale of tobacco products to those younger than 18, there are ten-year-old smokers (and particularly those who have already smoked repeatedly) who successfully purchase cigarettes in shops (table 5).

Table 5: Source of tobacco products (% of responses)

SOURCE	TEST	SMOKED 1x	REPEATEDLY
Sibling	pre	9.3	20.0
	post	11.6	18.8
Parents	pre	15.0	12.0
	post	17.1	12.9
Grandparents, other relatives	pre	24.9	17.3
	post	23.3	22.8
Took from home	pre	11.0	30.7
	post	13.0	23.8
Family environment – total	pre	60.2	80.0
	post	65.0	78.3
Friend, other person	pre	38.2	32.0
	post	31.5	48.5
Purchased themselves	pre	2.3	5.3
	post	2.7	10.9

In both investigations, around 40 % of children in the whole group said that they had consumed an alcoholic drink during the last month before the administration of the questionnaire. According to the dates of completion of the questionnaire this means October–November and April–May, when there are no national holidays traditionally associated with the family consumption of alcohol.

Even one-off experiments with smoking among children are associated with a higher frequency of consumption of alcoholic drinks in comparison with children that have never tried smoking. In the majority of cases, those who have already smoked repeatedly also differ significantly in this unfavourable respect from children that have smoked only once so far – less than a quarter of them had not had any alcoholic drink in the last month, while more than a quarter of them had drunk alcohol repeatedly (table 6).

Table 6: Differences between children with various smoking behaviour: alcohol consumption in the last month (% of responses)

Statistical differences: p1 = one-off smoking : have never smoked  
 p2 = repeated smoking : have never smoked

	TEST	SMOKED		p1<	REPEAT.	p2<
		NEVER	ONCE			
Beer	pre	12.8	18.5	0.01	25.3	0.001
	post	15.9	28.1	0.001	31.7	0.001
Wine	pre	6.8	6.4	ns	12.0	ns
	post	3.7	4.1	ns	9.9	0.01
Spirits, liqueurs	pre	3.0	7.5	ns	6.7	ns
	post	2.6	5.5	0.05	5.0	ns
Combination of 2	pre	6.4	13.9	0.03	10.7	0.05
	post	3.0	13.7	0.01	8.9	0.01
Combination of 3 or more	pre	2.9	10.4	0.01	17.3	0.001
	post	0.4	5.5	0.001	17.8	0.001
Combination total	pre	9.3	24.3	0.001	28.0	0.001
	post	3.4	19.2	0.001	26.7	0.001
Did not drink any alcohol	pre	67.8	41.6	0.001	18.7	0.001
	post	74.0	43.2	0.001	23.8	0.001

No statistically significant differences between children that smoke and children that do not smoke were found in relation to consumption of fruit, vegetables and dairy products. In the repeated one-off investigations around 30 % to 40 % of children in each group conformed to the daily consumption of fruit and vegetables (according to listed types, rather than individual pieces of fruit) and the differences are not statistically significant. More than 10 % of children in both investigations had not had any fruit or vegetables the previous day. No particularly significant differences in the consumption of the recommended portions of fruit were found between the two seasons of the year in which the questionnaires were completed (autumn and spring). For vegetables, however, the figures on the consumption of the recommended number of portions were significantly higher in the spring. More than a third of the children in both groups consumed the

recommended three portions of milk and dairy products, though more than 7 % had not had any such product the previous day. Only a few individuals stated medical reasons for this (intolerance). If any children included items such as butter, cream or sweet dairy treats in dairy products, then these answers were not registered.

One-off and repeated smokers among the children differed from non-smokers in more frequently consuming two or more portions of savoury snacks and sweet treats (table 7).

Table 7: Differences between children with various smoking behaviour: consumption of savoury snacks and sweet treats the previous day (% of responses)

Statistical differences: p1 = one-off smoking : have never smoked  
 p2 = repeated smoking : have never smoked

	TEST	SMOKED				
		NEVER	ONCE	p1<	REPEAT.	p2<
No salted snacks	pre	39.9	33.1	0.01	21.9	0.001
	post	44.0	34.9	0.01	22.4	0.01
More than 1 portion	pre	23.4	39.5	0.01	45.2	0.001
	post	18.6	30.8	0.05	44.9	0.01
No sweet treats	pre	39.1	32.0	0.01	39.2	ns
	post	37.6	28.1	0.05	23.5	0.01
More than 1 portion	pre	22.2	22.7	ns	24.4	ns
	post	21.5	24.7	ns	42.9	0.01

## Discussion

The family environment has the greatest importance in shaping children’s attitudes and behaviour, not merely in childhood, but also during adolescence and early adulthood when the influence of contemporaries and society increases. A number of older studies and the very latest studies have repeatedly demonstrated that smoking among parents is one of the most significant factors influencing the first experiments with smoking among children. These associations have been described both in foreign studies (Bricker 2006, Griesbach 2003, O’Loughlin 1998, Covey 1990, Swan 1990) and among the Czech population (Hrubá 1996, Dostál 2008).

Nutritional habits were determined only very approximately according to the children’s responses about the consumption of selected food types the day preceding completion of the questionnaire. The marked conformity of the frequency of the responses in the autumn and spring investigations are, however, probably an indication of the fact that even the extremely approximate method used has its value. A seasonal fluctuation was seen only for “vegetables”; the number of children that had consumed the recommended number of portions increased significantly for both sexes in the post-test completed at the turn of spring and summer. The figures for the number of children that did not consume any fruit, vegetables and dairy products or savoury snacks and sweet treats were, in contrast, stable, which might be considered a continuing expression of the unpopularity or absence of the items on offer.

A number of epidemiological studies have repeatedly shown that smokers have worse nutritional habits than non-smokers: they consume more fatty and meaty dishes and less fruit, vegetables, cereals and dairy products. These differences are discovered not merely among adults, but also among adolescents (e.g. Ma 2000, Millen 2004, Kubik 2007, McClure 2009). It has been shown that smokers more frequently do not believe the experts that sources of antioxidants and fibre are effective in preventing cardiovascular and tumorous diseases, and are less motivated to change their existing eating habits (Jain 2009).

Our study did not confirm these findings, and our explanation of this is that young schoolchildren eat according to the habits of the family, and most of them receive lunch and perhaps a dairy snack at school. The nutritional recommendations from the experts are not respected to the desired extent in spite of a number of educational programmes aimed at improving the eating habits of the population, specifically in our region where the majority of schools are engaged in the “Non-smoking is a Norm” study. One of the reasons for this is certainly the fact that parents are ill-informed, and are generally convinced that one or two portions of fruit, vegetables and dairy products are sufficient for children (Hrubá 2008).

Differences in the eating habits of children with differing smoking behaviour were seen for savoury snacks and sweet treats (chips, salted sticks, crisps, hamburgers, sweets, ice cream, chocolate), which children obtain both from freely available supplies at home and with their own pocket money. Higher consumption of savoury snacks and smoked meats in particular was seen both among children experimenting with smoking and children living in families of smokers, even if they had not as yet smoked themselves. It is possible that this is in part the result of exposure to smoking, as nicotine has an influence on taste (Grunberg 1982, Redington 1984).

The findings relating to the concurrent use of both legal drugs – alcohol and tobacco – among such young children were disturbing. This is explained by identical social conditions of consumption and the potency of the resultant effects on the consumer (McCleron 2007, Rose 2004). The experts believe that alcohol may initiate experiments with smoking and accelerate the development of dependency to it (Paavola 2004, Gruzca 2006).

Measures to restrict the availability of alcohol and tobacco products, social controls, clear attitudes and parental supervision may significantly limit experimentation and the later regular use of these drugs (Weitzman 2005). Programmes aimed at primary prevention should incorporate a more comprehensive approach to preventing drug use and to education leading to a healthy lifestyle (Leatherdale 2008).

## **Conclusion**

The programme “Non-smoking is a Norm” is based on expert recommendations for the creation of school educational programmes. Its effective influence on the lifestyle of young schoolchildren is limited by the environment in families of smokers and the tolerant attitude of society towards the consumption of legal drugs. In this context, the educational and instructive role played by schools is all the more important.

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## DESETELETÍ KUŘÁCI SE LIŠÍ OD SVÝCH NEKOUŘÍCÍCH VRSTEVNÍKŮ

**Abstrakt:** V semilongitudinální studii hodnotící účinnost programu „Normální je nekouřit“ postoupily sledované soubory dětí (ovlivňované programem a kontrolní) do 4. tříd základních škol. Při vyšetření v pre-testu mezi nimi bylo 23 %, kteří už zkusili kouřit, z toho 7 % kouřilo opakovaně. V post-testu se počet kouřících dětí nevýznamně zvýšil (na 24,1 %), z nich 10,3 % dětí kouřilo opakovaně: hoši experimentovali významně častěji než dívky v obou vyšetřeních. Kouřící děti významně častěji žijí v rodinách, kde se kouří, a mají kouřícího kamaráda. V postojích ke kouření mužů a vyhledávání kouřících vrstevníků se také významně liší děti kouřící opakovaně od těch, které to zatím zkusily jen jednou ( $p < 0,001$ ). I jednorázové kuřácké pokusy dětí jsou spojeny s vyšší frekvencí konzumace alkoholických nápojů ve srovnání s dětmi, které ještě kouřit nezkoušely.

**Klíčová slova:** kouření, školní děti, způsob života, rozdíly

## ALCOHOLISM AS A SOCIAL AND BIOLOGICAL PROBLEMS

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**Abstract:** *This paper presents empirical evidence on the relationship of the selected sample of elementary and secondary schools to alcohol as a socially tolerated drug. We are detected the awareness of students about the harmful effects of alcohol with the questionnaire. Questions were focused not only on the direct adverse effect on biological, but also the negative social impact of alcoholism. Another part of the questionnaire was devoted to pupils' experiences with alcohol. All factors are reviewed in correlation with the social situation, family environment, living, gender, age of respondents and leisure activities among respondents. Equally important was the evaluation of correlation between knowledge about the harmful effects of alcohol and experiences with him.*

**Key words:** *pupils from primary and secondary schools, alcohol consumption, harmful alcohol*

### Theoretical background

Alcohol is tolerated as the legal drug, whose sale is restricted to persons over 18 years, although it is not exception, that it is easy to reachable to the younger people. According to research falls annually per capita from 9 to 10 liters of alcohol, which ranks as on the forefront cases in Europe (Erb, Schneider, 2003). Alcohol abuse extends particularly among young, mainly because of easier availability and of their lodging in occasion various social and cultural events. Alcohol is a pleasant taste, tolerated, offered, affordable, in small amounts the drug. In him it is concentrated large amounts of calories, but little energy. It has a pleasant effect on the human psyche, removes tension, relaxes and improves mood, facilitates contact, bringing together people and mainly unties language. In a small amount has on the physical state of positive effects: it improves digestion, expands blood vessels, disinfects. In a small extent, causes momentary pleasure claims Janiaková (2003).

Under Ondruš (1990), the name of the alcohol comes from the Arabic word al-ka-hal which means a gentle, a special substance. It is known to several natural sources

of alcohol (grain, fruit, grapes, potatoes). From these sources, the alcohol is obtained by fermentation, boiling, burning, or a combination of methods. Alcohol is a hard, insidious and slow-acting drug. This chemical substance easily penetrates into various organs and brain. People often drinking alcoholic without beverages realise that is not only quenched the thirst, but that he grown the habit of consumption.

Handzo (1981) divided the people according to the relationship to alcohol to four groups:

1. Abstainers - do not drink alcohol for its taste, nor against thirst. Abstainer is a man who he did not alcoholic drink at least three years.
2. Consumers - drinks alcohol to quench thirst, but in such quantity that their mental activity is not affected. Alcohol levels in blood not exceeded 0.3 parts per thousand. For consumers alcohol is not a drug.
3. Drinkers - drinks alcohol not only for a thirst and for the taste, but mainly in order to provoke a state of euphoria. The drinker is becomes often tragically ended a man addicted to alcohol.
4. Alcoholics - Alcohol for its taste has no meaning for him. The main and most important effect is to be get drunk. In alcoholic he looking beverage source amusement, relief for the removal of intellectual tension.

Skála (1986) states the following forms of alcoholism:

Moderate use of alcoholic beverages - at social events, as addition to food. Alcohol is used in such dose that has no noticeable effect on the physical and mental activity of man.

Abuse of alcoholic beverages. It is not a term semantically identical with term abuse. It is the unlawful abuse of alcohol, inconsistent with treatment .... (Eg, if a woman drinks during pregnancy, may negative affect the health of her child even when she drinks only small doses of alcohol)

Drunkenness - the abuse of alcohol, which leads to drunkenness. This use may be:

- Occasional,
- Periodic or regular, systematic.

Drunkenness can lead to so-called addictive dependence - when arises alcohol dependence.

Ondrus (1990) states, that according to american expert E. M. Jellinek, are four developmental stages of alcoholism:

1. Initial phase - drinker is drinking not only because it has a thirst but because alcohol encourages the spirit, helping him to overcome fear and anxiety. To achieve a good mood, gradually increasing doses. He consumes only so much alcohol that has reached podnapitosti.
2. Deterrents phase - often occurs to mild drunk. It is characterized by statements like: „One day it can happen to any“. Man begins to „prescribe“ alcohol for themselves to improve his mental state regardless of the type and form of alcoholic beverage.
3. Decisive phase - man loses control over drinking. Loss of control does not mean

that a person can not be without alcohol. In this phase drinker often drinks as long as he has money. After some time he comes to the conclusion, that guilt is not in him but in other. During this period is easier for the drinker abstinence as „drinking in moderation“.

4. Final phase - a typical feature of this phase is reduced tolerance for alcohol. Suffice just Less alcohol to get drunk. Losing their interests, diverting it from family, colleagues and friends. As a result of long-term alcohol consumption beginning to show at him Alcoholic psychosis.

Every alcoholic can be somehow characterized. According Šoltés (2001) commonly using characteristics include:

1. Negation
2. Vividness
3. Excuses
4. Transferring responsibility
5. Low tolerance to other
6. Ambivalence
7. Handling
8. Remorse
9. Low self assessment

Among the diseases that are most damaging organism of alcoholic Nespor (2004) ranked mainly as follows:

- Nutritional disorders and metabolic - obesity, the incidence of atherosclerosis, brain damage,
- Infectious diseases - lung infections, tuberculosis, lung tissue decay,
- Malignant tumors - cancer of the mouth, larynx, stomach, small intestine, respiratory tract,
- Nerve disease - sensitivity to pain, memory disorders, perception disorders and thinking,
- Diseases of the skin, muscles - suppurative disease, skin redness, enlargement of veins, conjunctival repletion,
- Accidents and poisoning - worse heal wounds, injuries are difficult

The most common physical disorders related with alcohol include:

- Indigestion, peptic ulcer disease, gastritis,
- Diarrhea
- Acute and chronic pancreatitis,
- Liver disease,
- Pneumonia and bronchitis,
- Liver cancer and pancreatic
- Brain damage, epilepsy, inflammation nerve paralysis,
- Reduced fertility and impotence,
- Lowered immunity, high blood pressure (www.infodrogy.sk).

Consequences of alcoholism are terrible for the alcoholic himself, his family and society. The company is particularly interested in the manifestations of alcoholism, which has led to serious consequences and those that do not exceed the reasonable and law degree are left to individuals (Handzo, 1981).

Alcoholism is the most malignant and most decomposition is affecting in marriage and family relations, brutally disrupts, destroys the love of spouses, mutual trust and family harmony, is a major cause of the crisis of family life, as well as of the high divorce rate (Repán, 1980).

Children who grow up in families where alcohol is consumed daily, have unsuitable conditions for their development and a bad example for the formation of attitudes towards the use of alcoholic beverages. Because many children try to imitate adults. If a child lives with parents who are drinking, can to have it impacts on his future fears, fear of harm (Handzo, 1981).

## Research Hypotheses

- H1 - We expect that younger respondents will have less knowledge about alcohol and less experience with alcohol.
- H2 - We expect that respondents with a stable family environment will have less experience with alcohol.
- H3 - We assume that girls have less experience with alcohol than boys.
- H4 - We assume that the residence of the respondents have an impact on knowledge and experience with alcohol.

## Research sample

The research sample consisted of 302 respondents, high school students, whose numbers by sex and attended schools are in Table 1.

**Table 1** Number and sex of respondents

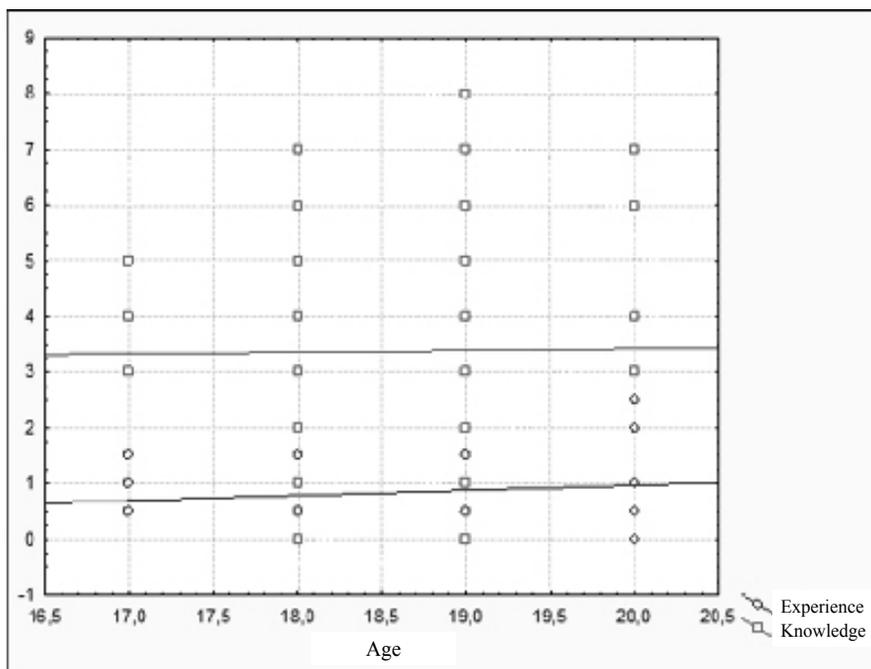
School	Boys	Girls
Secondary School in Dubnica	77	13
Vocational Secondary School of Electrical and Mechanical Engineering at Dubnica	41	49
Vocational Secondary School of Engineering in Trnava	56	3
Secondary School Building in Trnava	46	17

## Research methods

The survey was performed by questionnaires. Respondents were familiar with the method of filling in the questionnaire and the maintenance of anonymity in its evaluation. Research tool, the questionnaire consisted of 32 questions of which 26 were closed and others open. Results obtained from questionnaires were subjected to statistical analysis in the Statistica program. Obtained data were graphically visualized.

## Results and their interpretation

In hypothesis 1, we assumed that younger respondents will have less knowledge about alcohol and less experience with alcohol.



**Graf 1** Effects of age on knowledge of and experience with alcohol alcohol

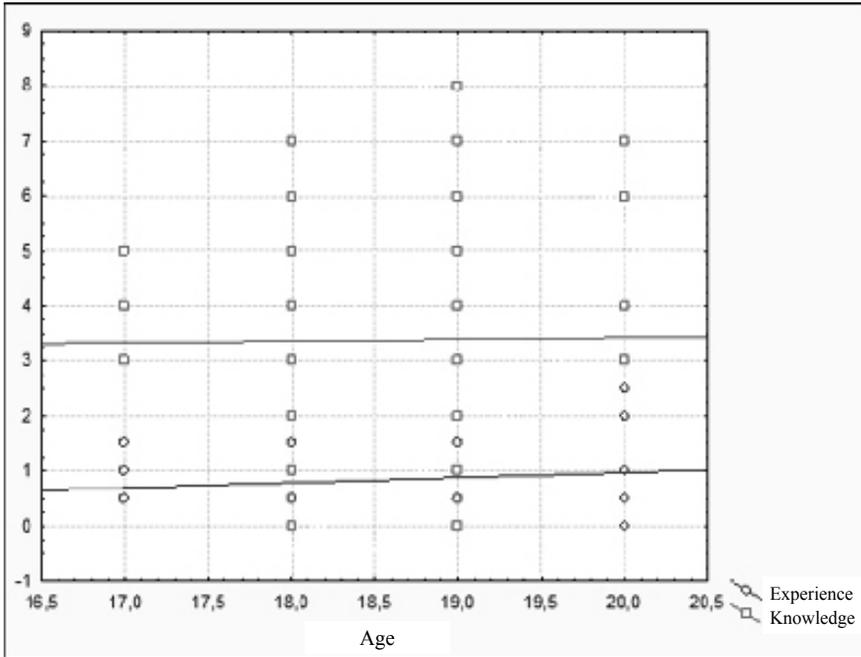
Based on the results of statistical analysis, we can say that the effect of age on knowledges and experiences with alcohol was not confirmed. Curve in the graph and evidential value ( $p = 0.358109$ ) showed that effect. One reason for this phenomenon may be a small age range of respondents.

Attitude of people, who are 15 to 29 old for selling of alcoholic beverages monitors Ochaba (2008). Found that a ban on the selling of alcoholic beverages to 20 year of life were agree and 50 % of respondents in the age group 25-29 years were agree and 73 % as opposed to lower age groups (15-19, 20-24).

Study of the Regional Public Health Authority shows the percentage of Rožnava primary school pupils, who have experience with smoking and alcohol. They found that the proportion of pupils who have tasted the beer is 45.9 %, 32.7 % wine and spirits 11.4 %. The first experiences with smoking and alcohol have reported pupils aged 9 and 11 years (RPHA Rožňava, 2009).

The second hypothesis we assessed the impact of family environment on experience with alcohol. Based on the questionnaire items illustrated in Figure 2 the influence of family environment on knowledge, experience and awareness of the harmful effects

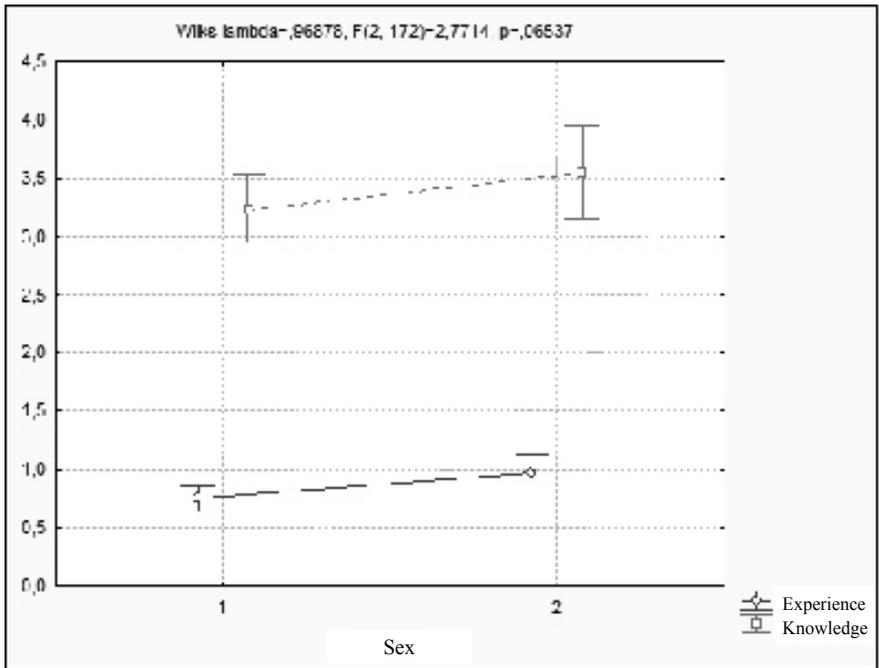
of alcohol. Our assumption that respondents with a stable family environment will have less experience with alcohol was confirmed ( $p = 0.035315$ ), and knowledge in the field we have seen a statistically significant effect of family environment ( $p = 0.02867$ ). Záhúmenská et al. (2007) found that almost 70 % of parents of primary school pupils in their research sample allow their children to enjoy alcoholic beverages.



**Graph 2** The effect of family environment on alcohol knowledge and experience with alcohol

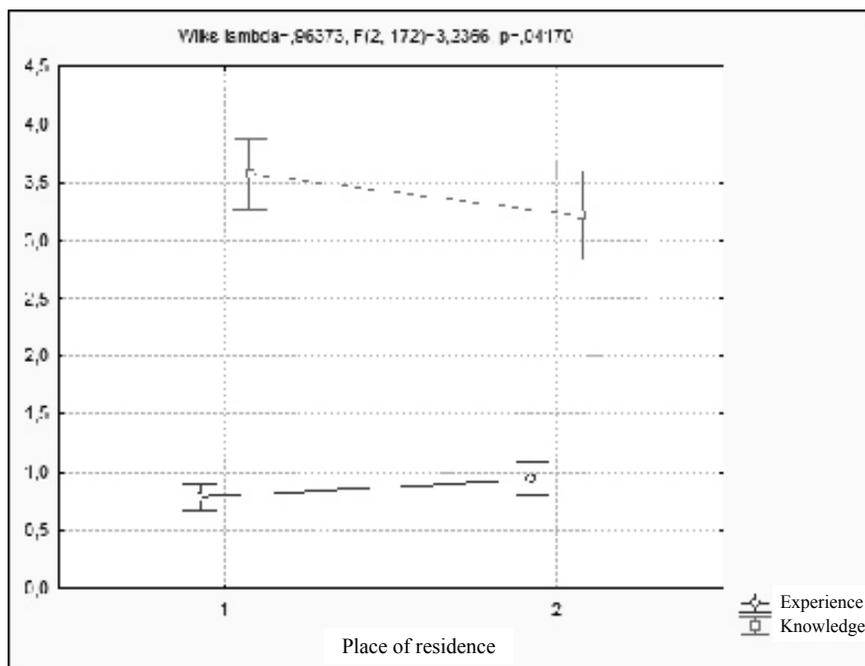
Influence of gender on the experience of the consumption of alcohol was examined in the third hypothesis. We hypothesized that girls have less experience with alcohol than boys. Based on Figure 3 and values of statistical significance of the impact of gender ( $p = 0.065371$ ) we recognized that gender does not statistically significant participated in the experience with the consumption of alcohol, whereas the effect was shown only marginal evidential value.

Záhúmenská et al. (2007) in their study confirmed that the experience of alcohol among girls are significantly lower ( $\chi^2 = 5.13, p \leq 0.05$ ). Also found that alcohol consumption is at a disco boys significantly more often than girls consumption ( $\chi^2 = 6.03, p \leq 0.05$ ).



**Graph 3** Influence of gender on knowledge and experience with alcohol

In the last hypothesis we established a presumption that the residence of the respondents will have an impact on their knowledge and experience with alcohol. The results of our research demonstrate that resident affects knowledge and experience with alcohol. The value of this statistical test is  $p = 0.041703$ . As is apparent from graph 4, respondents from the city (1) have greater experience with consumption of alcohol than respondents from villages (2). That hypothesis was confirmed.



**Graph 4** Effect of residence on the knowledge and experience with alcohol

A similar conclusion also reached Záhúmská et al. (2007) who assessed the age at which students first consumed alcohol in the town and village. Their results show that pupils in the city have a first experience with alcohol at an earlier age (10-12 years) than students from the village (from 12 to 14 years).

## Conclusion

Alcoholism is a serious problem, and each society must be interested in eliminate its presence in society. The incidence of this disease negatively affects the individual alone, but also the close and wider social environment.

The relationship to alcoholism has been building from childhood often . The reason may be a benevolent approach parents in child care and lack of time devoted to children. In our research we have shown that family environment influences the experience of respondents with alcohol, although the impact of this factor was only of borderline statistical significance, therefore, that's why it is up to the parents to help prevent their children's addiction to alcohol.

In prevention plays a vital role also school. Often acts as a „second family“ and some teachers know their students better than their own parents. Currently in the nowadays hurried time is the cooperation between the family and schools in relation to alcohol consumption more than necessary.

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## ALKOHOLIZMUS AKO SPOLOČENSKÝ A BIOLOGICKÝ PROBLÉM

**Abstrakt:** Práca prináša empirické poznatky o vzťahu vybranej vzorky žiakov základných a stredných škôl k alkoholu ako spoločensky tolerovanej droge. Dotazníkom sme zisťovali informovanosť žiakov o škodlivých účinkoch alkoholu. Otázky boli zamerané nielen na priamy negatívny účinok z hľadiska biologického, ale aj na negatívny spoločenský dopad alkoholizmu. Ďalšia časť dotazníka bola venovaná skúsenostiam žiakov s konzumáciou alkoholu. Všetky faktory sme posudzovali v korelácii so sociálnou situáciou, rodinným prostredím, bydliskom, pohlavím, vekom respondentov a spôsob trávenia voľného času respondentmi. Nemenej významné bolo aj zhodnotenie vzájomných súvislostí medzi vedomosťami o škodlivosti alkoholu a skúsenosťami s ním.

**Kľúčové slová:** žiaci základných a stredných škôl, konzumácia alkoholu, škodlivosť alkoholu



# KNOWLEDGE, ATTITUDES AND AWARENESS OF SECONDARY SCHOOL STUDENTS ABOUT PHENOMENON OF MENTAL ANOREXIA AND MENTAL BULIMIA

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**Abstract:** *Eating disorders is the summary designation of one of the most frequent and serious psychosomatic diseases of mainly young girls with serious consequences for physical, psychic and social quality of health. This paper describes the level of awareness of the secondary school students in Tábor concerning the issue of the eating disorders established through the anonymous questionnaire investigation extended by the structured interview. Objective of the research survey was inter alia to evaluate answers to the questions, whether or not the students are informed at schools about the eating disorders, whether or not are they satisfied with their appearance, whether or not do they have any experience of the slimming diets, etc. The research also accommodated establishment of knowledge, comparison of knowledge and attitudes by sex as well as mapping of the information needs of secondary school students in the field of continuing/further education.*

**Key words:** *bulimia, anorexia, knowledge, attitudes*

## Introduction

Eating disorders belong among the adolescents to the most frequent and dangerous psychic diseases with serious somatic consequences. In the Czech Republic every twenty girl (i.e. 4 to 6 %) suffers from the eating disorder as estimated by the specialists. Occurrence of the eating disorders in boys and men is relatively rare, though it has grown recently. The established sick boys/men to the sick girls/women ratio is 1:10 up to 1:20 ratio. Therefore in the text below we will address the feminine, when speaking about sick persons.

## Determination of mental anorexia and mental bulimia

Mental anorexia is characterized mainly by deliberate starvation and reduction of body weight. We are not speaking about lack of appetite in the classic sense; appetite and hunger persist, mainly at the beginning, but they are denied and overcome. The ability to maintain a low weight becomes obsession for the sick person; even negligible deviation of the weight up is the reason for unbearable feeling of fatness, which fact complicates treatment of the sick girl materially. Typical loss of menstruation is one of physical symptoms; this symptom is not considered a reliable indicator of the girl taking hormonal contraception (Krch, 2002; Anabell [online], 2010).

Diagnostic criteria of the mental anorexia according to the International Classification of Diseases as shown by Krch (1999, 2002, 2005) and Papežová (2000):

- body weight is maintained at least 15 % below the assumed level or the BMI (Body Mass Index) is lower than 17.5; the adolescent patients fail to meet the awaited weight gain during their growth period (note: BMI calculation: load body weight in kg, divide by the square body height in m; the values ranging from 19-25 are considered standard),
- the patient himself causes weight loss by avoiding eating the meals leading to fattening and uses certain slimming agents, e.g. induced vomiting, diuretics, laxatives, excessive exercise,
- persisting fear of fatness, distorted body image, fear of further fattening,
- lack of interest in the partner and loss of sexual desire, loss of menstruation in women,
- if the disease outbursts before puberty, its symptoms are delayed or even interrupted; blocked growth and development of breast in girls, genitals are not developed in boys; when healed, the puberty will be completed normally in many cases, but menarché (the first menstruation) is delayed in girls.

Mental bulimia is the disorder characterized mainly by repeated bouts of overeating, in major cases after the effort to keep diet. Overeating is impulsive, cannot be controlled by own patient's will. The feeling of overeating is very relative, sometimes large quantities are consumed, but the patient very often eats only a little bit more than intended. This disorder shares many psychological features with anorexia; it is affected materially by the food for thoughts, fear of fattening and negative emotions (Papežová, 2003; Anabell [online], 2010).

Diagnostic criteria of the mental bulimia according to the International Classification of Diseases as shown by Krch (1999, 2003, 2005) and Papežová (2003):

- repeated bouts of overeating (at least twice a week for the time period of three months), during which large quantities of food are consumed for a short time period,
- uncontrollable appetite and desire for food, permanent and obsessive food for thoughts,
- the effort to suppress effect of eating, i.e. to get rid of the meal as soon as possible - the patients most frequently induce vomiting, overuse laxatives and anorectics or are on hunger strike,

- permanent fear of fattening; the episode of anorexia or a certain period of more intensive reduction in food occurs frequently .

## Material and methodology

The objective of the research investigation was to verify awareness and to evaluate knowledge of the respondents concerning the issue of eating disorders. The monitored set comprises 280 secondary school students from Tábor; we assume that it is a random selection from the basic set of all students of the relevant category.

The research was realized by applying the anonymous questionnaire investigation. The used questionnaire contained in total 20 items. The study was focused on establishment of the degree of awareness of the selected students about the eating disorders and on comparison of their knowledge and attitudes by sex.

The obtained data were converted into the electronic form and processed by the statistic programme SAS. The  $\chi^2$  method (examines independence of two qualitative variables) and the Cramer coefficient (measures degree of dependence, where 0 - means independence and the value 1 means absolute dependence) were applied for evaluation of differences.

More detailed characteristics of the monitored set is contained in the Table 1 below.

**Table No. 1** Characteristics of the monitored set

	Boys	Girls	Total
Medical School	1	37	38
Secondary school of business, services and handicrafts and Language School with the licence of the State Language Examination	18	34	52
Secondary School of Agriculture	11	30	41
Business College	9	38	47
College of Mechanical and Civil Engineering	46	3	49
Pierr de Coubertin High School	30	23	53
Students in total	<b>115</b>	<b>165</b>	<b>280</b>

## Results of research

The results are presented in the tabular form accompanied by comments. Where statistical significance between the groups of selected features was found, such significance is commented.

With respect to restricted scope of the paper we present only the chosen results.

**Table No. 2 Survey of responses to the question: *Do you think that a slim figure is important for your successful professional life?***

Answer	Total		Boys		Girls	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Yes, certainly	118	42,14%	15	13,04%	103	<b>62,43%</b>
No	143	51,07%	93	<b>80,87%</b>	50	30,30%
I do not know	19	6,79%	7	6,09%	12	7,27%
Total	280	100%	115	100%	165	100%

Based on the Table No. 2 we can state that for 51 % of respondents slim figure is not important for successful professional life. On the other side for 42 % of the total number of respondents slim figure is very important for successful professional life. There is the statistically significant difference between answers of boys and girls. Power dependence between the answer and the sex is 51.16 % (Cramer coefficient = 0.5116), dependence of the answer on sex is of medium power.

**Table No. 3 Survey of responses to the question: *Have you ever faced any unpleasant allusion or ridicule to your figure?***

Answer	Total		Boys		Girls	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Yes	152	54,29%	53	46,09%	99	<b>60%</b>
No	128	45,71%	62	<b>53,91%</b>	66	40%
Total	280	100%	115	100%	165	100%

Table No. 3 documents a minor difference between the respondents answering this question. 46 % of boys and 60 % of girls have faced unpleasant allusion or ridicule to the figure. The power dependence between the answers and the sex is 13,74 %, dependence on the sex is weak. We can say with the 99 % probability that answer to this question does not depend on the respondent's sex. In description of this situation the students most frequently state that they met abusive language: „... *fat guts, fatty, giant, fatso, gaunt, skeleton, anorexic, it is allegedly not possible to look at me*“. The girls have experienced allusion and ridicule mainly from their classmates. 12 % of respondents experienced this unpleasant situation at the primary school. 3 % of secondary school students can hear allusions to the figure even from their parents.

**Table No. 4 Survey of responses to the question: *Do you know what eating disorders are?***

Answer	Total		Boys		Girls	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Yes	188	67,14%	77	<b>66,96%</b>	111	<b>67,27%</b>
No	92	32,86%	38	33,04%	54	32,73%
Total	280	100%	115	100%	165	100%

Table No. 4 documents that 67 % of respondents know what the eating disorders are and show at least two diseases belonging among these disorders. The term eating disorders is unknown for 33 % of the respondents. Graphic presentation documents the minimum distinction between answers of boys and girls. Practically no difference was established in the answer “yes” (boys 66,96 %, girls 67,27 %) and in the answer „no“ (boys 33,04 %, girls 32,73 %). It was confirmed by the statistic test that at the 5% level of significance there is no dependence between response to the answer and the respondents’ sex.

**Table No. 5 Survey of responses to the question: *Have you met the topic in the secondary schoolwork dealing with the issue of eating disorders?***

Answer	Total		Boys		Girls	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Yes, in the subject	90	32,14%	12	10,43%	78	47,27%
No	190	67,86%	103	<b>89,57%</b>	87	<b>52,73%</b>
Total	280	100%	115	100%	165	100%

Only 32% of the respondents have met the issue of eating disorders in the secondary schoolwork. The students show only two subjects: namely civics and biology. With 95 % probability there is the dependence between responses to this question and the respondents’ sex. It means there is the statistically significant difference between answers of boys and girls. The dependence is of medium power (Cramer coefficient = 0,3881).

**Table No. 6 Survey of responses to the question: *Do you think that mass media (Internet, TV, magazines) can take part in appearance of the eating disorders?***

Answer	Total		Boys		Girls	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Yes, certainly...	264	94,29%	104	<b>90,43%</b>	160	<b>96,97%</b>
No, I do not know.	16	5,71%	11	9,57%	5	3,03%
Total	280	100%	115	100%	165	100%

94% of respondents have answered that mass media do affect occurrence of the eating disorders. Only 6 % of respondents answer “no” or “I do not know”. The evident similarity of answers of both the boys and girls follows from the survey of responses. Not a single response confirmed statistical significance.

**Table No. 7 Survey of responses to the question: *Do you know name of any organization addressing the issue of the eating disorders?***

Answer	Total		Boys		Girls	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Yes	1	0,36%	0	0%	1	0,61%
No, I do not know	279	99,64%	115	<b>100%</b>	164	<b>99,39%</b>
Total	280	100%	115	100%	165	100%

The Table No. 7 supports unfavourable respondents' answers. Only a single girl from all 280 respondents answered the question positively - she knows the organization addressing issue of the eating disorders, namely the Civic Association Anabell. The information concerning the organizations addressing the issue of the eating disorders would be searched for on internet by 3 % of the total number of respondents.

## Discussion

The boys are rather satisfied with their appearance/figure than girls. On the other side the girls think more frequently that slim figure may affect whether or not they will be happy in their life and that the slim figure is very important for successful career development. Mainly the girls have faced unpleasant allusion or ridicule to their own figure or to the figure of their contemporaries. 8 % of students stated a very unpleasant reality - allusion to their figure by the parents.

Range of their ideal body weight can be determined by the majority of respondents. No significant differences were found between answers of boys and girls. The term Body Mass Index is not known for the majority of respondents.

67 % respondents were able to answer the question what are the eating disorders and what diseases are included in this group. No statistically significant differences were established by sex.

The parents speak about the eating disorders rather with girls. The respondents can acquire information about the eating disorders most frequently at school or on Internet. Only one third of respondents has met the issue of eating disorders within the scope of the secondary schoolwork. They state the subjects like civics and biology. Awareness of the eating disorders at the secondary school is very low.

The respondents have in general a lukewarm interest in scientific lectures focused on the eating disorders issue. The method of assistance and help, when somebody close is suspicious of the eating disorder, was chosen correctly by the majority of respondents. Only 2% of respondents answered "I do not know". The majority of respondents know consequences of the mental bulimia and mental anorexia. No differences by sex were established.

The question whether the mass media can take part in appearance of the eating disorders was answered "no" or "I do not know" by 6 % of respondents only. The other ones definitely think and affix their commentaries in the questionnaire that the mass media have a high impact on occurrence of these diseases. Advertisements promote rather the drugs assisting in slimming compared with fruits and vegetables that can be found in the promotional spots only rarely.

Responses to the answer, whether or not the students know any organisation addressing the issue of the eating disorders is shocking. Only one girl knows the Civic Association Anabell, the other ones do not know any organisation of his kind. Nine respondents would use Internet for search for the information concerning this issue.

We can assume that the occurrence rate of the eating disorders can be reduced when the students are informed adequately about occurrence and risks of these diseases. The eating disorders can be avoided by suitable actions at school.

## Conclusion

Issue of the eating disorders is very serious. Mental anorexia and bulimia belong among the psychiatric diseases which are connected with the highest death rate, compared with other psychiatric diagnoses. Insidiousness of these diseases consists in the fact that the patients do not admit the diagnosis, they are not sensitive to their state of health and do not apply the critical approach. The eating disorders arise as consequence of many factors and can be avoided, because the issue is well known. Treatment of the eating disorders takes a long time and the way back is not easy. The pedagogic staff plays an important role in mediating the information focused on the eating disorders and mainly on their prevention. The teachers should support the students to evaluate themselves on the basis of personality features, to strengthen their self-confidence with the objective to restrict manifestation of the self-destructive behaviour. The teacher must also familiarize the students with the fact that the beauty ideals of our days are distorted, each individual can be exceptional somehow. It is advisable to mediate the information about the eating disorders mainly through discussions with specialists.

## Literature

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# ZNALOSTI, POSTOJE A INFORMOVANOST STŘEDOŠKOLSKÝCH STUDENTŮ O FENOMÉNU MENTÁLNÍ ANOREXIE A MENTÁLNÍ BULIMIE

**Abstrakt:** Poruchy příjmu potravy je souhrnné označení pro jedno z nejčastějších a nejzávažnějších psychosomatických onemocnění zejména mladých dívek s těžkými důsledky na fyzickou, psychickou i sociální kvalitu zdraví. Příspěvek popisuje úroveň informovanosti studentů středních škol v Táboře o problematice poruch příjmu potravy, jež byla zjišťována anonymním dotazníkovým šetřením doplněným o strukturované interview. Cílem výzkumného šetření bylo mimo jiné vyhodnotit odpovědi na otázky, jsou-li studenti ve školách informováni o poruchách příjmu potravy, zda jsou spokojeni se svým vzhledem, mají-li zkušenosti s dietou za účelem snížení tělesné váhy, atd. Součástí výzkumu bylo zjištění vědomostí, srovnání znalostí a postojů dle pohlaví studentů, ale také zmapování informačních potřeb studentů středních škol v oblasti dalšího vzdělávání.

**Klíčová slova:** bulimie, anorexie, znalosti, postoje

## DO HAVE OBESE PARENTS OBESE CHILDREN?

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*Viera PETERKOVÁ, Ivona PAVELEKOVÁ*

**Abstract:** *In the present study we analyze the results of 3831 questionnaires filled in by 1277 children and their parents. The questionnaire was distributed in preschools, as well as primary and secondary schools. The questionnaire was the same for all age groups (in kindergarten children's parents filled out questionnaires), contains 39 items. Questionnaire were also included data on height and weight of the respondents, from which we calculated BMI for each of them. Using the correlation between parents BMI and BMI of their children, we ascertained that there is a link between aberrations of normal BMI values among parents and their children.*

**Key words:** *obesity, BMI, parents, children*

### Theoretical background

Obesity, otherwise known as the thickness is increasingly common disease among children, but also the adult population. Its incidence is increasing in every year, some authors indicate the presence of a pandemic (Jurkovičová, 2005). Obesity is not a problem only in terms of physical appearance, but extends to all areas of life personalities - bio-psycho-social field. Obesity means the excess fat in the body (Kaplan; Salis; Patterson, 1996), Beno (2008) defined metabolic disorder characterized by excessive body weight and developed a positive balance of energy, while increasing the amount of stock an extremely fat under the skin (subcutaneously) and intraabdominal (intra-abdominal). Sometimes, as a consequence of obesity is characterized by excessive quantitative formulas manifested increased body fat content (Plank et al., 2007). According to Horta et al. (2000) obesity is a condition where excess weight exceeds by at least 20 % of ideal weight. Science dealing with obesity is called obesitology.

Factors causing obesity divides Plank et al. (2007) into two groups make up their genetic predisposition and environmental factors. Other distribution defines the Fort (2004), which divides them into three basic groups and related subgroups. These are reasons unrelated to health, ranks among them lack of exercise and a sedentary lifestyle, improper eating habits and overeating, socio-economic conditions of life and pressure. The suggestible health reasons to incorporate a reduced basal metabolic rate, excess

cortisol, insufficient production of growth hormone disorders of the brain, the administration of psychotropic medications, early use of contraception. The last group consists of unsuggestible health reasons, ie genetic disposition.

Prevention of obesity can be divided into general, which is aimed at all individuals, selective, chosen by at-risk individuals and induced, which is focused on obese individuals (Majerčák, 2005).

In Slovakia, the Government Resolution No. 10 dated 9.1.2008 prevention program adopted National obesity, which aims to prevent overweight and obesity in children, stop the rise in the numbers of overweight and obese and reduce the numbers of overweight and obesity. Tool to achieve these objectives should be concentrating on changing nutrition and also to increase physical activity of the Slovak population. This is related to a reduction in the number of children and adults who do not perform physical activity, increasing the number of children and adults who deal daily movement of at least 30 minutes, and to create conditions to facilitate the development of physical activities (National Programme for the prevention of obesity).

## Research Hypotheses

In our research, we aimed to determine the prevalence of obesity among parents and their children, we mutually compare the prevalence of obesity in mothers and their sons and daughters and obesity in fathers and their daughters and sons. We hypothesized that if the parents will show higher BMI, and their children will have higher BMI values, regardless of gender of children.

## Research sample

The research sample consisted of 1277 children and their parents, a total of 3831 questionnaires was distributed to children from kindergarten, elementary school and their parents. Age of respondents ranged from 2 to 20 years. In the sample was represented by the 38 % boys and 62 % girls.

## Research methods

Research was conducted using questionnaires that we distributed to the children and their parents, with their exact identification of the child and his parents. Respondents in the questionnaire indicated their age, height and weight, which was used to calculate BMI (body mass index). BMI is calculated by dividing weight in kilograms to the square of height in meters.

$$BMI = \frac{\textit{weight (kg)}}{\textit{height}^2 (m)}$$

According to the calculation are given on the age group of respondents and their parents determine whether they are underweight, normal weight, overweight or obese.

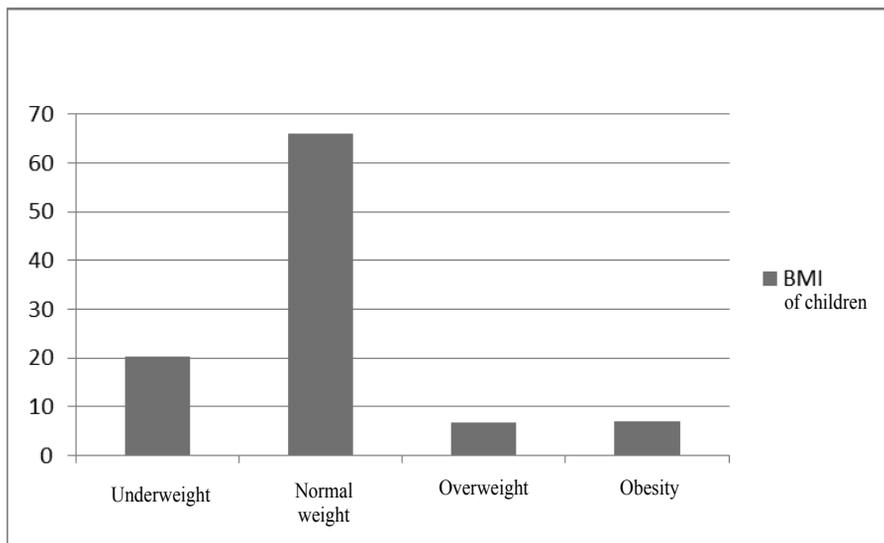
For determining the BMI categories we used national standard of BMI (Novaková, Hamade, 2006).

Obtained data were subjected to statistical analysis, where we found the mutual correlation between values of BMI in children and their parents.

## Results and their interpretation

Based on the height and weight of respondents have each child and his parents calculated the value of BMI. Finding BMI categories was conducted taking into account the age of respondents by comparing its value with the national standards for BMI. On this basis, we noted that in our sample, the incidence of obesity for children was 7 %, for their mothers 3.97 % and the highest incidence was recorded at the fathers sample 9.27 %.

Figure 1 shows the percentage of all categories of BMI, irrespective of sex of children. Gratifying finding was that percentage of obesity in children sample is only 3.97 %, but we suspend on excessive incidence of underweight among children 20.24 %.

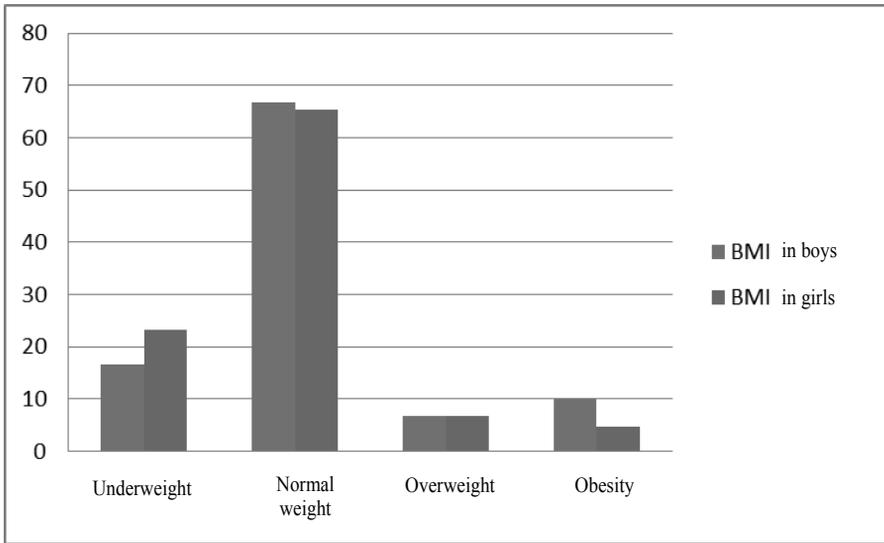


**Figure 1** Percentage of categories of BMI in children

Based on the above, we decided to assess the children's BMI categories according to their sex. Detailed results are presented in Figure 2. We found that the percentage of girls with obesity is 4.69 %, but up 23.15 % of girls are underweight. The boys suffer from obesity in percentage 9.98 % and 16,48 % are underweight.

BMI assessment of preschool children deal with Dubois et al. (2007) in Canada. Their research sample consisted of 1,498 preschool children (4.5 years). Research that was conducted by questionnaire to ascertain the weight, height, sex, children and parents, while watching the education of parents, family income, dietary habits and other information. The values were then calculated BMI for children and parents. The results showed that the majority of children, who are choosy of food are less overweight than

the children who like to overeat. Contrast, children with poorer eating habits suffer more overweight and obesity compared with children who never had the tendency to overeat. The survey showed a statistically significant relationship between eating habits of children under school age and BMI.



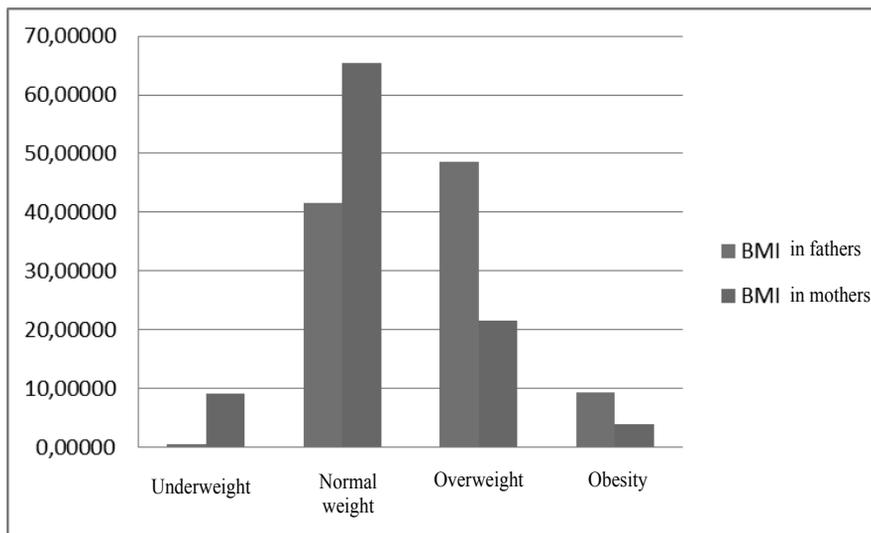
**Figure 2** Percentage of categories of BMI in boys and girls

Determinations of the prevalence of overweight and obesity among Australian children on a sample of 2184 respondents (47.9 % boys and 52.1 % girls) aged 2-12 years have set Sanigorski et al. (2007). The research results, unlike our study showed that obesity is significantly higher in girls than in boys. Similar research on a sample of 6448 Greek students (50.4 % boys and 49.6 % girls) aged 6-17 years conducted Georgiadis and Nassim (2007). Celkovo found 17.3 % of respondents are overweight (16.9 % boys, 17.6 % girls) and obesity rate was 3.6 % (3.8 % boys, 3.3 % girls), that is significantly different than in our sample.

Figure 3 shows the BMI of parents of our respondents, and separately evaluate the BMI of mothers and fathers. The graph shows that the prevalence of obesity is higher in fathers (9.27 %) than in mothers (3.97 %). Stunning is an excessive incidence of malnutrition in mothers, which is more than 9 % and very high incidence of overweight among fathers (48 %).

A similar study to assess BMI and its possible effect on realized Peixoto et al. (2007) in Brazil. This research was focused on the prevalence of overweight and obesity in relation to socio-demographic conditions, lifestyle, physical activity, dietary habits, preferences and BMI. Was conducted by questionnaire in 2001 on a sample of 1252 people aged 20 to 64 years. The goal was to identify in a sample rate of overweight and obesity in men and women. The questionnaire was focused on variables such as age, sex, education, number of children, family income, diet, relationship to smoking and alcohol on physical activity, watching TV, food consumption or food which respondents prefer.

The results were calculated BMI of women and men. Of the 1252 subjects studied were 35 % men and 65 % women. These two groups showed no significant differences in these variables. Excessive weight was observed in 42 % of men (31.2 % were overweight and 10.7 % suffered from obesity). Almost the same percentage was calculated for women. Overweight women were suffering from 43 % (29.2 % were overweight and 13.8 % women were found obesity). Average BMI was 24.6 for men and women, the majority of BMI values was around 24.8.



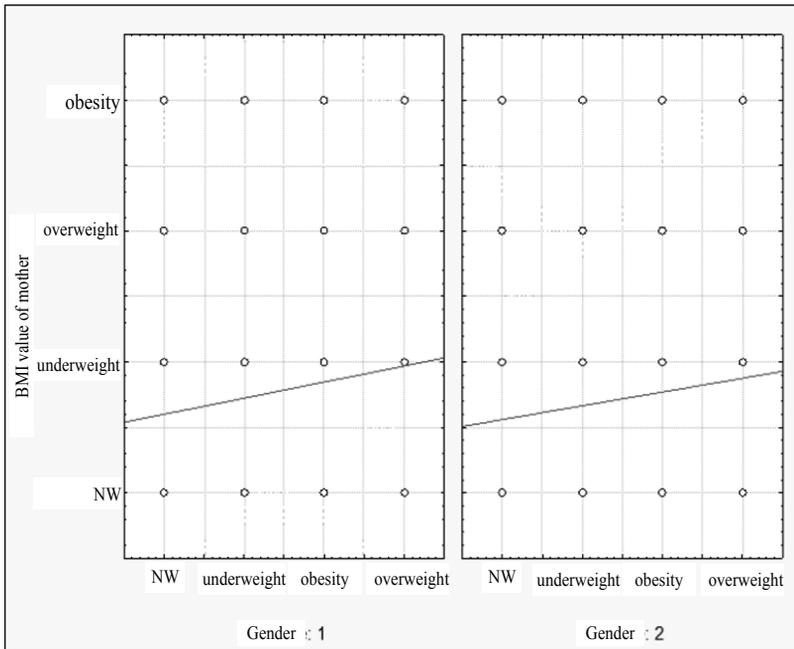
**Figure 3** Percentage of BMI in mothers and fathers of children

After obtaining the values of BMI of children and their parents was conducted correlation BMI of children and mothers and fathers and children’s BMI, with respect to gender children.

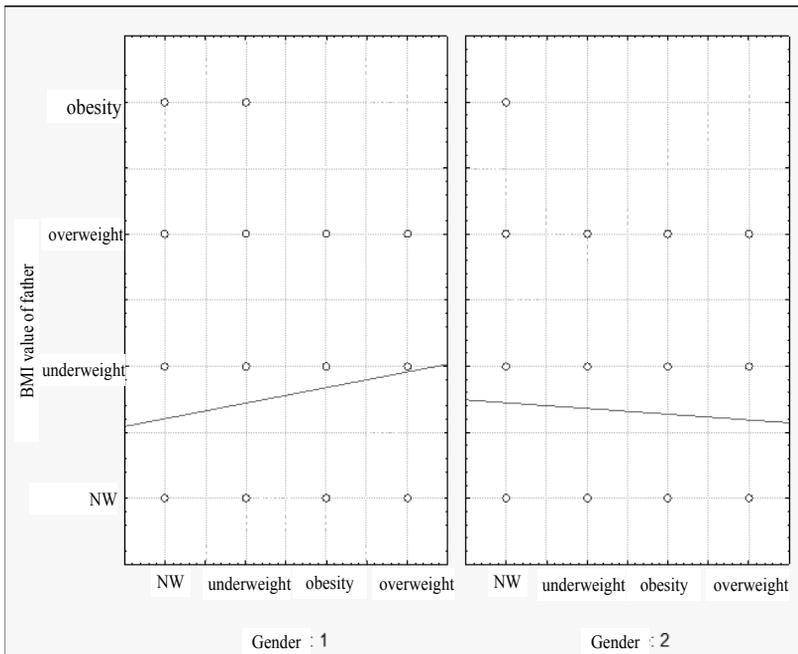
Figure 4 shows the correlation BMI sons and daughters with their mothers, sons are indicated as 1 and daughters are indicated as 2. From the graph, as well as the values of correlation indicates that maternal BMI is positively correlated with BMI sons ( $p = 0.0110$ ), as well as the daughters of BMI ( $p = 0.0186$ ). Thus, if mothers are overweight, respectively obese and children show the same disorder of BMI.

Figure 5 shows the mutual correlation between BMI and fathers to their children. The data in the chart, as well as the values of statistical significance that the prevalence of overweight and obesity in fathers positively highly significantly correlated with overweight and obesity in boys ( $p = 0.0003$ ), but does not affect the incidence of these variations in BMI daughters ( $p = 0.1752$ ). Curve in the graph suggests the opposite trend, but without statistical significance.

On this basis, we note that the model for sons in eating habits and preferences are fathers. Mother’s diet affect families and those involved in shaping the eating habits of both sexes of their children, which affects their BMI values.



**Figure 4** The association between BMI of mothers and their children



**Figure 5** The association between BMI and fathers to their children

## Conclusion

In our study we focused on detection of deviations from normal values of BMI in children and their parents. Questionnaire method, we obtained data on weight, height and age of children and their parents, from which we calculate their BMI and determine their category according to national standards for BMI.

The results show that the BMI categories of children is positively correlated with BMI categories of their mothers, as u guys and girls. In considering the mutual interrelation BMI fathers and their children, we found that fathers' BMI positively correlated with BMI their children, but BMI did not correlate with their daughters. Daughters use to take example from their mothers.

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## MAJÚ OBÉZNI RODIČIA OBÉZNE DETI?

**Abstrakt:** V predkladanej štúdií analyzujeme výsledky 3831 dotazníkov, ktoré vyplňalo 1277 detí a ich rodičov. Dotazník bol distribuovaný v zariadeniach predškolského vzdelávania, ako aj na základné a stredné školy. Dotazník bol rovnaký pre všetky vekové skupiny (v materských školách vyplňali dotazníky detí rodičia), obsahoval 39 položiek. Súčasťou dotazníka boli aj údaje o výške a hmotnosti respondenta, z ktorých sme vypočítali každému z nich BMI. Vzájomnou koreláciou BMI rodičov a ich detí sme zisťovali, či existuje súvislosť medzi odchýlkami normálnych hodnôt BMI u rodičov a ich detí.

**Kľúčové slová:** obezita, BMI, rodičia, deti

# EDUCATION PROGRAMME AND ITS INFLUENCE ON REDUCING ANTHROPOMETRIC PARAMETERS IN OVERWEIGHT ADOLESCENTS

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*Magda TALIÁNOVÁ*

**Abstract:** *The paper deals with the influence of education programme on reduction of the monitored parameters (body weight, waist circumference, hip circumference and body fat mass). In total, 197 secondary school students a university students aged 15-20 from East Bohemia region were included in the education programme. Even if the average reduction of all the monitored anthropometric parameters took place, statistically significant difference was taken only in body weight reduction. The group of adolescents aged 18-20 ( $p=0,0377$ ) reacted to the education in a better way. The data was evaluated by azygous T-test.*

**Key words:** *education programme - reduction of overweight - adolescence - anthropometric parameters*

## Theoretical starting points

Overweigh is presently one of the most spread malnutrition problem in today's youth in economically advanced countries. It is a very grave society wide problem that must be dealt with as the impacts of being overweight, and in particular, being obese, have a negative impact on the general health of the youth. Most adolescents usually take in more energy than they really need. On the contrary, physical activities that may to a certain extent reduce the increased energy intake are not too many. A major part of adolescents spend their leisure time watching TV, playing computer games, hanging around or loafing around in the streets. To cover even short distance, cars or other means of transport are used. If there is no major positive change in the style of living, overweight kids face a real risk of becoming obese in adulthood. According to the results of the survey Lifestyle and Obesity from 2005, a total of 20 % of children aged 6-12 and 11 % of adolescents aged 13-17 suffer from obesity. If we want to change something about this trend, we need to take certain measures based on education programmes focusing

on healthy style of living or reducing weight and promoting physical activities. At present, there is a number of programmes under the auspices of e.g. the State Health Care Institute, the organisation Stop obezité dealing with these issues.

## Objective of the survey

The objective of the survey is to analyse the effects of preventive education programme on reducing the selected anthropometric parameters (body weight, body height, body mass index, waist circumference, hip circumference, proportion of waist/hips and volume of body fat) in adolescents with BMI above 90<sup>th</sup> percentile. The sub-target was to identify the preference of the ways of reducing body weight in dependence on the gender of the interviewed adolescents.

## Methodology of the survey

During the survey we analyzed the effects of education on reducing the selected body parameters. Of the total number of 1,020 adolescents (835 girls and 185 boys) a total of 197 (146 girls and 51 boys) had BMI above 90<sup>th</sup> percentile. We kept working with these adolescents via education focusing on reducing the selected anthropometric parameters. Selected adolescents attended these education lessons after a week consisting of a lecture and hands-on exercises. The first lesson focused on obesity prevention and related complications; the second lessons concerned proper nutrition (principles of healthy nutrition, work with the glycaemic index, nutrition pyramid, diet diary) and the last lesson was related to physical activities (importance of movement for the human organism, suitable physical activities). A check measurement was performed one month after the completed education.

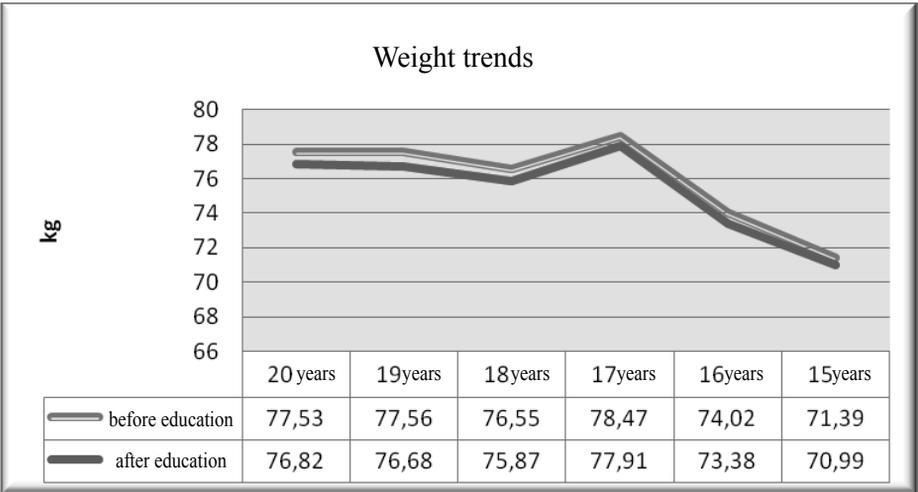
## Interpretation of the results

**Tab. no. 1** Classification of adolescents according to age and percentile values

	15 years	16 years	17 years	18 years	19 years	20 years
<b>90-97th percentile</b>	27	29	36	39	30	22
<b>above 97th percentile</b>	2	0	4	2	2	4
<b>total</b>	<b>29</b>	<b>29</b>	<b>39</b>	<b>51</b>	<b>32</b>	<b>26</b>

### Relation between the adolescent age and education focused on weight reduction

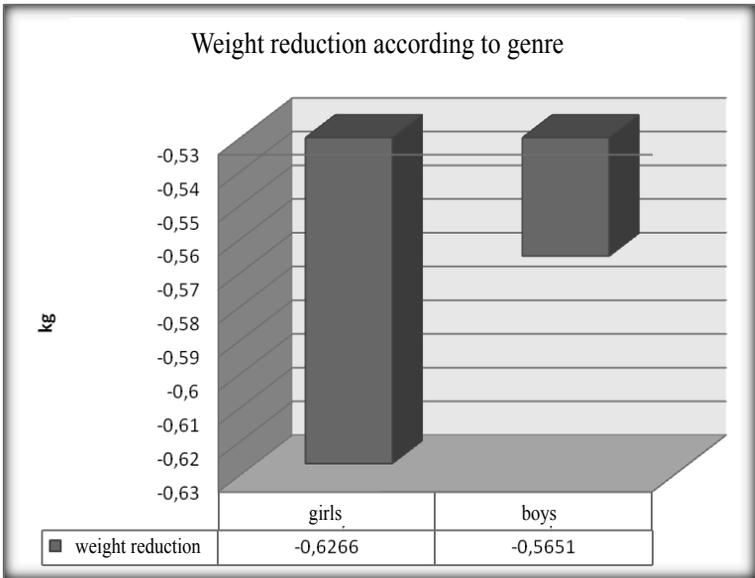
Adolescents with BMI above 90<sup>th</sup> percentile were divided into two groups: 15-17 years and 18-20 years. Non-pair t-test (type 2, page 2) was used to calculate the weight difference of individuals with BMI above 90<sup>th</sup> percentile before and after the education. Given the fact that the resulting value at importance level  $p < 0.05$  is  $p = 0.037771874$ , it may be confirmed that adolescents aged 18-20 years responded better to the education. One month after the education, the body weight changed as per Fig. 1.



**Fig. 1** Body weight trends before and after the education

**Relation between the adolescent gender and their response to the weight reduction education**

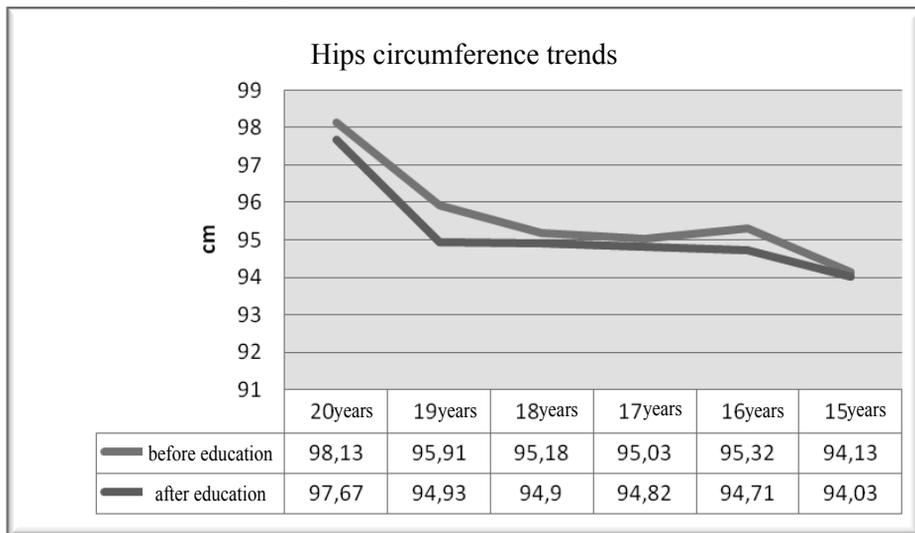
The non-pair t-test (type 2, page 2) was used to calculate the weight difference between girls and boys with BMI above 90th percentile before and after the education. As the resulting value at importance level  $p < 0,05$  is  $p = 0,634426895$ , the relation between the gender and weight reduction through the education cannot be confirmed.



**Fig. 2** Weight change after the education according to gender

**Relation between the adolescent gender and their response to the hip circumference reduction education**

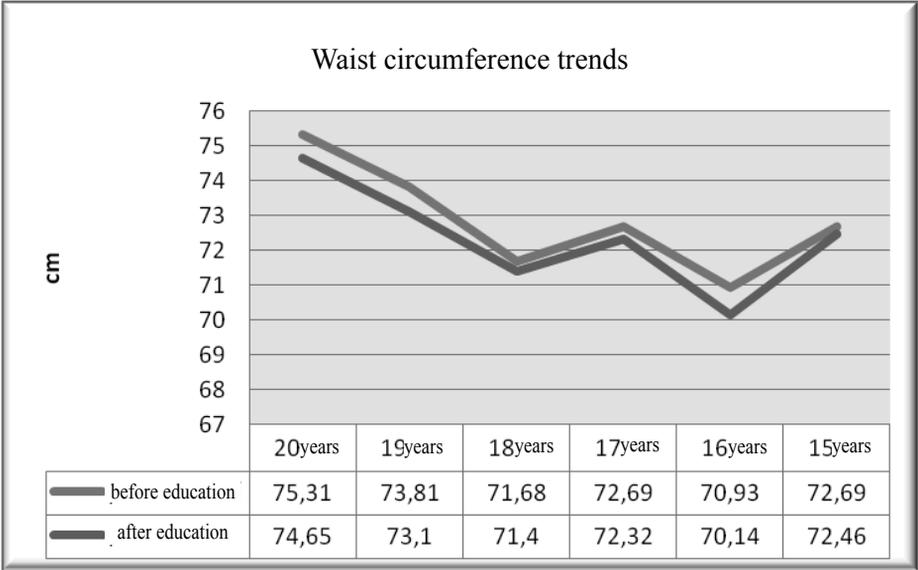
Adolescents with BMI above 90<sup>th</sup> percentile were divided into two groups: 15-17 years and 18-20 years of age. The non-pair t-test (type 2, page 2) was used to calculate the difference in hip circumference of the individual with BMI above 90<sup>th</sup> percentile before and after the education. Given the fact that the resulting value at importance level  $p < 0,05$  is  $p = 0,1215$ , the relation between the hip circumference reduction and education of both age groups cannot be confirmed.



**Fig. 3** Graphic presentation of the hips circumference trends before and after the education

**Relation between the adolescent gender and their response to the waist circumference reduction education**

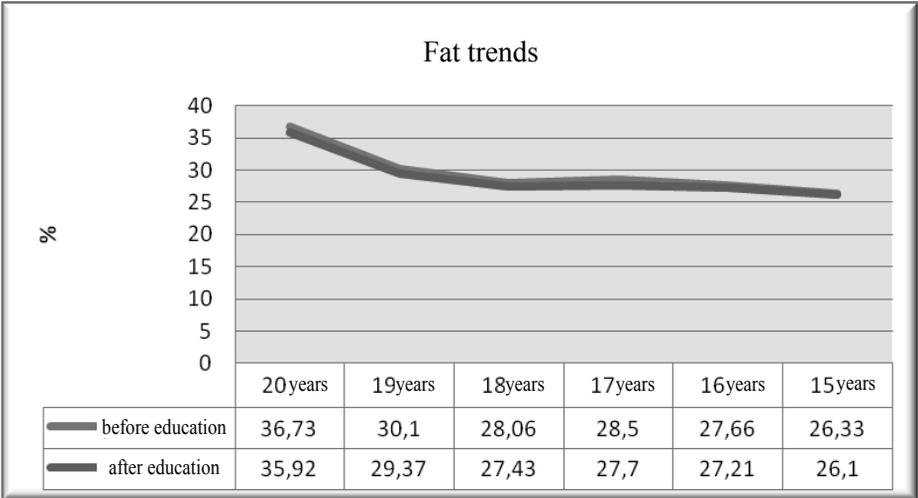
Adolescents with BMI above 90<sup>th</sup> percentile were divided into two groups: 15-17 years and 18-20 years of age. The non-pair t-test (type 2, page 2) was used to calculate the difference in waist circumference of the individuals with BMI above 90<sup>th</sup> percentile before and after the education. As the resulting value at importance level  $p < 0,05$  is  $p = 0,0901$ , the relation between the waist circumference reduction and education of both age groups cannot be confirmed.



**Fig. 4** Graphic presentation of the waist circumference trends before and after the education

**Relation between the age of adolescents and their response to education focusing on reducing the body mass**

The non-pair t-test (type 2, page 2) was used to calculate the difference in the amount of fat in individuals with BMI above 90<sup>th</sup> percentile before and after the education. As the resulting value at importance level  $p < 0,05$  is  $p = 0,93891$ , the relation between the reduced amount of fat and the age group through education cannot be confirmed.



**Fig. 5** Graphic presentation of the fat trends before and after the education

## Discussion and conclusion

If we are to evaluate the effects of education on reducing the selected anthropometric parameters in the period of one month after the education, I may state that there has been an average drop in all the monitored parameters both when comparing the individual age groups and genders. However, a statistically important difference was only confirmed when comparing age groups of 15-17 years and 18-20 years in favour of the age category of 18-20 years. Although the average weight reduction did not exceed 1kg a month, this was a good result given the fact that the students attended only an illustrative-demonstration education in a duration of 3 x 90 minutes. The cooperation with the students was good as the survey and follow-up educating were attended only by those adolescents who were interested. We also noticed elements of competitiveness amongst the adolescents. One of the reasons why it is so may be that at this age the adolescents have a will to work on themselves, they are more mature and more cautious when addressing the obesity, they seek more steady relationships, they are interested in their appearance. A certain role may also be played by health concerns as they are more aware of the risks brought about by obesity.

Although the positive effect of education notably on weight reduction was established, the question remains what it would look like after a longer period of time. Whether the weight would keep dropping or whether the weight would return to the original value or increase. Besides improving health, another motivation factor was that the students knew that they would be weighed and measured in a month's time and therefore they were trying to reduce their weight.

It may generally be stated that the intervention programmes are successful. For example, the overview of preventive programmes focused on school-age children developed by the Institute of Health Sciences in Amsterdam, Netherlands, indicates that 68 % of the programmes (17 out of 25) were successful as there was a statistically significant drop in BMI or reduction in the skinfold thickness (Doak, 2006). In four studies, BMI as well as the skinfold thickness were reduced. Two of these studies included a programme focusing on educating in the field of physical activities and nutrition (Pařízková, Lisá, 2007).

Inefficient interventions have usually tried to capture more items playing its parts when becoming obese. Less efficient studies also called more often for more active involvement of the children as well as the parents and wider community. Inefficient interventions are often those that focus on circumstances at the family level. Inefficient studies have a higher average attendance rate (83 %) compared to the efficient ones (71 %), although the difference is not statistically significant. Efficient studies were shorter on average and include a larger number of individuals and a lower number of participating schools. (Pařízková, Lisá, 2007).

The overview of preventive measures focusing on children and adolescents obesity developed by Flodmark et al. (2006) indicates a positive influence of prevention focusing on intervention at schools in 41 % of studies covering 40 % of the total of 33,800 children (Pařízková, Lisá, 2007).

Clinical studies indicate that changes are more difficult to induce in adolescents and the risk of continuing overweight in adulthood is significantly higher than in youn-

ger children. Swinburn et al. assessed the overweight treatment and prevention projects from the point of view of efficiency and the most optimally evaluated methods were, e.g. reduced TV advertising aimed at children and advertising foodstuffs and beverages with a high sugar or fat content, multilayered school programmes oriented at physical activities etc. (Haby, 2006).

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## EDUKAČNÍ PROGRAM A JEHO VLIV NA SNIŽOVÁNÍ ANTROPOMETRICKÝCH PARAMETRŮ U ADOLESCENTŮ S NADVÁHOU

**Abstrakt:** Příspěvek se zabývá vlivem edukačního programu na redukci sledovaných antropometrických parametrů (tělesná hmotnost, obvod pasu, obvod boků a množství tělesného tuku). Celkem 197 studentů středních a vysokých škol ve věku 15-20 years z Východočeského regionu bylo zahrnuto do edukační lekce. I když došlo k průměrnému snížení všech sledovaných parametrů, tak statisticky významný rozdíl byl potvrzen pouze u snížené tělesné hmotnosti, kde na edukaci lépe reagovala skupina adolescentů ve věku 18-20 years ( $p=0,0377$ ). Tato data byla hodnocena prostřednictvím t-testu.

**Klíčová slova:** edukační programme, snižování nadváhy, dospívání, tělesné parametry



## SCHOOLTIME PHYSICAL ACTIVITY IN LOWER PRIMARY SCHOOL PUPILS

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*Vladislav MUŽÍK, Petra VODÁKOVÁ*

**Abstract:** *The paper presents recent findings on children's physical activity during the time they spent at school. The research was carried out in 2009. The research method involved a detailed school-day time snapshot, among others showing the volume of physical activity, the intensity of physical strain, and the range of school physical activities. 138 children aged 7–11 attending various Czech primary schools participated in the survey. The results suggest that most Czech schools do not take advantage of available opportunities supporting health and physical activity in children sufficiently. The findings can contribute to improving pupils' school regimen and designing programmes promoting their healthy lifestyle.*

**Key words:** *physical activity, school physical activity, lower primary school children, day time snapshot*

### Introduction

A lack of physical activity (PA) has negative consequences for population health. Regular physical activity adequate to age and physical and psychic predispositions can influence individuals' health, especially their fitness.

The recommended limits for volume, intensity and range of physical activity are based on specific differences among children. The National Association for Sport and Physical Education states recommendations for physical activity from early preschool age. As for lower primary school children, longer physical activity of mild or moderate intensity lasting at least one hour a day is recommended. Activities of greater intensity are recommended to last from 5 to 15 minutes and they should be interrupted by rest periods. Continual physical activity of high intensity is not considered appropriate (Corbin, Pangrazi, Le Mesurier, 2002; Corbin, Pangrazi, 2003).

Varied spontaneous, organised and motivating activities should be natural part of children's week routine. These activities also include physical activities pursued at school.

## Methodology starting points

Data obtained by direct observation represent a traditional method deployed when monitoring PA (Brown et al., 2006). Its main advantage is that observed children are not limited in movement by devices, whereas incomplete records of the observed data and a risk of subsequent misinterpretation are substantial shortcomings.

Questionnaires are also very common. The main advantage of this method is smooth realization of the research, while the shortcomings consist especially in low validity, reliability and objectivity of respondent's statements (Shephard, 2003).

Other techniques include e.g. individual records, time snapshots, physical activity dairies, and individual or group interviews (Henry, Webster-Gandy, Elia, 1999).

Accelerometers recording the acceleration of a body or the movement of its parts are also often used for monitoring PA. These devices can be deployed when locomotion activities (walking, running, jumping etc.) are expected to prevail in the physical regimen of the researched subjects. On the contrary, they are not appropriate when measuring cycling, skating/roller-balding, swimming etc. Some children may develop aversion to measuring due to devices being attached to them (Trost, McIver, Pate, 2005). Therefore, strong motivation is needed, and negative reaction on the side of children needs to be considered.

Finally, pedometers recording vertical acceleration of the body when walking, running, jumping etc. are appropriate tools for monitoring physical activity too. The standard measuring unit is a number of steps per a certain period. Placing a pedometer on a body is similar to that of an accelerometer (Sigmund, Frömel, Neuls, 2005). Measured data are presented in an easy and straightforward way, which can contribute to individuals' motivation (Miklánková, 2009).

Many researchers study the influence of school physical regimen on the overall quality of daily physical activity (Cox et al., 2006); however, the main focus has been placed on older children. The longitudinal research pursued by Sigmund and his team (2007) concluded that a daily number of steps significantly decreases just two months after starting compulsory school attendance. The importance of walking in daily routine is stressed also by the WHO.

The opportunities of pupils' school physical activity (SPA) are not restricted just to physical education classes. In the Czech Republic, lower primary school instruction involves the following forms of SPA: exercises before the start of the classes (Mužík, Krejčí, 1997), "PE moments" in lessons (Hnízdilová, 2006), activating teaching method "learning in motion" (Jonášková, 2009), and movement-relaxation breaks (Mužík, Krejčí, 1997). Another important SPA is walking, especially transfers between classrooms, and then biological and geographical excursions, school trips etc. Combining the above mentioned activities can provide 60 minutes of SPA a day, not including physical education. The question is to what extent the above forms of SPA are exercised in schools.

## Research problem

The empiric research described in this paper focuses on physical activity in lower primary school children. The key research question is stated as follows: *What are the*

*volume, intensity and range of school physical activity in lower primary school pupils?*  
The key question implies several partial research questions:

1. What are the common characteristics of SPA in lower primary school?
2. Is there a difference in the volume and intensity of SPA between girls and boys?
3. Is there a difference in the volume and intensity of SPA among individual years?
4. What are the relations among the observed variables of pupils' SPA?
5. How do pupils assess their own (individual) physical activity?
6. How do pupils assess their class teacher's concern over their physical activity?
7. What recommendations can the findings lead to?

## Research methodology

The research method involved a questionnaire for children aged 7–11 designed and verified by the researchers. The questionnaire survey was used to obtain data from a large number of Czech primary schools.

The questionnaire contained closed questions concerning respondents' personal data (age, gender), and then closed questions focusing on respondents' views of sufficiency of individual physical activity, and teachers' concern/unconcern over the physical activity of their pupils. The closed questions offered four answer options: definitely yes (1), rather yes (2), rather not (3), and definitely not (4). These questions were completed by an open question investigating reasons for sufficiency/insufficiency of respondents' physical activity.

The core of the questionnaire was a *day time snapshot*, recording all physical activity during a school day. Respondents were asked to mark the duration of physical activities by means of five-minute intervals, the intensity of physical activities by means of a three-degree colour scale (intensity 1 to 3), and the range of physical activities by means of a commentary.

The research was conducted at the end of 2008/2009 school year. The research population involved 138 children aged 7–11 (68 boys and 70 girls) from all years of lower primary school (see Table 1).

Table 1 Research population: Number of respondents in individual years

Year	1	2	3	4	5	Total
Number of respondents	18	21	27	31	41	138

The questionnaires were distributed by students of the Faculty of Education at Masaryk University who addressed respondents in their home towns and home villages, meeting the condition that two respondents could not attend the same primary school. Thus, a varied sample of children attending 138 lower primary schools was obtained. Students distributing the questionnaires also assisted respondents with filling in the day time snapshots.

The completed questionnaires were processed in 2009/2010 school year. The

frequency of answers was expressed by means of basic statistical characteristics: arithmetic mean, minimum, maximum, median, mode and standard deviation. The differences in frequency of answers among particular age groups of respondents and relations among selected variables were verified by means of the following statistical methods: Student's t test, variance analysis, chi square test and correlation. Statistical computing was done with the help of Statistica CZ 9 software.

## Results

The introductory parts of the paper discuss basic forms and time possibilities for school physical activity of lower primary school pupils. This section presents the results of research into SPA based on a questionnaire survey and day time snapshots.

### Basic characteristics of pupils' physical activity during their stay at school

The total volume of school physical activity differs especially according to presence or absence of physical education lessons in pupils' timetable. As shown in Table 2, the average volume of SPA with a PE lesson is nearly 40 minutes, while on days without a PE lesson it is just 19.2 minutes. In 45 cases (i.e. 32.8 % of results) researched pupils pursued no other SPA than PE instruction (see "result frequency" column in Table 2). Furthermore, mode equal to zero for results of SPA without physical education indicates that the average volume of SPA is very low.

Table 2 Total volume of SPA (n = 138, age 7–11)

Statistical characteristics	SPA with PE (in minutes)	Result frequency	SPA without PE (in minutes)	Result frequency
Arithmetic mean	39,9		19,2	
Minimum	0	17 (12.4 %)	0	45 (32.8 %)
Maximum	120		115	
Median	40		15	
Mode	45		0	
Standard deviation (SD)	28,9		20,3	

If we compare the volume of SPA with a theoretical possibility of SPA (60 minutes per day), and with the average length of pupils' stay at school, there are notable differences (Fig. 1).

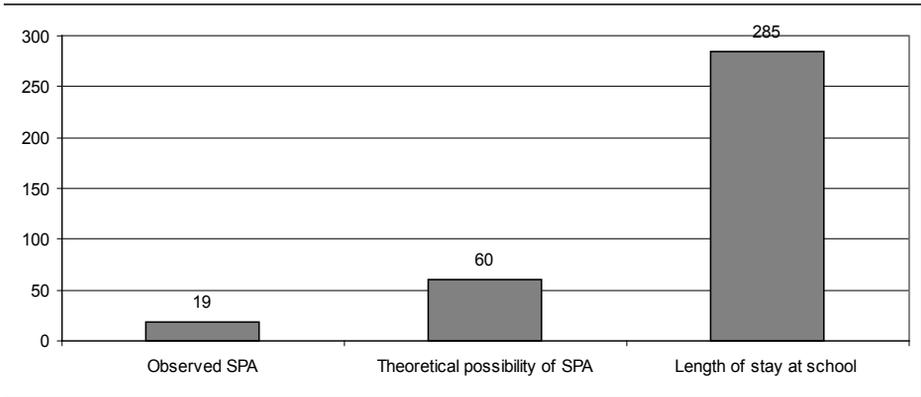


Fig. 1 Comparison of SPA results with a theoretical possibility of SPA and the length of stay at school (in minutes)

The share of particular forms of SPA on the total SPA volume is illustrated in Fig. 2. With the exception of movement-relaxation break, the occurrence of other individual forms of SPA is practically insignificant. Exercising before classes was not stated by any respondent. PE moments occupy on average only 0.11 minute a day, with the frequency of occurrence equal to 2. Slightly more common seems to be “learning in motion” (on average 0.4 minutes a day), but with the same frequency of 2. Transfers between classrooms, school buildings, classroom and sports ground etc. last on average 2.92 minutes a day, and going for a walk takes 1.17 minutes a day (frequency equal to 3, lasting from 25 to 45 minutes).

As clear from Fig. 2, movement-relaxation breaks account for most SPA volume. During these breaks, pupils move on average 15 minutes a day. Walking or games in school corridors seem to be dominant activities, movement games in school sports grounds and school grounds or other school premises are also common. Next, throwing a ball with a classmate, rope skipping, gum skipping, kids chase are popular too. According to pupils, the intensity of these activities is usually moderate.

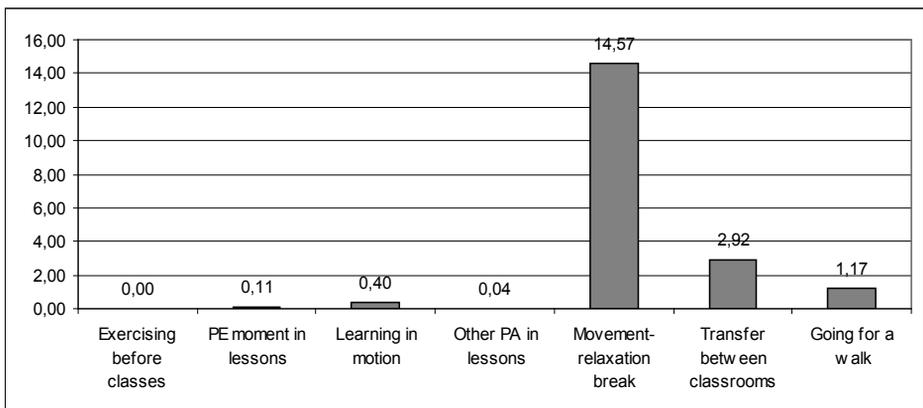


Fig. 2 Average volume of observed SPA (in minutes) in particular forms of SPA

Table 3 reveals that even movement-relaxation breaks are not common for all pupils. Surprisingly, 62 pupils reported no activity of this type, so 45 % of respondents did not have any movement-relaxation break on the observed day (see Table 3, result frequency).

Table 3 Statistical characteristics of the volume of movement-relaxation breaks

Statistical characteristics	Volume of movement-relaxation breaks in minutes	Result frequency
Mean	14.57	
Minimum	0	62 (45.3 %)
Maximum	75	1
Median	10	16
Mode	0	62
SD	17.81	

## Comparison of pupils’ school physical activity according to gender

Comparing the volume of total SPA with individual SPA for boys and girls (individual SPA is optional, especially in breaks) reveals only slight differences. For both boys and girls the difference between total SPA and individual SPA is only 3 to 4 minutes a day (see Fig. 3).

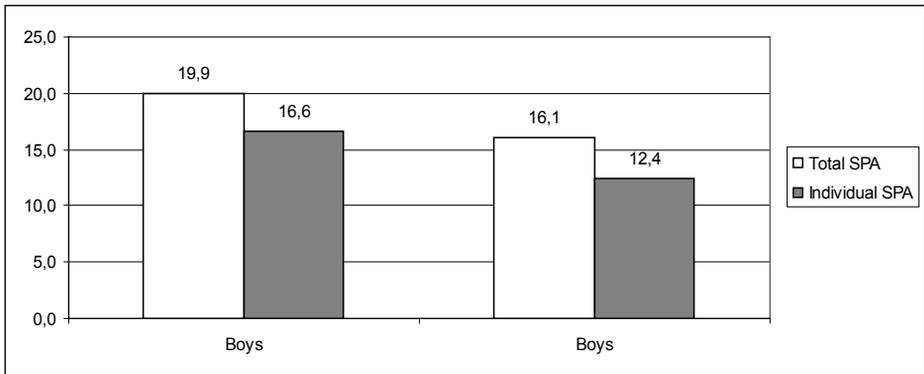


Fig. 3 Difference between total SPA and individual SPA for boys and girls

T test carried out at 0.05 level of significance did not prove statistically significant differences in SPA volumes between boys and girls, not even when the classification according to the intensity of physical activity or the comparison of total and individual SPA were applied (see Table 4, column p). Though, a certain difference is apparent (Fig. 4), suggesting that boys are more active than girls in terms of physical activity at school.

Table 4 Differences in the volume of SPA between boys and girls according to the intensity of physical strain and forms of SPA (t test)

Variables	boys (minutes)	girls (minutes)	boys (SD)	girls (SD)	t	p
Intensity 1	5.07	6.50	11.43	12.32	0.70	0.48
Intensity 2	11.72	9.07	14.10	16.62	1.00	0.32
Intensity 3	3.13	0.50	12.43	2.97	1.72	0.09
Total SPA	19.93	16.07	19.28	20.57	1.13	0.26
Individual SPA	16.57	12.43	17.02	17.25	1.41	0.16

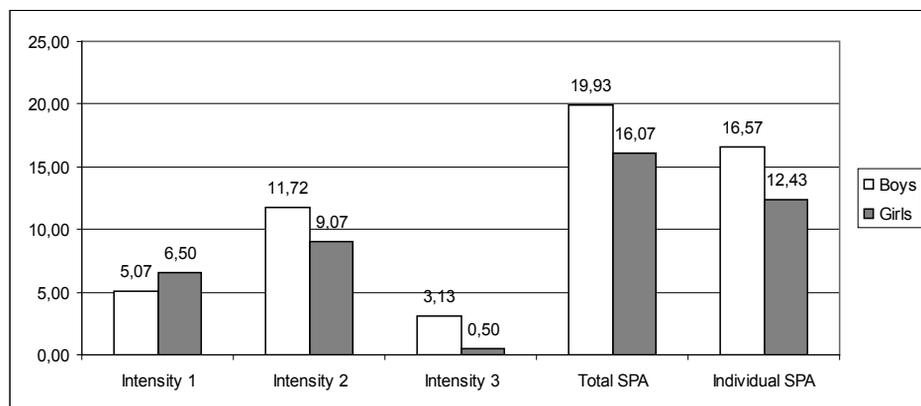


Fig. 4 Differences in the intensity and volume of SPA between boys and girls (in minutes)

The higher volume of SPA in boys corresponds with pupils' self-reflection of the question *I think I have enough physical activity in my daily regimen, i.e. at school as well as outside school*. As illustrated in Fig. 5, positive answers (definitely yes, rather yes) are predominant. Boys' self-reflection is closer to answer "definitely yes" than that of girls' (the average value for boys being 1.57 and girls 1.61. For details see Table 5. Nevertheless, the difference between boys' and girls' self-reflection is not statistically significant.

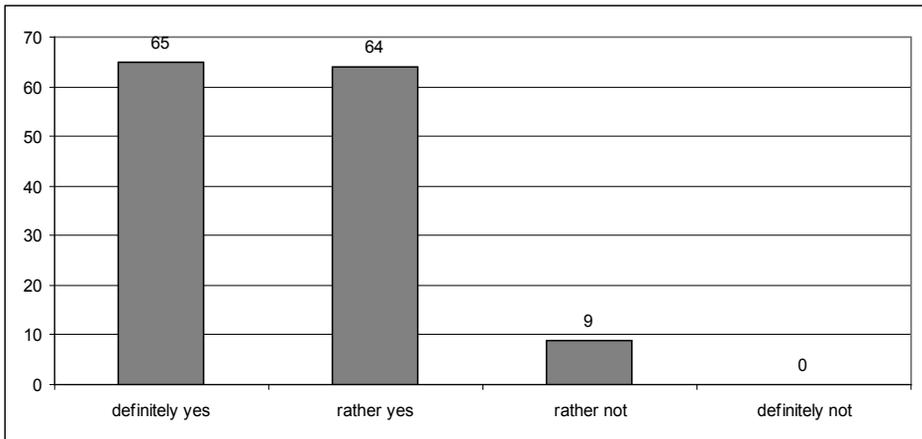


Fig. 5 Frequency of pupils' answers to the question whether they have enough physical activity (n = 138)

Table 5 Differences in pupils' self-reflection according to gender (average value of answers on a 1–4 scale)

	Boys	Girls
Pupils' self-reflection of PA	1,57	1,61

## Comparison of pupils' school physical activity according to lower primary school years

The differences in the volume of SPA among pupils of individual years are shown in Fig. 6. The variance analysis proved statistically significant differences in the volume of SPA only in SPA of moderate physical strain (intensity 2) – see Table 6, in bold. The follow-up Fisher's LSD post-hoc test for intensity 2 revealed that statistically significant differences in the volume of SPA with moderate intensity of physical strain were in individual years more frequent. See Table 7, figures in bold.

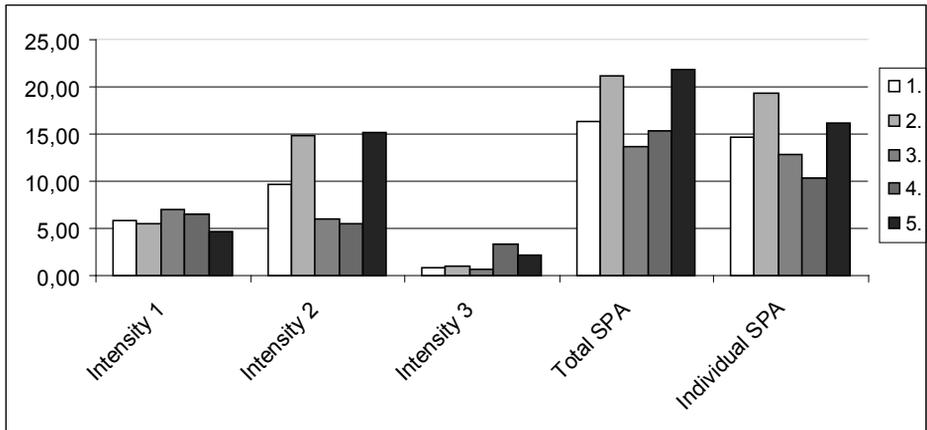


Fig. 6 Differences in the intensity and volume of SPA among individual lower primary school years

Table 6 Differences in the intensity and volume of SPA (in minutes) among individual lower primary school years (variance analysis)

Year	1	2	3	4	5	1 (SD)	2 (SD)	3 (SD)	4 (SD)	5 (SD)	F	p
Intensity 1	5.83	5.48	7.04	6.45	4.63	2.83	2.62	2.31	2.16	1.90	0.19	0.94
<b>Intensity 2</b>	9.72	14.76	5.93	5.48	15.13	3.54	3.28	2.89	2.70	2.38	<b>2.86</b>	<b>0.03</b>
Intensity 3	0.83	0.95	0.74	3.39	2.13	2.14	1.98	1.75	1.63	1.44	0.44	0.78
Total SPA	16.39	21.19	13.70	15.32	21.88	4.71	4.36	3.84	3.59	3.16	0.99	0.41
Individual SPA	14.72	19.29	12.78	10.32	16.13	4.05	3.75	3.31	3.09	2.72	1.02	0.40

Table 7 Fisher's LSD post-hoc test for intensity 2

Year	2	3	4	5
1	0.298622	0.408176	0.343217	0.207729
2		<b>0.045431</b>	<b>0.030778</b>	0.928730
3			0.911241	<b>0.015333</b>
4				<b>0.008307</b>

The observed differences are important because the volume of physical activity with moderate intensity of physical strain positively affects pupils' health and fitness. While the average length of 5 to 6 minutes for SPA with moderate intensity of physical strain in year 3 and 4 is nearly insufficient, a 15-minute period (in year 2 and 5) may be regarded as satisfactory.

The comparison of individual years does not reveal any statistically significant differences in pupils' self-reflection of whether they have enough physical activity, as shown in Table 8. Surprisingly, pupils with the highest average volume of individual SPA (year 2) express on average the lowest satisfaction with individual PA (1.81 on

a four-grade scale), whereas pupils of year 5 are the most satisfied ones. Their average value of answer 1.45 is close to “definitely yes”.

Table 8 Differences in pupils’ self-reflection according to individual lower primary school years (variance analysis)

Year	1	2	3	4	5	1 (SD)	2 (SD)	3 (SD)	4 (SD)	5 (SD)	F	p
Self-reflection	1.56	1.81	1.63	1.61	1.45	0.14	0.13	0.12	0.11	0.10	1.26	0.29

## Relations between the observed variables

The analysis of the obtained results involved also the examination of relations between the observed variables. Correlation analysis was used to determine the relations between the SPA volume of different intensity of physical strain, the total volume of SPA, and the volume of individual SPA. The results are presented in Table 9. The statistically significant relations are marked in bold.

Table 9 Correlation coefficients between the observed variables ( $p > 0.05$  in bold)

Variables	Intensity 2	Intensity 3	Total SPA	Individual SPA
Intensity 1	-0.05	-0.08	<b>0.52</b>	<b>0.53</b>
Intensity 2		-0.09	<b>0.70</b>	<b>0.57</b>
Intensity 3			<b>0.34</b>	0.03
Total SPA				<b>0.77</b>

As already mentioned, school physical activity with moderate intensity of physical strain is important part of physical activity. This finding is further confirmed by a relatively strong correlation between SPA with intensity 2 and the total pupils’ SPA (correlation coefficient 0.70). The highest correlation was observed between the total SPA and the individual SPA (0.77).

## Assessing teachers’ concern over physical activity of their pupils

Teacher training for lower primary school teachers as well as educational programmes for basic education encourage teachers to support physical activities of their pupils. This is undoubtedly one of the main educational aims in the educational field of physical education. Therefore, the following item: “My teacher shows his/her concern whether I have enough physical activity in my daily regimen, i.e. at school as well as outside school” was included in the questionnaire. The survey results are as follows:

Boys and girls from the research population hold nearly the same views; the difference examined by chi square test is not statistically significant. The average answer to this question on a four-degree scale rests between the answer “definitely yes” (value 2) and “rather not” (value 3) – see Table 10. The frequency distribution of the answers is shown in Fig. 7.

Table 10 Assessing teachers' concern over PA of their pupils (average value of answers on a 1–4 scale)

	Boys	Girls
Teachers' concern over PA of their pupils	2.42	2.43

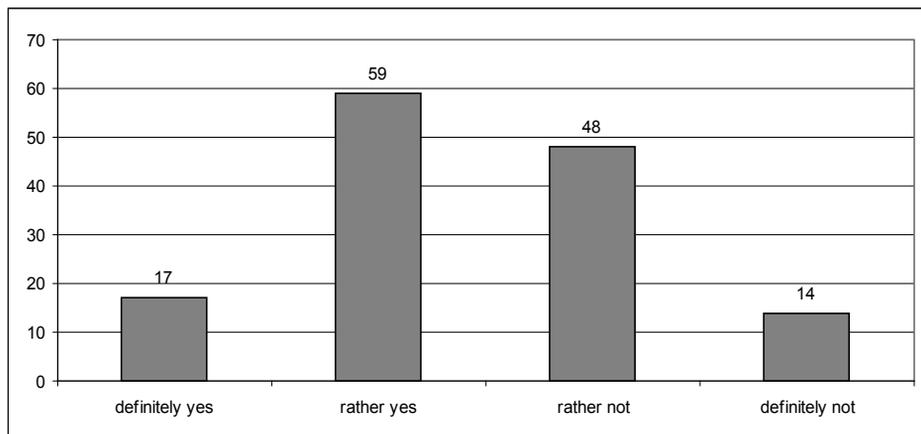


Fig. 7 Frequency of pupils' answers to the question whether they think that their teacher is concerned over their total PA

The differences in the average value of answers of pupils of individual lower primary school years are not statistically significant and on a four-degree scale fluctuate between 2.29 (year 4) and 2.78 (year 1), as clear from Table 11.

We consider this finding based on views of 138 pupils of 138 schools very important since it indicates that a substantial part of lower primary teachers (45 %) rather or definitely fails in meeting one of their educational aims in physical education.

Table 11 Differences in assessing teachers' concern over PA of their pupils in individual lower primary school years (variance analysis)

Year	1	2	3	4	5	1 (SD)	2 (SD)	3 (SD)	4 (SD)	5 (SD)	F	p
Teachers concern	2.78	2.38	2.48	2.29	2.35	0.20	0.18	0.16	0.15	0.13	1.13	0.35

## Discussion

The research findings correspond with Sigmund's team (2007) observation that children's total PA substantially decreases after they start their compulsory school attendance. The low volume of SPA and prevailing non-physical activities in children's daily regimen lead to the development of muscle imbalances manifested by poor posture. The number of children with poor posture in Czech lower primary schools currently exceeds 50 % (Vrbas, 2010). As proved by Zachrla (1999), there is a marked increase in the prevalence of poor posture in children even during the first year of primary school.

Drawing upon the results obtained by Kuchařová (2010) who analysed physical activity outside school in the same population of respondents, we can put together the average structure of daily activities of lower primary school children (Fig. 8). This structure confirms that non-physical activities absolutely prevail in children's weekday regimen and school regimen significantly contributes to this. Nevertheless, it should be noted that research by Kuchařová did not prove insufficient volume of outside school PA in Czech children when compared to the required minimum of one hour a day by the NASPE (2001).

Physical education significantly contributes to SPA, but it usually occupies only two lessons in a week timetable. Therefore, it is necessary to pay increased attention to other possibilities as well.

We acknowledge that the research population is not representative of the age group of lower primary school children. Although the findings cannot be generalised, the insight into the school regimen of 138 Czech schools enables us to draw conclusions and hypotheses for follow-up research or proposed measures.

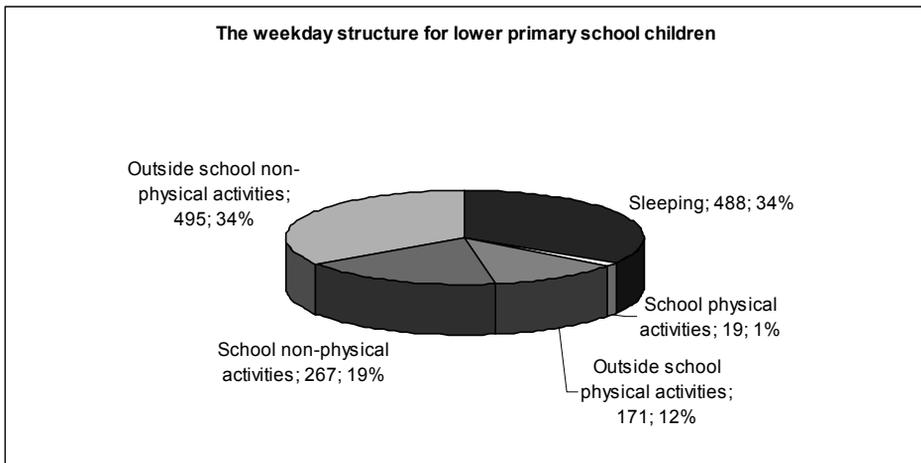


Fig. 8 The weekday structure for lower primary school children in minutes and percents per day

## Conclusion

The research findings can lead to the following **conclusions**:

- The average volume of SPA in lower primary school children is very low and without compulsory physical education on average equals to less than 20 minutes a day. Movement-relaxation breaks account for nearly 15 minutes of this period; however, only 55 % of respondents really pursue physical activities. The volume of other forms of SPA is negligible and amounts to 3 minutes a day.

- No statistically significant difference in the volume and intensity of SPA between boys and girls has been observed, even though boys' SPA seems to be slightly higher. It can be hypothesised that there is no difference in the volume and intensity of SPA between boys and girls at lower primary school.

– A statistically significant difference in the volume and intensity of SPA has been revealed among the individual years of lower primary school. Although these differences are not large, and cannot be generalized, it can be hypothesised that there is a difference in the volume and intensity of SPA among pupils of individual years at primary school.

– Statistically significant relations have been proven between the observed variables of pupils' SPA. The correlation between the total SPA and SPA with moderate intensity of physical strain (0.70) which is crucial for pupils' health and fitness is especially important.

– The questionnaire survey has revealed that a vast majority of lower primary school children perceive their total physical activity during a day/week as sufficient. However, 45 % of respondents assume that their class teacher is definitely or rather not concerned over the physical activity of the pupils. We believe this finding is important for both, school practice as well as teacher training.

Even though the obtained results cannot be generalized, and the hypotheses stated should be verified on a representative population of respondents, it is possible to make these **suggestions for the educational practice**:

– All pupils need to be provided with a movement-relaxation break lasting at least 15 minutes at least once a day.

– It is necessary to include PE moments with compensatory or relaxation exercises (see e.g. Hnízdilová, 2006) into classes to a greater extent.

– The “learning in motion” teaching method (e.g. Jonášová, Michálková, Mužik, 2006, Jonášová, 2009) can be recommended to a much greater extent.

– Depending on possibilities, we recommend doing exercises before lessons (e.g. stretching such as Sun Salutation) especially in the first years of primary school.

– It is necessary to stress the educational obligation of lower primary school teachers in educational practice and teacher training: in physical education show interest and lead children to physical activities both at school as well as outside school.

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## SONDA DO ŠKOLNÍ POHYBOVÉ AKTIVITY DĚTÍ MLADŠÍHO ŠKOLNÍHO VĚKU

**Abstrakt:** Příspěvek přináší aktuální poznatky o pohybové aktivitě dětí při pobytu ve škole. Výzkum byl proveden v roce 2009. Výzkumnou metodou byl podrobný časový snímek všedního dne, zachycující mimo jiné objem pohybu, intenzitu fyzického zatížení a obsah školních pohybových aktivit. Výzkumným souborem bylo 135 dětí ve věku 7 až 11 let z různých základních škol České republiky. Na základě získaných výsledků lze usuzovat, že většina českých škol v dostatečné míře nevyužívá možnosti pro zdraví podporující pohybovou aktivitu dětí. Prezentované poznatky mo-

hou být využity ke zlepšení školního režimu žáků a při tvorbě programů podporujících zdravý životní styl dětí.

**Klíčová slova:** pohybová aktivita, školní pohybová aktivita, děti mladšího školního věku, časový snímek dne



## PERSONAL MORALITY AS DETERMINANT OF MENTAL HEALTH

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*Petra LAJČIAKOVÁ*

**Abstract:** *The contribution presents sub-finding solutions to the grant project VEGA 1/0826/10. It offers describing of personal morality as determinant of mental health on the selected sample of 82 respondents. The results obtained from applying the Test of moral reasoning (MJT) demonstrate that the vast majority of individuals prefer postkonventional moral thinking. It is in terms of ability to resist social pressure and be independent from the assessment and the expectations of others – it is characterized by autonomous personal morality. This conclusion assumes that autonomy as a fundamental dimension of the structure of mental health will indicate a positive relationship with wellbeing.*

**Key words:** *personal morality, mental health, heteronomy, autonomy*

### Theoretical background

The issue of mental health and optimal functioning of the personality (psychological well-being) is the actual subject of our and foreign psychological investigation (Džuka, 2004; Kebza, Solc, 2003; Diener et al., 1995; Diener, Suh, 2000; Snyder, Lopez, 2002). Equally in psychology we can pursue efforts are not focusing only on minimizing, eliminating or prevention of negative symptoms of mental well-being, but especially find factors promoting optimal psychological functioning. Positive aspects of human functioning are presented mainly positive psychology (Seligman, Csikszentmihalyi, 2000; Snyder, Lopez, 2002; Křivohlavý, 2004). In addition to factors related to quality psychological functioning, positively influencing positive mental health such as life satisfaction (Křivohlavý, 2001), happiness (Seligman, 2002) and others, we can not ignore the personal morality of individuals. Especially if the health, together with Křivohlavý (2001) is regarded as the overall, physical, mental, social (including the moral) and spiritual state of man, which enables it to achieve optimal quality of life and not hinder efforts analogous to other people. It is significant that the bio-psycho-social model of health includes the moral, ethical dimension. Personal morality as a complex phenomenon of the human psyche is represented in the topics of positive psychology (Snyder, Lopez, 2002). A key concept that offers insight into the development of personal morality of individuals, it is well known Kohlberg's

theory (1969) of development of moral reasoning. It is based on the findings of Piaget (1932) for the interconnection of cognitive development and moral reasoning. Kohlberg's stages of moral development explain how it changes the way of thinking about moral issues in connection with the development of cognitive structures. Kohlberg investigated as people argue in dealing with hypothetical moral dilemmas and different ways to specific developmental moral reasoning considered universal levels of moral reasoning, development of personal morality. Differentiate three levels of personal morality – pre-conventional, conventional and post-conventional in which distinguished the other two degrees further specifying the particular stage of development of moral reasoning.

Structures representing each plane of development of personal morality can be simplified in accordance with the author described as the concept of benefit, social contract and natural rights. Pre-conventional level represents autocentric phase in which the individual is dominant with his own needs. Conventional level sociocentrist stage – it describes the individual as a member of a particular group, respectively the group. In post-conventional level – universalistic stage – protrude interiorized beliefs and standards of the individual. Personal morality of autonomous type (post-conventional level of moral reasoning) in terms of ability to resist social pressure and be independent from the assessment and the expectations of others is autonomy as one of six basic dimensions structure the concept of wellbeing by Ryff and Keyes (1995). The other constituents of well-being are self-acceptance, positive relationship with others, managing the environment – environmental mastery, purpose in life (purpose in life), personal development (personal growth). We interested in the autonomy of personal morality pursued respondents in the first phase of our comprehensive research plan.

## **Method**

### **RESEARCH OBJECTIVE**

The aim of the study is to determine what type of personal morality prevails in this group of respondents. Our attention was focused on the preference degree of moral reasoning, which refers to the autonomous or heteronomous personal morality.

### **RESEARCH GROUP**

82 respondents participated in research. They were university students; gender of the file has been evenly distributed. The average age was 25.32 years. Research was conducted at the beginning of 2010.

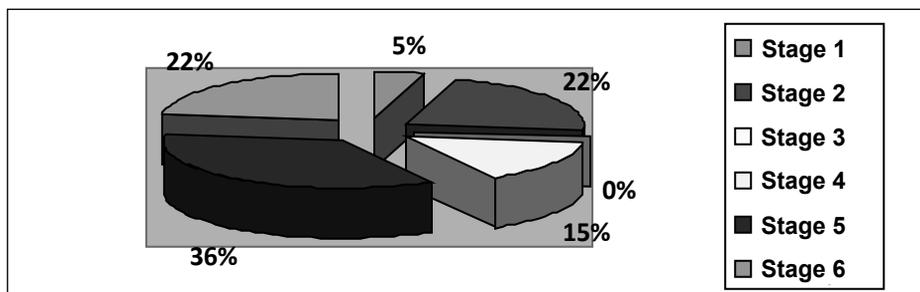
## **Research tool**

Personal morality was followed by Lind's methodology assumed MJT (Moral Judgement Test, 2002), the test of moral reasoning. This test places the individual from moral dilemmas, and it offers both positive and negative arguments justifying a procedure actor. Arguments are different levels of moral reasoning by Kohlberg (1969), which correspond with autonomy or heteronomy of personal morality. First respondent determined whether it agrees or disagrees with the conduct of actors in the various dilemmas and then to the range - 4 to + 4 bands, to what extent it agrees with those arguments.

It is possible to assess the level of individual moral judgments (preference of moral stage) on the basis of the outcomes of the MJT. The each stage is characterized by 4 items, which determines the highest total preferred stage. This figure reveals the attitudes of individuals identified by Kohlberg's six stages of moral reasoning. In this way we can determine which stage of moral reasoning level of the individual prefers more, respectively less, which means type of personal morality.

## Research results

The following chart describes the percentage of respondents in the different stages of moral reasoning.



*Chart 1 Percentage of respondents in each moral stage (n = 82)*

The highest number of respondents (n = 30) prefer the fifth stage of post-conventional moral reasoning. Respondents should encourage a sense of duty, role, however, they should play a sense of justice and law, which would be a gradual awareness of the relativity laws. This result coincides with research findings of Lind (2002), which argues that the vast majority of subjects preferred the most “legitimate” fifth stage.

Supreme, the sixth stage of moral reasoning belongs to 18 participants of research, which should characterize freely chosen ethical principles, acquired as universal values of justice. It follows that an autonomous type of personal morality characterizes 48 individuals from our research group. This is the type of personal morality based on the moral values, principles and policies, regardless of social order and authority of persons or groups.

The first and second stage of moral reasoning appeared in 22 respondents, of which 4 should behave so that the rules do not exceed the designated authority and 18 should be held morally right, but only because it pays them to themselves, it is individualistic docility. This level describes the pre-conventional heteronomous personal morality of individuals whose moral evaluation is based on misconduct and physical and psychological consequences of the proceedings. Twelve individuals prefer the fourth stage of moral reasoning, which should portray a sense of obligation to authority and existing social rules. They should act morally right, because their acts are trying to keep the company running.

Conventional level of moral reasoning, which involves personal morality, characterized by loyalty to social attitudes and expectations of the social requirements, also

presents the third stage. It had not occurred in our research group. Though it should retain some caution in extrapolating conclusions drawn from our research findings (not explicitly assume the homogeneity of the surveyed sample, the continuity of their moral principles at the time, the finality of external and internal conditions, etc.), our results identify the personal morality of our respondents. We conclude that the vast majority of monitored individuals prefer the fifth stage of moral reasoning, which refers to autonomous personal morality.

## Discussion, conclusion

In relation to differentiation of positive psychology syllabus defined by its pioneers in the strengths of different cultures, individual personalities, which reflect the fundamental properties of positive people and together form a complex called the concept of good character. Place between the individual and personal morality as a particular strength of human personality (see Kordačová, 2007, 2009). It becomes the inspiration for intrusions of positive psychology and psychology of health.

Ability to evaluate myself own (personal) moral values and also be able to stand up against the demands to think and act in accordance with regulations, according to dissenting Snyder and Lopez (2002) is elemental dimension of well-being. In this context, the autonomous personal morality (the vast majority of our respondents) considered as determinants of mental well-being, mental health. Positive indications of personal morality towards mental health and reveal other foreign authors, for example Conrad, 1994; Brandt, Rozin, 1997; Liaschenko, 1998 and others. Match of the view that morality and mental health are inextricably linked. In connection with these research findings we can state that personal morality as a strength of personality is one of the major determinants of mental health. Its inclusion in research of psychology of health is desirable and almost certainly would bring a variety of enriching insight into the current minimum in this review field research.

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## OSOBNÁ MORÁLKA AKO DETERMINANT MENTÁLNEHO ZDRAVIA

**Abstrakt:** Príspevok predstavuje čiastkové zistenia riešenia grantového projektu VEGA 1/0826/10. Ponúka deskripciu osobnej morálky ako determinantu mentálneho zdravia na vybranom výskumnom súbore 82 respondentov. Získané výsledky nadobudnuté aplikáciou testu morálneho usudzovania (MJT) dokumentujú, že prevažná väčšina jednotlivcov preferuje postkonvenčné morálne zmýšľanie v zmysle schopnosti odolať sociálnym tlakom a byť nezávislým od hodnotenia a očakávania druhých – čo charakterizuje autonómnou osobnú morálku. Tento záver predpokladá, že autonómia ako jedna zo základných dimenzií štruktúry mentálneho zdravia bude indikovať pozitívny vzťah so duševnou pohodou.

**Kľúčové slová:** osobná morálka, mentálne zdravie, heteronómia, autonómia



## HUMAN HEALTH AND ROAD TRANSPORT

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*Hana HORKÁ, Zdeněk HROMÁDKA*

**Abstract:** *A significant factor affecting adversely the environment and human health is transport. In this paper we deal with its environmental and then its health effects. Further, we present the results yielded by the descriptive part of the investigation focused on an analysis of pupils' attitudes towards individualised car transport. In the relational part the relation between "attitudes towards motoring" and "attitudes towards environment protection" is analysed. The urgency of the problems associated with transport and the results of the investigation confirm the necessity of integrating the given topic into the educational curriculum of all types of schools.*

**Key words:** *health, the environment, environmental education, health education, attitude towards motoring*

### Introduction

Within the research project we focus on the issues of environment-friendly lifestyle in the context of health promotion. We assume that the quality of the environment is an important health aspect and that the state of the environment is becoming its basic determinant and regulator. A significant factor adversely affecting the environment and human health is transport as an indispensable part of life in this society. It is apparent that the present society would be inconceivable without the constant transport of commodities, products and information.

In this study we are grounded on the selected conclusions of previous investigations (HORKÁ, HROMÁDKA 2008, p. 21–33; HORKÁ, HROMÁDKA 2009, p. 46), dealing with the problem of pupils' attitudes towards individualised car transport.

One of the questions in the questionnaire in our investigation (HORKÁ, HROMÁDKA 2008) was in the form of an open question: "What do you consider the greatest health threat in the city? (at least 3 examples). Following a qualitative analysis of the data these categories of "threats" arose (see diagram No.1): the most frequently mentioned category was "smog – polluted air" (51.3 %), the second most frequent was "cars" with 43 % (HORKÁ, HROMÁDKA 2008, p. 21–33). It should be noted that in a similar investigation carried out by students of the Faculty of Education Masaryk University the results of answers to an identical question were following: most frequent "smog – polluted air" (68.4 %) and the second most frequent was again the category "cars – transport" with 53.8 % (HORKÁ, HROMÁDKA 2009, p. 46).

Emissions (and particularly emissions produced by road transport) are under-

stood by respondents as the highest health threat to the life in a city. We have to ask, then, what is the attitude towards motoring, i.e. a phenomenon which is a cause of such a seriously perceived threat?

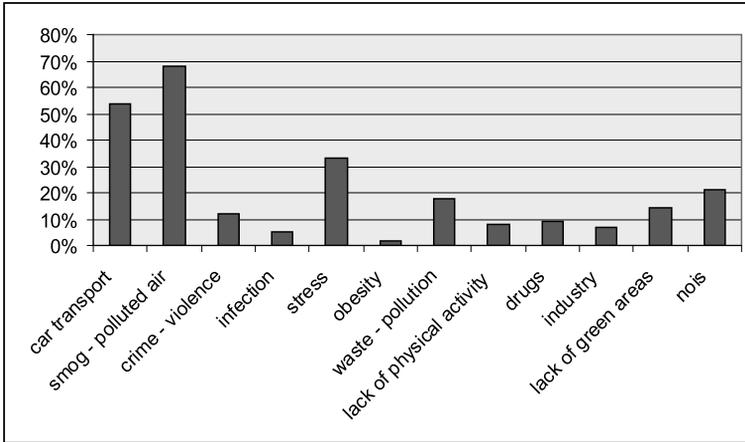


Diagram No.1 (N = 264) (HORKÁ, HRMÁDKA 2008)

The focus of our attention is motoring as a remarkable phenomenon, especially in social context. Its undoubtedly detrimental effect on the environment as well as human health should lead to its permanent and consistent social criticism, however, it seems there is very little of it (or the criticism is not as severe as the phenomenon probably deserves). As far as the official statistics of western countries are concerned, the area of transport has not been affected by the ecological movement, although in other areas the effort has been influential already since the 60's and 70's in the 20<sup>th</sup> century (KELLER 1998, p. 92). Environmental education and promotion are rightly focused on topics such as separation of waste, heat cladding of houses, shopping for “environmental-friendly products“ etc. Nevertheless, the demand for restriction of transport is still likely to be perceived by the society as inappropriate ecological radicalism or extremism, despite the fact that decrease of transport is a variable which can significantly influence ecological footprint.

The effect of passenger cars on the environment and human health is quite problematic compared to other forms of transport. Air transport obviously causes greater damage to the environment, but even this is relative. If we compare environmental damage of air travel and car transport by means of a (relatively reliable) interactive calculator Ecopassanger (<http://www.ecopassanger.org>), in most parameters (such as emissions of carbon dioxide and nitrogen oxide) air travel in average European loading reaches rather worse results than car travel (where the average load factor is 1.5 passenger). However, as far as human health and the threats for health are concerned, car transport is in this comparison much more harmful than air travel.

## The impact of road transport on human health

Transport is one of the most dynamic branches of human activity. It influences the life of humans significantly, and in many aspects. Firstly, it represents a risk of lethal

accidents, which is a striking characteristic of the most dangerous form of transport. Secondly, it poses a latent risk in a possibility of creating patterns of comfortable lifestyle reducing physical activity leading to obesity and civilisation diseases.

The health risk of cars obviously lies primarily in emissions. Some components of car exhausts:

- carbon monoxide (reduces the ability of blood to transport oxygen)
- unburned organic substances – acids, aldehydes and their derivatives (irritates mucous membranes of breathing apparatus, mucous membrane of eyes, can cause breathing problems),
- soot can contain polyaromatic hydrocarbons etc. (might be carcinogenic, mutagenous).

The danger of car emissions particularly lies in the fact that they are released right in the heart of human settlements, in the streets, squares and urban residences (cp. HORÁK 2000).

## **The impact of road transport on the environment**

Various overview reports imply (e.g. BENDL 2008, p. 17-23) that road transport plays the most important role and its adverse effect is seen primarily in the production of emissions polluting the air. A significant component of exhaust emissions is carbon dioxide, whose threat lies in the fact that it is a “greenhouse gas“. According to Houghton (1989) road transport is the greatest producer of carbon dioxide amongst other forms of transport. It is increasingly contributing to its increase in the atmosphere and thus is significantly changing one of the planetary components.

Transport also exploits non-renewable natural resources and given the unsustainable world growth of the population it is obvious that the oil reserves will be exhausted prematurely with all the negative economic and social consequences. According to Bendl it is necessary to “*brace ourselves for the oil turning point in advance*“.

Among other car exhausts there are nitrogen compounds. Alongside sulphur dioxide nitrogen compounds contribute to acid rains, which are the cause of acidification of soil. Photochemical smog (especially ground ozone), which also accompanies road transport, damages human health as well as vegetation. The contamination of soil, water and biota as a result of pollution from road transport and due to the application of road salt in winter also has negative effect. Apart from emissions the environment is adversely affected by the noise and vibrations from transport, especially in urban agglomerations.

Due to the development of transport the appearance and morphology of the countryside is changing too – the road networks are barriers for migrating wild animals. The requirements of transport restrict not only humans and plants and animal species, but also have a detrimental effect on biodiversity (e.g. appropriations of land, especially of agricultural land for the construction and reconstruction of road and highway network, application of biocides in the maintenance around the infrastructure, excessive use of road salt, spread of invasive species and infectious diseases). Currently, there is an alarming situation around the plan of the import of biological fuels from developing countries, where they are produced to the detriment of natural ecosystems, tropical rainforests, etc.

## Attitudes of pupils towards motoring

In the context of the above mentioned environmental and health consequences of individualised car transport we are interested in the attitudes of the recipients of the potential environmental education, that is the pupils themselves. A part of the research presented in this paper introduces the analysis of the descriptive part of the investigation conducted for the dissertation thesis of the author. This part concerned the analysis of pupils' attitudes towards individualised car transport.

For the description of the variable "attitudes towards motoring" we defined the indicators, which are then turned into ordinal variables. In accordance with our understanding of the construct attitude (cp. NAKONEČNÝ 1998, p. 118) they are represented by the degree of agreement with the following statements:

- "It is inconvenient if you do not have a car nowadays."
- "A car should be used only when there is no possibility to use other means of transport."
- "It is essential to own a car nowadays."
- "It is cool to own a car."

To analyse the dichotomy of the attitude toward the environment and motoring we chose the relational part of the investigation dealing with the relation between "attitudes towards motoring" and "attitudes towards the environment". In the context of theory is it represented by a hypothesis:

H: There is a relationship between attitudes towards the environment and attitudes towards individualised car transport in 8<sup>th</sup> and 9<sup>th</sup> grade pupils of basic schools.

In our sample there were pupils of 8<sup>th</sup> and 9<sup>th</sup> grade of basic schools in Brno.

Distribution of the data (for N = 393) of the variable *The degree of agreement with the statement: "It is inconvenient if you are without a car nowadays."*

options	N = 393	Relative frequencies	Upper limit CI	Lower limit CI
Definitely yes		46,6	41,67	51,53
Rather yes		35,9	31,16	40,64
Rather not		11,2	8,08	14,32
Definitely not		6,4	3,98	8,82

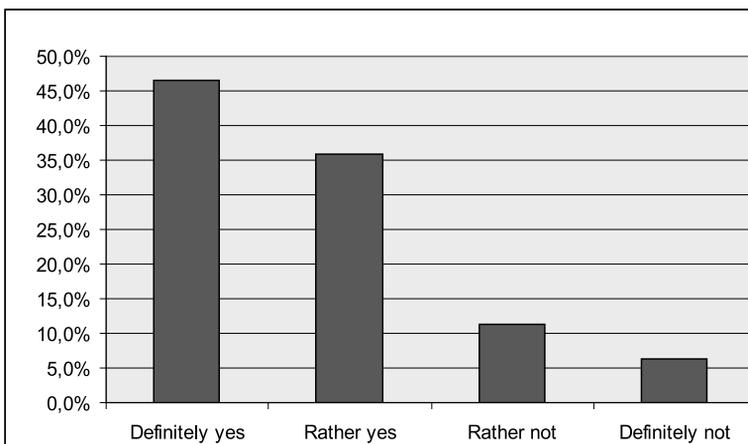


Diagram No. 2: “It is inconvenient if you are without a car nowadays.”

The modal category is the option “definitely yes” and the second most frequent category is the option “rather yes”. Therefore, we assume that pupils perceive not owning of a car as inconvenience.

The distribution of data (for N = 385) of the variable *The degree of agreement with the statement: “A car should be used only when there is no possibility to use other means of transport.”*

options	N = 385	Relative frequencies	Upper limit CI	Lower limit CI
Definitely yes		7,5	4,87	10,13
Rather yes		21,6	17,49	25,71
Rather not		40,5	35,6	45,4
Definitely not		30,4	25,81	34,99

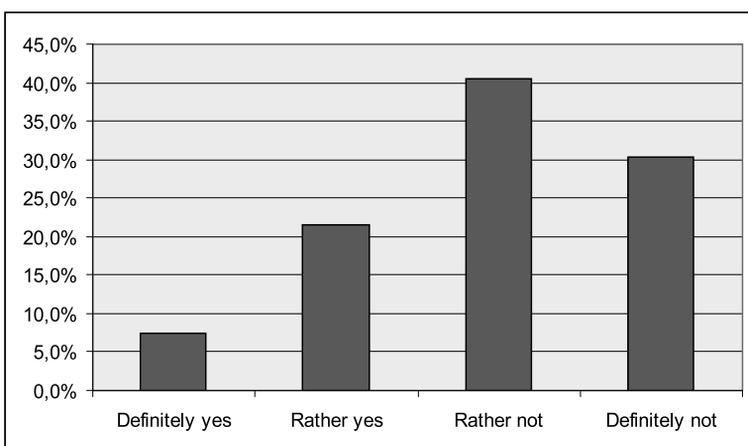


Diagram No. 3 “It is essential to own a car nowadays.”

The modal category is the option „rather not“, the second most frequent is „definitely not“. Nevertheless, 29.1 % of pupils agree that a car should be used only if there is no possibility to use other means of transport. In our opinion this is a relatively large proportion. We are based on the assumption that standard conformist attitude towards the use of car would not be significantly restricting to extraordinary circumstances.

The distribution of data (for N = 384) for the variable *The degree of agreement with the statement: „It is essential to own a car nowadays.“*

options	N = 384	Relative frequencies	Upper limit CI	Lower limit CI
Definitely yes		25,5	21,14	29,86
Rather yes		40,9	35,98	45,82
Rather not		17,7	13,88	21,52
Definitely not		15,9	12,24	19,56

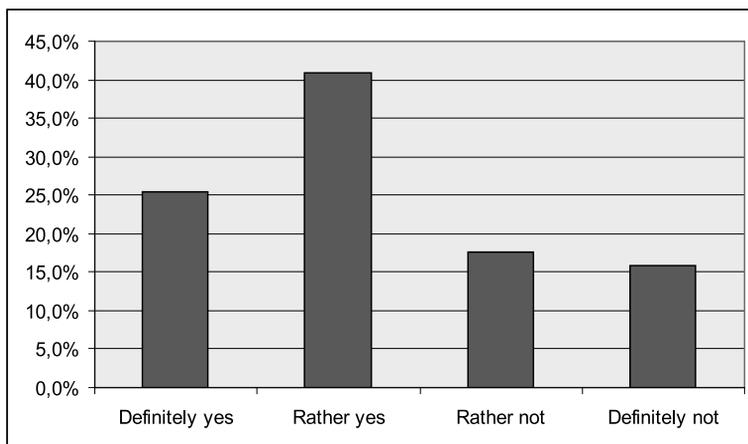
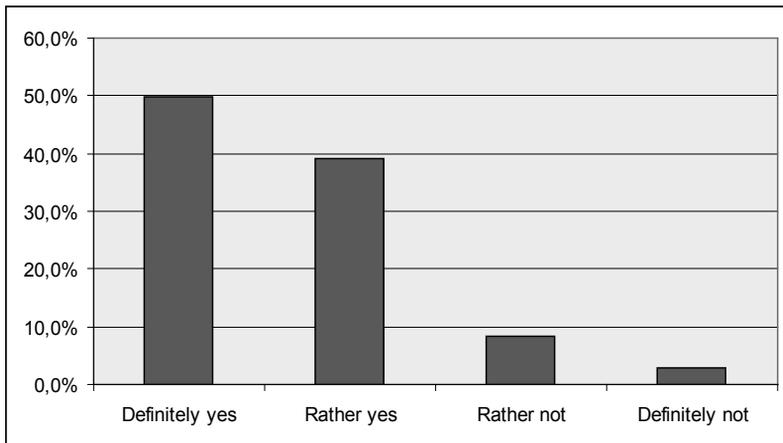


Diagram No 4: „It is essential to own a car nowadays.“

The modal category is the option „rather yes“, the second the the option „definitely yes“. It seems that ownership of a car is a „necessity“ for most respondents. 25.5 % of pupils do not take into consideration that one could live without a car nowadays.

The distribution of the data (for N = 384) of the variable *The degree of agreement with the statement: „It is cool to own a car.“*

options	N = 384	Relative frequencies	Upper limit CI	Lower limit CI
Definitely yes		49,7	44,70	54,70
Rather yes		39,1	34,22	43,98
Rather not		8,3	5,54	11,06
Definitely not		2,9	1,22	4,58



*Diagram No. 5: "It is cool to own a car."*

The modal category is the option "definitely yes", the second most frequent is the option "rather yes". Thus, most respondents identified with the above mentioned emotional statement. The desire to own a car therefore probably does not have only a pragmatic origin.

From the univariant analysis above it implies that in the context of our main indicators in our sample the "attitude towards motoring" is rather positive.

For the purposes of a bivariant analysis from the ordinal variables above we processed a metric variable AM (attitude towards motoring) in such a way that the individual variant of variables were matched with a numerical value (number of points according to the degree of agreement/disagreement with the statement). Subsequently, the points for all variables were summed up.

The same operation was conducted for other variables demonstrating the construct "attitude towards environmental protection" and so a metric variable ATEP was created. Ordinal variables it arises from (and which represent the main indicators of attitude towards the environment) are expressed by the degree of agreement with the statements:

- "People should be concerned about environmental damage."
- "I agree with the way humans treat the environment."
- "I want to live in such a way so that my behaviour is always environment-friendly."
- "I want to participate in environmental protection."

Subsequently, we examined the dependence between metric variables by means of calculation of correlation.

In the bivariant analysis for the purpose of testing the hypothesis was transformed into a zero hypothesis and then into an alternative statistical hypothesis. To measure the statistic dependence between variables Pearson's correlation coefficient was used.

H: There is a relationship between attitudes towards environmental protection and attitudes towards individualised car transport in pupils of 8<sup>th</sup> and 9<sup>th</sup> grades.

H<sub>0</sub>: The calculated value of the coefficient of the correlation does not predicate dependence between intensive variables ATEP and ATM.

H<sub>A</sub>: The calculated value of the coefficient of the correlation predicates about the dependence between intensive variables ATEP and ATM.

Based on the final correlation on the one hand we refute the zero hypothesis, but the dependence that we assume from the negative value of coefficient of correlation is *very weak*. Thus, there is a relationship (very weak, but significant on the chosen level of significance) between a negative attitude towards motoring and positive attitude towards the environment.

## Conclusion

The urgency of the problems associated with transport is undoubted as concerns (not only human) life and health. From the point of view of environmental education and health education particularly alarming is the threat to plant and animal species and irreversibility of intervention into the environment. It seems that what is unpleasant for humans and puts human life at risk is problematic for the environment, animals and plants and vice versa. Experts claim that environmental damage *“often in advance indicates and points to some negative effects of transport, which already threaten sensitive groups of people and develop in the majority after some time“* (BENDL 2008, p. 21). According to the author the environment thus plays *“a role of a guinea pig to indicate where humans should be very careful“*.

Therefore, the topic of transport is becoming a subject in education, both in the context of the environment and health. In the content curriculum there are general topics such as Human activity and problems with the environment with subtopics on transport and environment (research and development, energy resources of transport and its effects on the environment, types of transport and ecological impact, transport and globalisation), our lifestyle, environment and health (diverse effects of the environment on health, their complex and synergistic effect, possibilities and ways of health protection), health risks of car exhausts (chemistry), energy consumption in transport (physics).

On the other hand, our study shows that despite its apparent environmental and health harmfulness, car transport enjoys considerable popularity. Therefore, we assume that a more radical approach on the side of schools in the form of complex undermining of the necessity to use cars could result in resistance of pupils.

The aim of environmental education is solely to point out the problems and dilemmas that the pupils will once as adult, free (hopefully) and responsible citizens face. E.g. one of the goals of environmental education could be that the pupils realize it is no natural human need to drive to a shop 300m distant.

Pupils will have a chance to take part in the implementation of environment-

friendly transport, something that experts are already discussing e.g. using cars with lower energy consumption and emissions, using alternative fuels and renewable energy resources, implementation of stricter emission limits to restrict the production of greenhouse gases (emissions), stricter regulations in the field of production and waste disposal in transport, implementation of navigation systems, lowering the overcharged roads etc.

## Literature

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## LIDSKÉ ZDRAVÍ A SILNIČNÍ DOPRAVA

**Abstrakt:** Významným faktorem ovlivňujícím nepříznivě životní prostředí a zdraví člověka je doprava. Ve stati jsou uvedeny nejdříve její environmentální a zdravotní důsledky. Dále jsou prezentovány výsledky, které vycházejí z deskriptivní části šetření věnovaného analýze postojů žáků k individualizované automobilové dopravě. V relační části je analyzován vztah mezi „postoji k automobilismu“ a „postoji k ochraně životního prostředí“. Naléhavost problémů spjatých s dopravou i výsledky

výzkumného šetření potvrzují nutnost zařazovat dané téma do vzdělávacího kurikula všech typů škol.

**Klíčová slova:** zdraví, životní prostředí, environmentální výchova, výchova ke zdraví, postoj k automobilismu

## WHAT LOOKS AND WHAT APPEARS TO US AS HEALTHY, ILL OR PATHOLOGICAL

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*Ivana KOLÁŘOVÁ*

**Abstract:** *Language is the primary means of interpersonal communication, and thus an essential means of communication in teaching and learning. Teaching utilises not just a communicative and specialised communicative function of language, affecting the language as a tool of passing on information and interpretation, but also an aesthetic function, especially appropriate in texts, whose aim is to influence emotions and develop emotional images in the reader. A teacher also chooses such language means in teaching that may evoke emotional experiences in the pupils and create different ideas associated with them. The language means affecting the emotional perception also include some words derived from the School And Health keywords: healthily, unhealthily, pathologically, sickly. They appear in texts that explain what it means to live a healthy / unhealthy life, what makes someone appear ill or even pathological or in texts, which evaluate a behaviour as healthy, unhealthy, or even pathological. In conjunction with many other expressions, such observations have the ability to affect the emotional aspects, such as presenting a picture of a person appearing sickly or pathologically (pathologically pale, pathologically thin, sickly white, sickly yellow), or highlighting a poor, unsuitable (“unhealthy”, “pathological”) way of behaving.*

**Key words:** *health, illness, physical health, appearance, character, behaviour, subjective view on health, healthily, unhealthily, sickly, pathologically*

Language is the primary means of interpersonal communication (comp. e.g. Čerň 1998), and thus an essential means of communication in teaching and learning. It is a tool not only for developing pupils' ability to communicate in various situations (RVP ZV: 12–13), working with information (interpreting, sorting, rating), but also for the development of other skills. To teach students how to deal with language, i.e. to communicate actively, but also to perceive the text and interpret it, is the goal of various areas of education, with a central role of *language and language communication*. Communication skills are also developed through other educational areas and specific subjects, including thus also the subjects in the People and Health sector.

At the same time, topics related to health and disease can be applied in the Language And Communication area. A number of contributions from previous anthologies and monographies on the topic of School And Health show that a positive effect of the pupils' and

students' experience and shaping their attitudes and the resulting behaviour and actions are importantly influenced among other things by well-chosen use of language and work with specialized texts, and also journalistic and artistic ones. Siegllová (2008, 2009) and Šubrto-  
vá (2009) for example show how well-chosen reading can help students develop a positive attitude to caring for their health, the understanding of health as a priority, the need to avoid negative habits (drugs, reducing food intake), but also to develop tolerance to various peculiarities caused by some diseases. Šmajso-  
vá-Buchtová (2009) shows how interpretations of nature and life in nature can affect pupils' attitudes towards a healthy life-style. Others, such as Ruisel (2008) and Rybář (2008, 2009) reflect on the concept of health and awareness of the need to live healthy in a wider philosophical and psychological contexts.

The aim of the educational process is also to teach students to express their own feelings, build up some ideas and then describe them (RVP ZV: 13, 14-15). A prerequisite for mastering the teaching profession thus includes teacher's good language skills and the ability to use it not only as a means of material communication, but also as a means of acting on emotional perceptions, encouraging the creation of substantive ideas as well as emotionally motivated ones (Minářová, 1996; Hauser, Klímová, Martinec, Ondrášková, 2007; Minářová, 1996; Čechová, Krčmová, Minářová, 2008: 258f.). Effects on emotions and creating emotional ideas is associated primarily with the aesthetic features of language, particularly in artistic texts. Terms affecting emotional aspects (aesthetic perception) are also involved in journalism and rhetoric (Černý, 1998; Čechová, Krčmová, Minářová, 2008).

Specific texts show us that whether a word is rather a means of material or professional communication or whether it also has aesthetic (or mainly aesthetic) effect, i.e. on the emotional side of things, it is influenced by other expressions, which are linked (or contexts in which it is set). As expressions with a function of professional or simple communication on the one hand, and as a means of acting on emotions on the other hand, words derived from some of the key words for our topic can also have a function, namely the words *health, healthy, illness, sick, disease, pathological*: we will try to see how they are applied in texts and how adverbs such as *healthy, unhealthy, pathological, sick* can affect our perception.<sup>1</sup>

As the frequency of occurrence is concerned, the most frequent of these adverbs is as expected the adverb *healthily* – it appeared almost 2000 times in our text, while *pathological* and *unhealthy* had are a little more than 400 appearances (i.e. 4 to 5 times less than the word *healthily*), as expected, the least common adverb was *ill* (not even 100 hits). Even the meaning of these adverbs and words from which they are formed, shows that, with the exception of the word *healthily* they would rather produce more negative images. Their use for aesthetic effect is not connected only with their own meaning, but also with the other terms with which they are linked.

We will try to see how the words *healthy, unhealthy, ill, pathological* affect human characteristics that are related:

- with a healthy diet, a healthy lifestyle
- physical health and appearance, which reflects physical health (including fashion trends)
- the behaviour and actions of man, with their character.

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<sup>1</sup> All quoted documents come - as in contributions from 2008 and 2009 - from a half-billion SYN corpus which is part of the Czech National Corpus.

The adverbs *healthy, unhealthy, pathological or ill* appear as expressions involving human characteristics - appearance, diet, behaviour - in regular communication texts or specialist texts - textbooks, encyclopaedias and popular educational texts or artistic and journalist texts.

It should be noted that it is always an expression of opinion about another person, a subjective opinion, which, although it may rely on experience from literature, it cannot be directly considered specialised knowledge.

## 1. On diet and lifestyle in a *healthy or unhealthy* way

In technical texts, popular educational texts focusing on healthy lifestyle, healthy eating, healthy exercise etc. one especially finds adverbs such as *healthily* and *unhealthily*, in conjunction with verbs - *live (healthily), eat (healthily)* (with the occurrence of several hundred), less common expressions include *eat (healthily), cook, lose weight / reduce weight, grow healthily* and more rarely *breakfast healthily*. In conjunction with a negative adverb *unhealthily* (i.e., resulting from the negation of the adverb *healthily* or from the adjective *unhealthy*) mostly the same verbs and the same words appear: *unhealthy living, unhealthy eating, unhealthy catering, unhealthy nourishment*.

- **Healthy living** means above all to **eat healthily**. (SYN, encyclopaedic text) - If we want to achieve that old and long-term ill people, figuratively speaking, continue in a **healthy life** even in "illness" or for them to live decently without any significant functional limitations, they need to retain those functions that are necessary for physical and psychological self-sufficiency as long as possible... (SYN; textbook text)<sup>2</sup>
- I order to ensure that treatment was effective, we must force the source of the disease out of the body. This means to **eat healthily**, rest, sleep enough, spend time in nature, not smoke, drink alcoholic beverages, think positively. (SYN; journalistic text)
- Principles of a diet according to blood groups. Many of us are familiar with the problem: they **eat healthily**, consume full-value products - maybe even according to principles of the split diet. (SYN, encyclopaedic text)
- I had always been slim, but the fact was, that when nobody watched over me, **I ate terribly untidily and unhealthily**. (SYN; popular educational text)
- Do you want to learn how to **cook** without water, **healthily** and **cheaply**? (SYN, encyclopaedic text)
- During the regular visits (the most applied programme includes 30 seminars) we check the measurements, weight and blood pressure. In 15 days it is possible to **reduce your weight healthily** by up to 10 kg. (SYN; popular educational text)
- Ask yourselves why you stuff yourselves without hunger and how you can solve this problem. Being overweight can deteriorate your health. And so we ask: how can I **lose weight healthily**? (SYN; journalistic text)
- It is the weekend and people should recreate themselves in a **carefree and healthy way**. (SYN, artistic text)
- British researchers have begun to search for "Churchill's gene", which apparently protects some people from heart disease, even though they **live quite unhealthily**. (SYN; journalistic text)
- Do you have coffee, bread with butter and cheese or ham for **breakfast**? You **start the day unhealthily**. (SYN; journalistic text)
- What is less gratifying, is that children eat a relatively **unhealthily**, the food contains too much fat, carbohydrates and little fish. (SYN; journalistic text)

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<sup>1</sup> The original Czech texts are translated in English in this article.

- ... our dogs in contrast to the Swiss ones are fed **unhealthily**. (SYN; journalistic text)
- Silke, not only taught by the family example, did not drink alcohol, but lived **healthily** and **alternatively**. (SYN, artistic text)

The word *pathological* appears rarely – it is found, perhaps surprisingly, in journalistic texts on specialised topics:

- The beginnings of a too lazy, or conversely a **pathologically active thyroid gland** may be observed by everyone on themselves. (SYN; journalistic text)
- What exactly causes these itchy and scaly red patches on the skin of psoriasis patients? In short – an abnormal, **pathologically quick skin regeneration**. (SYN; journalistic text)

At the same time, especially journalistic texts, but also texts of artistic expression containing the adverb *unhealthily*, show current views on what harms our health (e.g. excessive weight gain and excessive weight loss, excessive tanning) *unhealthy broiling in the sun, unhealthy weight gain, unhealthy weight loss / torment oneself unhealthily with hunger*, there is even mention of “*unhealthy work with a voice*”:

- In such kind of neighbourhood, probably half the people go and **broil unhealthily** somewhere on a beach in the Mediterranean. (SYN, artistic text)
- Blood pressure in young people’s **rises unhealthily**. (SYN; journalistic text)
- Kate gained weight significantly after birth, but does not intend to go through any drastic diets. She only laughed at her skinny colleagues who **unhealthily suffer from hunger**. (SYN; journalistic text)
- Lumberjacks’ cars are passing by at four in the morning when we still roll in our sleeping bag in a **healthy sleep**. (SYN, artistic text)
- ... That’s what happens when you **work with your voice so intensely and unhealthily** - the worst thing for the vocal cords is whispering and I actually only whisper. (SYN; journalistic text)

In most of these texts there is an obvious tendency to personal expressions, reflected in the author’s efforts to stylize contact with the expected reader, even in professional texts.

## 2. Words like *healthy, unhealthy, pathological, sickly* as a means of describing an appearance related to health or illness

In combination with adverbs *healthily, unhealthily*, or even *pathologically*, but also *sickly*, there are verbs expressing ill appearance: *look, look like, seem, blossom*, (with health)...:

- The advertisement was to be filmed in the open countryside or on a ranch with **sporty, youthful, healthy and happy-looking** man and a woman. (SYN; journalistic text)
- Constance belongs to the *healthy blossoming* sportswomen, which look so well in the autumn scenery ... (SYN; artistic text)
- Marek is doing fine and **looks completely healthy**, as if nothing were wrong yesterday. (SYN, artistic text)
- We stopped and breathed deeply. I looked left. A few **healthy-looking women** in outfits made of high quality lycra were maintaining their fitness by jogging. (SYN; journalistic text)

Images of appearance of healthy humans are expressed linking the adverb *healthily* with names of colours (*healthy pink, healthy red, even healthy green*):

- Through the windows of Ostrozrak – the day before yesterday - September morning light from Wenceslas Square shone on Mr. Bůžek's **healthy-looking rosy face** and the unfortunate man repeated the end of his story: "You are practically looking at a corpse." He did not really look like one yet. (SYN, artistic text)
- The voice belonged to short older guy with a **healthy sanguine face** and tousled white hair. The man was quickly heading to the niche with short, energetic steps. (SYN, artistic text)
- For the first time she saw a smile in his **healthily red face**. (SYN, artistic text)
- Some people still looked almost normal, only moved a little shakily, and their faces were **morbidly white**, or even **red**. (SYN, artistic text)

Rarely is a healthy appearance associated with yellow colour, the text, however sounds rather ironic.

... there is no overdose risk with beta-carotene. As medical researchers have discovered, the body converts only the dose which it currently needs and discharges the rest. However, who does not want to bring about "a healthy yellow colour", should not exaggerate even the otherwise harmless provitamin A. (SYN; journalistic text)

Characteristics of an unhealthy / ill appearance of a patient is usually expressed by language means that reflect a *lean figure* (often with exaggeration) *gauntness, haggardness, slimness, paleness*:

- Bouzek staggered slowly down the corridor, from wall to wall, as he used to, a **long, thin, sickly looking, with a geriatric skin** ... (SYN; artistic text)
- **He looked sickly**, with sunken eyes, unshaven and malnourished, he lost about 20 pounds and looked ill. (SYN, artistic text)
- "I cannot eat, work, I dropped to 34 kilograms," said a **pathologically skinny and pale** girl. (SYN; journalistic text)

Sometimes language reflects tendencies to consider even the signs of aging as "ill" or "unhealthy" (wrinkles, white hair ...), old age is associated cachexia, gray or gray colour of not only hair but also skin:

- ... he was about forty-five, but looked ill all over, his face was **full of wrinkles** and his **thin**, translucent beard had long turned **gray**, which **made** him look much **older**. (SYN, artistic text)
- Some looked **old and ill**. (SYN, artistic text)
- ... and they looked very decrepit, they had pathological, elongated faces, **unhealthily swollen** for various reasons... (SYN; artistic text)
- He had a **bloated, unhealthy-looking** body. His skin was yellowed. (SYN, artistic text)

Just as certain complexion or skin colours of a person associated with a healthy appearance, others are associated with an unhealthy appearance: *unhealthily pale, unhealthy yellow, unhealthy green, unhealthy white, pathologically pale, pathologically green, pathologically white, pathologically skinny, pathologically off-white, sickly pale, sickly sallowish, ashen gray* ....

- Someone cropped him terribly short, his eyes looked like plates in his **skinny, unhealthily yellow face**.

- And the face, that strange face, pale, but **unhealthily yellowy**, almost fleshless, and entirely made of sharp lines and wrinkles, was still ancient, but Billy Neeks thought that it was not human at all. (SYN, artistic text)
- ... whose once clear-cut bronze face had lost all nobility and was now an **unhealthy shade of gray**. (SYN, artistic text)
- Casefikis was an **ashen gray, sickly-looking** man of average height. (SYN, artistic text)
- Chestnut leaves were turning red outside the window, drowning the weathered building in a rusty autumnal glow, and a girl in a dressing gown in the glow of those fires looked **unhealthy, gaunt and a little wilted**. (SYN, artistic text)
- There was room for thirteen patients at the clinic, its residents varied, changing as the ocean, which lay at her feet and stretched to the horizon, **unhealthily green**, surging in the endless unrest. (SYN, artistic text)
- From behind the walls I could see the **morbidly green light** of the street lamp. (SYN, artistic text)
- She was really **sickly pale**. (SYN, artistic text)
- The people of Manhattan went to Sea Gate to sunbathe, but I still had a **morbidly white skin**. (SYN, artistic text)

Use of adverbs like *healthily*, *sickly*, *pathologically*, *unhealthily*, linked with a topic is also apparent in texts reflecting fashion trends: they have their place for example in publications in which women are warned against “ill” appearance with poorly chosen colours of clothing or improperly selected make-up.

- While brunettes with dark eyes (so-called winter-type) will look good in a dark blue suit, straw yellow blondes and redheads **would look ill** in it, platinum blondes would look sad and the colour will overpower them. (SYN; popular educational text)
- Specifying the colour type (spring, summer, autumn, winter), is necessary in order to ensure that the person became aware in which colours they will **look great, healthy and shiny**, and in which ones on the other hand **dull, faint or ill** (SYN; popular educational text)
- Significant eyes Your eyes will seem more pronounced when you blend out the dark shadow under the eyelashes and in the outer canthus. (...) With individually used violet or pink eye shadow you would probably **look unhappy and ill**, therefore always combine them with other colours. (SYN; popular educational text)

### 3. Adverbs healthy, unhealthy, pathological as a means of assessing the character features and behaviour

The words *healthy*, *unhealthy*, *pathological* in conjunction with certain verbs or adjectives usually characterize actions and behaviour and symptoms of mental health or mental characteristics that are perceived positively (i.e. as “healthy”) or negatively (i.e. as “unhealthy”, “pathological”). According to the texts at our disposal, behaviour or conduct is considered “healthy” if it is that is correct, appropriate, socially suitable, and at the same time also / or beneficial for the psyche and self-confidence: “Healthy behaviour” means therefore to act “properly”, “right”, “beneficially” for oneself, e.g. *healthy anger*, *healthy provocation*, *healthy activation*, *healthy incitement*), but also beneficial to society (e.g. *healthy competition*, *healthy risk*, *healthy development*)

- I’m jealous **quite healthily**. Do you know, doctor, when I am jealous for example? When I specifically tell her that I despise stuffed bras ... (SYN; artistic text)
- ... and it brought forth a new, very wise decision: I will now gut imps not so furiously, I will let the now unnecessary triarios rest, that my **thinking will be only healthily casual**, only here and there when not disturbed. (SYN, artistic text)

- He was surprised during the registration that most people preferred to give their coupons to funds and were not willing to do business and **take a healthy risk**. (SYN; journalistic text)
- The ‘B’ team began to **simmer in a healthy way**. (SYN; journalistic text)
- Unfortunately, instead of sometimes becoming **healthily angry** and hitting the table, I sometimes rather crawl under it. (SYN, artistic text)
- Anyway, younger classes inspire and energize me: they **provoke me healthily**. (SYN; journalistic text)
- We were prepared carefully and the opponent’s claims that we would be going to Karlovy Vary to bag goals **provoked us healthily**. (SYN; journalistic text)
- Some petrol stations will most likely not be able to adapt to the market price because they need funds for a new environmental programme. They will not be such **healthy competition** for their rivals. (SYN; journalistic text)
- The competition is **really healthy** here. (SYN; journalistic text)
- If V.D. really cares about the **healthy development** of our power generation industry, he should start with the preparation of tenders as soon as possible. (SYN; journalistic text)

Likewise, having a character feature with “healthy” effects means having a reasonable, good measure of such characteristic, i.e. a rate which is beneficial, or socially appropriate: *healthy boldness, healthy self-confidence, healthy criticism, healthy aspiration, healthy scepticism, healthy thinking, healthy ambition, even healthy aggression*:

- Of course I had mastered it and before Jane and the entire environment I retained a **healthy confidence**, a peaceful authority radiating guy, who did not mind ... who did not perceive that not only men, but most women outgrew him. (SYN, artistic text)
- However, the plot the same time revolves around a complicated relationship between a father, an experienced journalist, and his **healthily ambitious** daughter. (SYN; journalistic text)
- After a severe disappointment from the four hundred, I was **healthily heated-up**. (SYN; journalistic text)
- We led 8:1, but then we could not get one more point to reach 8: 12 The players must make their youth an advantage to have more **healthy drive**. (SYN; journalistic text)
- However, I still want to draw attention to the young Pole, who behaved like a real old hand. He has some **healthy rudeness, aggressiveness**, does not let anything happen to him just like that. Moreover he has everything incredibly arranged in his head. (SYN; journalistic text)

The character feature *self-confident* is mostly assessed with the word *healthy* (about 8 times more than *unhealthy* or *pathological*), an *aspiring* feature is linked about as often with the expression *healthy* and the opposite expression, i.e., *pathological*. The character feature described as *ambitious* is much more linked with the word *pathologically* (*pathologically ambitious*) than the *healthy* connection.

Exclusively negative – as “pathological” evaluations are linked with expressions such as: *pathologically jealous, pathological overeating, pathological dependence* and the characteristics such as *dependent, jealous, obsessed, sensitive, competitive: pathologically addicted, pathologically jealous, pathologically obsessed, pathologically sensitive, pathologically competitive*; less often we meet with the characteristics of pathologically suspicious, pathologically excitable, pathologically trusting, pathologically stingy, pathologically aggressive, feisty morbidly, pathologically clinging, pathologically irritable.

- František Krch from a psychiatric clinic of the Prague General Hospital said that diets of various kinds are in eighty percent at the beginning of a sad career of girls who either refuse food, or **pathologically overeat** and end up as so-called mental anorexics and bulimics. (SYN; journalistic text)

- In the story, the man **pathologically clanged** to a birthmark on the face of his wife. (SYN; journalistic text)
- According to the victim's sister Jane H, the defendant who worked as taxi driver for 15 years, was **pathologically jealous** of his wife and came home drunk frequently. (SYN; journalistic text)
- Michael, just like his father, **pathologically loved** the risk to the very edge. (SYN; journalistic text)
- He loved his daughters and wanted them to visit him. But Bessie did not agree. Charmian was **pathologically jealous** of him. She would not let him speak with other women. (SYN; journalistic text)
- Gabbo, a ventriloquist, is a man who is **pathologically selfish**, brutal, and longing for admiration and success. (SYN; popular educational text).
- This man is as young and healthy as well as **pathologically ambitious** as his opponent. (SYN; journalistic text).
- This vain, and **pathologically ambitious** young man who for two whole months has been desperately looking for a foothold, which would have provided him with a semblance of decency and dignity, realized that he was only a rookie on the chosen path of life ... (SYN; artistic text)
- The sponsor, however, did not know that C. drank like a fish, was **pathologically neat**, cultivated Sansevieria and took eight kinds of drugs. (SYN; journalistic text)
- He was one of the most dangerous collaborators, because he was very intelligent, had great knowledge, great experience and was almost **pathologically consistent**. (SYN; journalistic text)
- The situation is further complicated by Charley's former mistress, Mae Rose Prism, who is **pathologically vain and jealous** at the same time. (SYN; journalistic text)
- Since her age of 10 when she started playing in Semafor, everything turns just around her, and therefore she is **pathologically arrogant**. (SYN; journalistic text)
- The role of the rapacious and **pathologically greedy** Koliáš was cast by director Alfréd Radok with Saša Rašilov. (SYN; journalistic text)
- Huysmans' Des Esseintes, the main character of the novel Inside Out, is a person who is **pathologically oversensitive**, suffering from an unknown illness and anxiety. (SYN; journalistic text)
- Gladiator is a film about a tyrant who is **pathologically obsessed** with the suspicion of anyone who has immediate access to him. (SYN; journalistic text)
- A man considers it an insult (...) and begins to behave appropriately, that is totally intolerably. Thus the impression of a man **pathologically clinging** to his mother even deepens. (SYN, artistic text)
- Lately, we hear and read more and more about people who are **pathologically addicted** to their work and their status, which is now subject of observation by psychologists and psychiatrists. (SYN; journalistic text)
- I remember one tyrant from Frýdek-Místek. He was **pathologically jealous** and teetotaler. (SYN; journalistic text)

Some of the properties are assessed with the word *unhealthily*:

- She is **unhealthily sensitive**, yet utterly selfless. Her fate is extraordinary. (SYN, artistic text)
- Another problem is whether the idea of the town that they will earn on interest margins, is not just **unhealthy optimism**: placing bonds on the market costs something ... (SYN; journalistic text)
- In my opinion, M. Fuksová is a hard and **unhealthily self-confident** woman, therefore I am not surprised by the affair at Přerov town hall. (SYN; journalistic text)
- Boldy's sincerity is touching, not **unhealthily sentimental**. (SYN; journalistic text)

It is evident that particularly the assessment of characteristics expressed by adjectives *cheeky*, *confident*, *critical*, *ambitious* or behaviour such as *get angry*, *energize*, *provoke*, *be jealous* etc. with expressions like *healthy*, *unhealthy*, *pathological* is highly subjective, based solely on personal opinion on this behaviour.

The word *healthy* exclusively characterizes features such as *cheeky*, *heated-up*, *critical*, *provoked*. Surprisingly, a more frequent connection found in texts speaks of *healthily conservative* rather than *unhealthily conservative* or *healthily aggressive* rather than *unhealthily aggressive*.

In our opinion, it is to be expected that pupils will want the teacher to explain why the properties are perceived in such a way as those characterized by the mentioned adverbs [or adjectives] (i.e., *healthily*, *unhealthily*, *pathologically*). In higher classes it is possible to use knowledge of biology, i.e. a subject from the educational area People And Health, and explain to the students why some phenomenon makes a “healthy” or “unhealthy” impression, respectively later require such an explanation from the pupils. At the same time it is possible - but with caution and prudence – to ask students questions, why are some types of behaviour or some properties perceived as “healthy”, others as “unhealthy” or even “pathological”: why is it that dependency, aggression, greed and other properties are perceived as “pathological” whose names are linked with expressions *pathologically* or *unhealthily*. However, it is always necessary to count the subjectivity of perception and attention to children is hyperbole, which is contained in the meaning of the word “*pathologically*”. It is also possible to discuss carefully, when can ambition be considered reasonable, that is “healthy”, and when, on the other hand, it appears as a “pathological” property; when a confidence is “healthy”, and when on the other hand unhealthy, when cheekiness is “healthy”, whether one can talk about “healthy aggression”. This is for students to develop not only skills to solve problems but also social skills in conjunction with the development of tolerance (the perception of different characteristics, understanding a different perspective on the same property).

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## CO VYPADÁ A CO NA NÁS PŮSOBÍ ZDRAVĚ, NEZDRAVĚ, CHOROBNĚ

**Abstrakt:** Jazyk je základním prostředkem mezilidské komunikace, a tedy i základním prostředkem komunikace ve vyučování a vzdělávání. Ve výuce je využívána nejen prostě sdělná a odborně sdělná funkce jazyka, postihující jazyk jako nástroj předávání informací a výkladu, ale též funkce estetická, vlastní především textům, jejichž cílem je působit na emoce a vytvářet v čtenáři emocionální představy. Také učitel při výuce volí takové jazykové prostředky, které mohou u žáků vyvolávat emocionální prožitky a vytvářet různé představy s nimi spojené. K jazykovým prostředkům působícím na emocionální vnímání patří i některá slova odvozená od slov klíčových pro téma Škola a zdraví: **zdravě, nezdravě, chorobně, nemocně**. Objevují se v textech, které vysvětlují, co znamená **žít zdravě / nezdravě**, co způsobuje, že někdo **vypadá nemocně**, popř. až **chorobně**, popř. v textech, které hodnotí jednání jako zdravé, nezdravé, nebo až chorobné. Ve spojení s řadou dalších výrazů mají taková vyjádření schopnost působit na emocionální stránku, např. podávají-li obraz člověka působícího nemocně, chorobně

(chorobně bledý, chorobně hubený, nezdravě bílý, nezdravě žlutý) nebo zdůrazňují-li špatnou, nevhodnou („nezdravou“, „chorobnou“) stránku jednání.

**Klíčová slova:** zdraví, nemoc, fyzické zdraví, vzhled, charakter, chování, subjektivní pohled na zdraví, zdravě, nezdravě, nemocně, chorobně



## ARTS EDUCATION IN THE PRIMARY SCHOOL AS SPACE OF CHILD'S MENTAL WELL-BEING

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*Hana STADLEROVÁ*

**Abstract:** *The paper describes educational means affecting a child's mental and social well-being within the framework of compulsory education, especially in the first part of primary education. It gives specific possibilities that arts education offers for the creation of well-being. It sets the positive climate requirement as an essential prerequisite for the attainment of arts education goals.*

**Key words:** *Framework Educational Programme for Primary Education (FEP PE), arts education, child's health, self-fulfilment through the arts, mental well-being, social safety.*

The goals that education sets for itself respond to the needs of the society. The goal of the present-day concept of education is to equip children with competences for learning, problem solving, as well as with communicative, social, interpersonal, civic and labour competences (FEP PE, p. 14 ). That will allow them to function in rapidly changing life conditions. The content of the curricular document is structured into **educational areas**, which allows for a greater content integration and the mutual interpenetration of the contents of different subjects and even different areas. The uniqueness of every child needs to be respected, and for that reason support is given to the development of his/her individual abilities, characteristics, knowledge and skills. The curricula reform does not automatically entail a transformation of the school. It is made up of people who either implement the reform or approach it formally, without essentially influencing the existing concept of tuition.

The school should cultivate the entire personality of the student, and should do it in an environment that will also contribute to the child's mental well-being. To quote O. Čacka (2000, p. 5) - *"there are indisputable analogies between work in education and work in plant growing, in at least that both are "conditioned by multiple factors" consisting of not only the quality of "seeds, soil or the gardener's skills", but also of a number of various factors that that are difficult to control ("pests, weather, storms, etc.). Thus, advancement is promoted by not only "moisture, warmth and light", but*

*undoubtedly also by gradual enhancement of resilience.*” And it is the enhancement of “resilience” that can, in compulsory education, be related to the goals of the Man and Health educational area, and, in more general meaning, to the process of instruction in which some specific instruments are implemented.

If man’s health is interpreted according to the FEP PE (2007, p. 72) as a “*balanced state of physical, mental and societal well-being*”, the school should offer conditions that will generate such “well-being”. For that reason, it is necessary to first deal with aspects that affect the child’s health in school and which can realistically be influenced.

Our attention will mainly focus on primary education. A child coming to the school to start compulsory school attendance is full of expectations and assumptions about what it is like to be a pupil. He gradually frees himself from the influence and safety of his family, begins to get to know other authorities. The child’s daily routine changes, he now has new duties, and gains new social experience. Contrary to the pre-school days spent mainly in the family circle, he now finds himself in a new environment among people he does not know. He is forced to adjust to many new situations, get accustomed to new relationships. Children will cope individually with each unfamiliar situation. If a teacher looks for ways how to make it easier for children to adjust to school, he may opt for “bridges” from the pre-school to the school education age. One of them may also be the arts education. In the pre-school age, the child discovers the charm of creation, spontaneously captures his personal experiences, and projects his individual knowledge and experience into art forms. At that age, self-fulfilment through the arts is a playful activity for children and it is associated with pleasant experiences. The author agrees with the opinion expressed by J. Slavík (2007, p.166) who believes that “*the quality of experiences and the way in which we accept or express them to a large extent determines how we manage our life and to what extent we are satisfied with it*”. Creating something even in the process of compulsory education should be a pleasant experience for children. If, e.g., a child is learning new art techniques, he should become a small “discoverer” amazed at, and enjoying, the process of creation. Arts education should offer art games and experiments to children. Their role, however, is not to only “sweeten” the stay at school for the children, the game as a teaching method should always point to some educational contents.

Art works may also become an important statement for which the child often lacks the right words.

To teach pupils find visual representations for what they experience is, according to J. Slavík (2007, p. 166), one of the most important tasks of art study programmes. It is an area where, according to the above author, education and arts meet with care for mental health. Arts education often deals with sensitive topics that may reveal the child’s not only positive experience and experiences. They may, e.g., be connected with the life of their family. It is therefore necessary that the teacher very sensitively responded not only to children’s visual communications but also to their refusal to work according to an accurate description, or to comment on their own work. If the teacher reduces his evaluation criteria to externalities only, to the mastering of the creative language, completion, elaborateness, etc., he may deeply hurt the soul of the child that grapples with the content of the theme. Teachers thus should sensitively manage the “testing of communication effects” (one of subject matter areas of arts education in the FEP PE) to prevent ridicule of the child and his art work. I hasten to add that children should learn to control and accept

subjectivity as part of both creation and reflection processes, in the case of sensitive topics they should find support in teachers to prevent the above situation.

It is not uncommon in school practice that teachers insist on the assigned format, on copying a model with which the children's works are then compared. Any "deviations" are considered errors that deserve negative evaluation, which, consequently means that they get poor grades. That is contrary to creative artistic solutions that should be a matter-of-course in arts education. According to many authors (e.g. Jurčová, Kusá, Kováčová 1994), promoting creativity in individuals which should, generally speaking, be one of priorities in education "*depends (besides personal aptitudes) primarily on the pro- or anti-creative social climate*" (in O. Čačka 2000, p. 173). A criticism or refusal of the originality of an artistic statement may mar the child's "creative courage". To arts education, it introduces fear of the child to come up with ideas, to test something new, to execute the assigned task in a unique manner. For some children, experience with their teachers' incompetent interferences with their work lead to life-long traumas and feelings of distrust in their own creative ability. If a child is exposed to teachers' moods, must cope with their injustice, lack of understanding, the result may be the child's reduced attentiveness, which may impair his performance and be the cause of not only poor academic results but also of the nervous system impairment (O. Čačka, 2000, p. 174).

Arts education may offer one more enriching nook for the children. Specializing in art therapy, i.e. the therapeutic use of art making, J. Šicková emphasizes that "*the creative process is usually a valve for its creator, it makes internal purification and fulfilment possible*" (2002, p. 22). The present-day arts education offers, among others, a different concept that is oriented at understanding the pupil - the creator and perceiver of the work of art. The concept is called animocentric. According to J. David who pursues a career in spiritual and sensory education, artistic work is a means through which "*we discover our internal psychological space and connect it with the universe. In this way we also discover our "internal shape"*" (J. Slavík 1997, p. 165). From the quotation it follows that the attention is centred on the meaning of life, individual and of all the mankind, and care of spiritual aspects of human existence. Spiritual and sensory education is associated with teaching activities of M. Pohnerová. In this concept, sensory perception is considered a source of intensely lived experience, the importance of artistic form is lessened by the expression. With his artephiletics, also J. Slavík professed his adherence to the animocentric concept. The concept of arts education represented by H. Babyrádová, who focuses on symbols in child art and on rituals in the arts education context, also falls under the same category. It is characteristic for the above concepts of arts education that they stimulate experiential art although they place emphasis on different components of creation (construction, meaning, expression). They promote a child's self-fulfilment setting out from his uniqueness. The ambient of mental well-being in which thus conceived arts education takes place is a necessary precondition.

The school should be a safe space not only for children that present no problems but also for pupils with poor academic performance or those who have to cope with personal or health problems. Here, too, arts education can play an important role. Children experiencing difficulties in subjects where emphasis is placed on rational cognition should get an opportunity to reach satisfaction and self-fulfilment in other areas of education. Arts education offers children the opportunity to "excel" in the space of sub-

jective imagination. Thus it offers them conditions that promote their self-confidence, whereby the children become aware of their abilities.

If we look farther afield at activities that, from a broader perspective, affect children's health such as good posture, relaxing physical activities, they are often associated only with physical training in school practice. We should note that arts education also offers activities that take place "outside the school desk", or even outside the classroom. If children are, e.g., given an opportunity to choose where to do creative work and with whom, we may expect that their creative work will be much more relaxed, and the well-being will also contribute to the creation of many original works. Pro-creative well-being may further be enhanced by listening to music or reading. Arts education linked to physical activity and stay outside the school may find inspiration in visual arts. Creation in action brings many experiences to children, naturally leads them to cooperation in solving artistic problems, teaches them to sensitively perceive the environment which they make unique by their intervention rather than devastating it. Children may move around relatively freely, enjoying their stay outdoors, outside the school space.

The examples outlined here confirm that arts education may become not only space of children's mental well-being but, at the same time, it interprets well-being as a sine qua non for the implementation of its formative and educational goals.

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## VÝTVARNÁ VÝCHOVA NA ZÁKLADNÍ ŠKOLE JAKO PROSTOR DUŠEVNÍ POHODY DÍTĚTE

**Abstrakt:** Příspěvek prezentuje prostředky výuky, které mají vliv na stav duševní a sociální pohody dítěte v rámci povinného vzdělávání, především na prvním stupni ZŠ. Ukazuje konkrétní možnosti, které pro utváření pohody nabízí výtvarná výchova. Vymezuje požadavek pozitivního klimatu jako nezbytného předpokladu realizace cílů výtvarné výchovy.

**Klíčová slova:** RVP ZV, výtvarná výchova, zdraví dítěte, výtvarná seberealizace, duševní pohoda, sociální bezpečí

# PSYCHOLOGICAL ISSUES OF VOLUNTEERING IN THE CONTEXT OF SCHOOL EDUCATION

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*Zdeněk MLČÁK*

***Abstract:** This paper deals with issues of motivation and other personality aspects of volunteers. It emphasizes the importance of volunteer activities for positive personal development and the need for more pro-social education in schools today as well as the need for the introduction of new volunteering educational programmes in Czech primary and secondary schools.*

***Key words:** volunteering, volunteering motivation, personality characteristic of volunteers, pro-social and altruistic personality, pro-social classroom*

## Introduction

The European Commission has declared 2011 the “**European Year of Volunteering**”. The main tasks of this extensive campaign which is to take place at European, national, regional and local levels include the creation of optimal conditions for further development of volunteerism and volunteering organizations, the promotion of attitudes and values associated with volunteering, improving the quality of volunteer activities and strengthening their social significance and evaluation.

From a historical perspective, volunteering as one of the noblest forms of pro-social or altruistic behaviour has always been an imminent part of human society. In principle, it reflected the profound responsibility of man for himself, for others and for this world, which was based on an effort to help, to be compassionate or to strengthen social cohesion through other means. In addition to substantial economic benefit, nowadays largely formalized volunteering is an invaluable significance for today’s society due to its emphasis on positive human values, which are a necessary counterweight to the prevailing materialist and consumerist orientation of contemporary mankind. T. G. Measham a B. B. Barnett (2007), simply state that volunteering can be considered one of the **indicators of a healthy society** and the heart of democracy.

The phenomenon of volunteering is now focus of several scientific disciplines, including especially philosophy, sociology, psychology, pedagogy, nursing, social work, economics. This paper is based on a psychological perspective and its purpose is to highlight some selected psychological aspects of volunteering and also underline the importance of volunteering for the education of children and youth in primary and secondary schools.

## **Volunteering as a term and its occurrence**

Given the current specialised literature (see e.g. Omoto, Snyder, 1995, Penner 2002, etc.) volunteering can be defined as long-term, freely chosen and planned pro-social behaviour aimed at improving the welfare benefits of other persons, social groups or communities, which is performed based on non-material motives and in an organizational context.

In contrast with spontaneous help, volunteering requires planning, prioritization and coordination of personal possibilities and tasks of the given pro-social activity within certain organizations. Volunteering is a generally inhomogeneous phenomenon and contains a wide variety of activities, including for example the care of disabled persons, helping students with homework, visits of lonely old people in senior homes, collections for charity, work with children and youth, political, environmental and rescue activities, or free participation in medical research. Volunteering thus fulfils many important functions in society.

J.C. Mowen and H.Sujan (2005) report that in the U.S., where volunteering is the most extended, more than 55 % of the population are dedicated to this activity in the range of about 3.5 hours a week. At the same time volunteering in the U.S. is considered a very important source of gross domestic product. In 2001 its contribution was estimated at 75 billion dollars, which is an equivalent to earnings coming from the entertainment and recreation industry. According to the European Commission (Kolektiv, 2010) there is also a large number of volunteers in Austria, the Netherlands, Sweden and in Great Britain, where more than 40 % of the population are dedicated to volunteering. The lowest number of volunteers, less than 10 % of the population, exists in Bulgaria, Greece and Lithuania.

The Czech Republic together with Belgium, Ireland, Malta, Cyprus, Poland, Portugal, Slovakia, Romania, Slovenia and Spain belongs to countries where there is a relatively small number of volunteers, between 10-19 % of the adult population. It is estimated that, the number of volunteers in the Czech Republic ranges only between 10-14 %, but it has an upward growing trend. Among the volunteers in this country, there are significantly more women and young adults, students are the most active group. The number of volunteers among the elderly is a marginal. Most volunteers operate in the areas of sports and physical education. Due to historical, social and political reasons, community support of volunteering in the Czech Republic is still at a low level, contrary to the Western developed countries, and volunteering is still an underestimated phenomenon in the long-term.

## Predictors and motivation for volunteering

The process of deciding to become a volunteer is affected by many factors. As illustrated by J. Wilson (2000), more people are becoming volunteers if their parents also have experience in the field of volunteer activities. These people have, unlike the control group of persons, generally higher levels of education, higher employment and socio-economic status and are far more religiously oriented. Men and women who are married are more inclined to volunteering than single persons. If one spouse spends time volunteering, there is a high probability that the other partner joins.

Volunteer activities tend to decline during the transition from adolescence to early adulthood, then the inclination grows up to a peak in middle age. In old age, the number of volunteers increases with increasing age and the manifestations of religious orientation. In North America, women are engaged in volunteer activities a little more than men, but in Europe there are no global gender differences in volunteering. Young women dedicate more hours to volunteering than men, with older persons it is the opposite. Volunteers tend to be more politically active than persons from the comparable control groups. J.C. Mowen and H.Sujan (1995) found that altruism is a significant predictor of volunteering, understood as a predisposition for selfless search to help others. They also identified other predictors of this pro-social behaviour, a higher level of learning needs and activities.

Given that volunteering has a long-term nature, theorists seek to resolve the problem, which factors contribute to its maintenance. A.M.Omoto and M. Snyder (1995, 2002) suggested a **procedural model of volunteering** in this context, according to which the experienced dynamic changes that occur between the original and current motives play an essential role in maintaining volunteer activities. According to the authors, these motives fall into five categories, which are 1) values, 2) understanding, 3) personal development, 4) interest in the community and 5) increase of self-esteem. The authors acknowledged that maintenance of volunteering has important influencing elements in not only pro-social disposition, but also volunteer experience, satisfaction with volunteer activities and many other variables related to the organizational framework of volunteering.

The **role identity model** by J. Piliavin and colleagues (Grube, Piliavin, 2000) is based on the assumption that the individual self is composed of many multiple identities based on social roles. The role identity, i.e. also the role of the volunteer, is based on the expectation of the individual, what judgments have the significant others been creating about the person and on their social interactions. The more other people associate an individual with a particular role, the more this role becomes an integral part of one's self-perception. The individual then tends to a behaviour that is congruent with one's role identity. Continuous strengthening of the volunteer's role identity maintains their activity. Adoption of a role identity of a volunteer is subject to a number of organizational variables (see Finkelstein Brannick, 2007).

L.A. Penner (2002) joined the procedural model of volunteering and the role identity model into a single **integrated volunteering model**. Motives form volunteering antecedents that may lead to a positive volunteer experience. These then create a volunteer role identity, which becomes an important part of their self-perception, and

maintains their volunteer activity. The L.A. Penner model also includes its concept of the so-called pro-social personality, characterized in the following text.

Volunteering is a phenomenon where a set of both altruistic and selfish motives are involved in maintaining it. There are considerations (Tietz, Bierhoff, 1996), that altruistic motives are most important in shaping the primary motivation of volunteers to begin their volunteer career, while egoistic motives are more relevant in maintaining the voluntary engagement in time.

H.W. Bierhoff (2002) quotes a representative German study (Gaskin, Smith, Paulwitz, 1996), in which the following reasons for volunteering were the most frequently identified.

- 1) I really enjoy it (65 %)
- 2) I meet people and find friends (40 %).
- 3) It helps me stay active and healthy (30 %).
- 4) It corresponds with my moral principles (30 %).
- 5) It is satisfying that I can achieve results (27 %).
- 6) It extends my life experience (27 %).
- 7) It offers me the opportunity to acquire new skills (20 %).

Similar reasons were also found in representative studies in the U.S. (see Clary, Snyder, 1991). These reasons and causes are at least partially compatible with the so-called **functional approach** to volunteering, which seeks to identify the functions or motives that lead people to volunteer activities. These functions may include a wide variety of motivational constructs such as attitudes, values, reasons, purposes, plans, etc. The functional approach, which is applied by a number of authors (see e.g. Smith, Bruner, White, 1956; Katz, 1960; Snyder, DeBono, 1989, quoted according to Bierhoff, 2002), found that volunteering is associated for an individual primarily with the following features.

- 1) **Knowledge function**, which refers to efforts to understand the outside world, social environment and personal experience.
- 2) **Socio-adjusting function**, which applies to normative situations in which individuals seek to act in accordance with social expectations and roles.
- 3) **Ego-defensive function**, which is related to internal conflicts and anxieties, which are caused by trying to protect people from endangering insight into the self.
- 4) **Value expressive function** refers to the values that people accept and believe in.

E.G. Clary and her colleagues (Clary et al., 1998) developed a useful and often cited theory that is based on the premise that the volunteers satisfy a complex of major motives which are important for them with their activity. Concurrently, the theory assumes that the same volunteer activities can be supported by a different configuration of motives, and vice versa, that different volunteer activities can be supported by similar motives. These are motives that relate to the following six categories.

- 1) **Values** - volunteering gives individuals the possibility to express the values associated with a pro-social or altruistic concern for others.
- 2) **Understanding** - Volunteering provides opportunities to acquire new opportunities for learning and development of specific skills and abilities.
- 3) **Social functions** - volunteering reflects motivation focused on relationships with others, provides an opportunity to be with them and engage with them in favourite activities.
- 4) **Career** - volunteering is a means to improve the prospects for future employment and develop skills necessary for professional development.
- 5) **Protective functions** - volunteering is a tool to protect the ego, to escape from negative feelings or reduce guilt, that the volunteer is blessed with more happiness than the persons he is helping.
- 6) **Strengthening** - volunteering is used as a tool for personal development, gaining self-esteem or as a means to achieve a sense of personal importance.

In H.W. Bierhoff's functional approach, along with W. Tietze (Tietze, Bierhoff, 1996, Bierhoff, 2001) they identified with the help of the Inventory of Motive Structure of Volunteers, a total of nine different factors, which are:

- 1) social bond,
- 2) self-experience,
- 3) social responsibility,
- 4) self-esteem and recognition,
- 5) identification with the organization,
- 6) compensation for work-related stress,
- 7) promotion,
- 8) political responsibility,
- 9) personal experience.

The above-mentioned authors used a second-order factor analysis and came to the existence of two fundamental dimensions that were labelled **altruistic** and **egoistic orientation**. Altruistic orientation was fed by factors of political and social responsibility, with the remainder related to egoistic orientation. This finding is an indirect confirmation of C.D. Batson's (1991) distinction between egoistic and altruistic-oriented pro-social behaviour.

## Personal correlates of volunteering

Application of the personal approach to volunteering means the study of personality features or characteristics that lead individuals to become a volunteer.

The willingness to become a volunteer, with its length and number of hours worked is linked to **pro-social personality** features. According to L.A. Penner and his associates (Penner et al., 1995, Penner 2002) it includes particularly **other oriented empathy**, which relates to cognitive and emotional aspects of pro-social personality and willingness to help (helpfulness), reflecting rather the behavioural aspect. Volunteering,

however, is also related to other aspects of personality including pro-social attitudes, social responsibility. Volunteering is also associated with an **altruistic personality** (see Rushton 1981, Batson, 1991), which is characterized by a tendency to selflessly help others. Such personality characteristics include a high rate of acceptance of moral values, social responsibility and a higher level of emotional and cognitive empathy. It shows consistently that altruism is the most important predictor of volunteering (see e.g. Penner, Finkelstein, 1998; Mowen & Sujan, 2005).

Some researchers of the personal approach to volunteering assume that the pro-social characteristics are significantly linked to **leadership style**. Under the so-called contingency theory of F.E. Fiedler (1976, quot. DeChant, 2001) we can distinguish between task-structured management style, and a style considering human relations. Researchers believe that a leadership style focused on human relationships positively correlates with pro-social personality features.

Personality characteristics of volunteers working in the field of mental hygiene were researched by N.J. Allen and J.P. Rushton (1983). According to these authors one can, even despite certain methodological doubts, research and show that volunteers have, in contrast to comparable sets of people who are not engaged in volunteering, different personality characteristics.

- 1) They have several internalized moral standards, generally stronger superego and greater conscientiousness.
- 2) They are also inclined to more intrinsic religious orientation.
- 3) They accept their own personality more, are able to show more trust, they can be more open in front of others and discuss their thoughts and feelings.
- 4) They are more carefree, emotionally stable, more satisfied with their lives, they are convinced that they have greater control over their lives.
- 5) They are more able-bodied (self-efficacy), more flexible, more oriented on independent performance and more tolerant.

Volunteering is significantly associated with the dimensions of the five-factor personality model. G. Carlo and colleagues discovered (2005), that volunteering is related to all dimensions of the five-factor personality model, except neuroticism. Volunteering was most strongly associated with **friendliness** and **extraversion**. This link has been shown consistently in many further studies. A.M. Omoto and M. Snyder (1995) consider the combination of extraversion and friendliness as a **general helping disposition**. G. Carlo and colleagues believe (Carlo et al. 2005) that the influence of these personality dispositions on the volunteer activity may be direct, but also mediated by other motives (i.e., attitudes, values, goals, etc.).

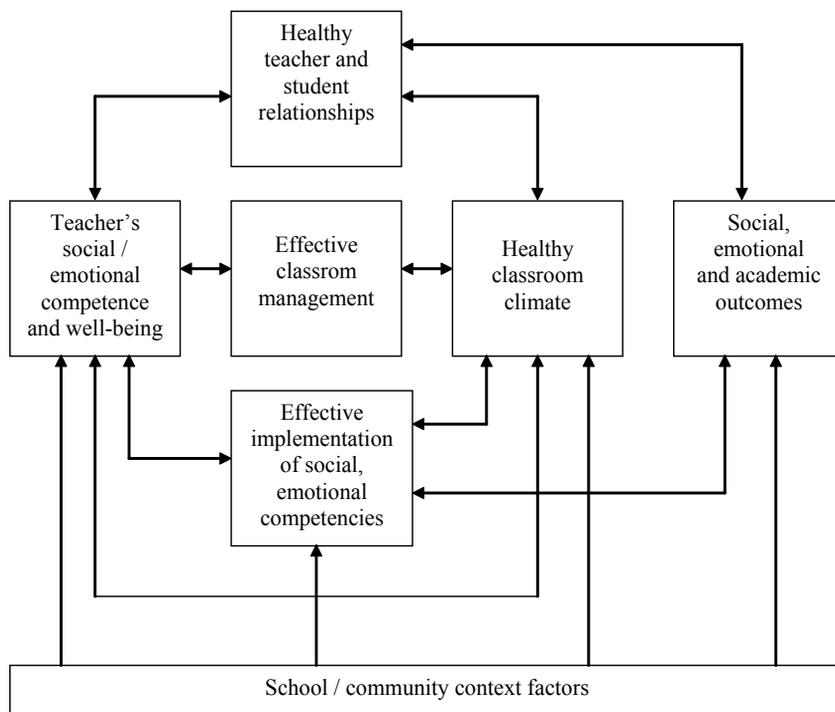
L.A. Penner and colleagues (2005) give an overview of empirical studies concerning the impact of volunteering on the personality. These studies generally show a **positive developmental impact on the volunteers psyche**. In adolescents, it leads to the development of pro-social attitudes, values and personal identity and to a greater likelihood that they will consider volunteering in adulthood. Volunteering enhances their self-esteem, confidence and their academic success. Volunteering adolescents also show a positive effect on the incidence of unsafe or antisocial behaviour. Adolescents who

are engaged in volunteer activities are also less likely to use drugs, have worse grades in school, get pregnant, commit offenses or be arrested. Volunteering of adults positively affects their **mental and physical health**. It is linked with a lower incidence of depression among people over 65 years and it improves their psychological well-being. Adult volunteers are generally healthier and live longer than control group. It can be assumed that adult volunteers manifest improved social integration and lower levels of alienation.

## Volunteering and current czech school

There is no doubt that the current state of school education raises the need for the development of **moral and pro-social skills** of pupils and students and a creation of schools and classes with an optimal level of **pro-social climate** (the so-called pro-social classrooms), which benefit teachers (it reduces their stress levels, prevent burnout syndrome, increases their professional satisfaction, etc.), as well as the pupils and students (reduces level of aggression, bullying and other adverse phenomena, strengthens their cooperation skills, etc.) and also their parents (less educational problems).

P. Jennings and M.T. Greenberg proposed in this context (2009) a **pro-social class model**, which is shown in Figure 1.



**Fig. no. 1 Pro-social class model** (Jennings, Greenberg, 2009, p. 494, adjusted by ZM)

A crucial prerequisite for the existence and functioning of pro-social class in this model is a **socially and emotionally competent teacher**. The authors of this model are of the opinion that the basic social and emotional competences of teachers are formed by high levels of the five sub-competencies, namely:

- 1) self-awareness,
- 2) social awareness,
- 3) responsible decision making,
- 4) self-management,
- 5) relationship management.

Socially and emotionally competent teachers are, in other words, able to recognize and appropriately influence their own emotions and emotions of others. They can identify and promote cooperative social relationships and effectively resolve conflicts. They can respect others and show pro-social values. They are able to make compromises and be responsible for their decisions. They have good stress tolerance, are able to effectively prevent burnout and show signs of overall subjective well-being.

As it is evident from this model, personalities of socially and emotionally competent teachers cultivate healthy relationships with their pupils or students through their behaviour, significantly contribute to effective classroom management and substantially constitute a healthy classroom climate. All this leads to a favourable and desirable social, emotional and educational attainment on the part of the students. The model also demonstrates the potential of mutual feedback between the factors which it includes (for details see Jennings, Greenberg, 2009).

A detailed explanation of the pro-social and altruistic behaviour issues can be found in the publication by H. Zášková and Z. Mlčák (2009), while possibilities of promoting pro-social behaviour in the current primary schools were outlined in a paper by the author (Mlčák, 2007).

Given the above facts which demonstrate the positive impact of volunteering for the personality development of pupils and student, time has come to think about the systematic implementation of adequate and well-designed **volunteering programmes** in all types of Czech schools.

The ideal solution would be a gradual introduction of sophisticated volunteer programmes that are designed with regard to age and mental specifics of children and youth. As shown by international experience, well-organized school volunteer programmes at all levels of education can have a substantially positive and cultivating influence on the personality. In general, they may, for example:

- 1) increase personal and social responsibility,
- 2) improve communication and social skills,
- 3) promote the internalization of positive values and attitudes
- 4) increase sense of self, confidence and personal ability,
- 5) reduce the incidence of failure and risk behaviours (e.g. bullying, drugs)
- 6) promote better social integration and reduce feelings of alienation,
- 7) develop self-control and self-discipline,

- 8) to stimulate interest in other people, groups and communities
- 9) develop empathy, pro-social and altruistic behaviour
- 10) increase the acceptance of others, including their social and cultural differences,
- 11) increase the motivation to cognition and learning
- 12) develop career guidance,
- 13) support the development of future employment skills.

## Conclusion

There are economic, but also important social reasons why Czech schools should systematically introduce broadly conceived ethical and pro-social education, including the necessary practical applications. Volunteer programmes whose efficacy has been sufficiently proven in developed Western countries present an optimum opportunity for Czech schools to anchor the practical education which will ensure that pupils and students develop a broad range of ethical and social skills that can function as barriers to socially undesirable behaviour.

The necessary implementation of systematic volunteer programmes requires a concept of specific training for teachers concerning their educational qualification to work with volunteers from among their students, but also to work with adult volunteers, for whom the Czech schools have largely been closed. Teacher training, advice on school volunteer programmes, their organization and evaluation of effectiveness are also a great challenge for the active involvement of the Czech psychological community.

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## PSYCHOLOGICKÁ PROBLEMATIKA DOBROVOLNICTVÍ V KONTEXTU ŠKOLNÍ VÝCHOVY

**Abstrakt:** Příspěvek pojednává o problematice motivace a dalších osobnostních aspektech dobrovolníků. Zdůrazňuje význam dobrovolnických aktivit pro pozitivní rozvoj osobnosti a potřebu širší prosociální výchovy v současných školách a potřebnost zavádění nových dobrovolnických vzdělávacích programů do českých základních a středních škol.

**Klíčová slova:** dobrovolnictví, motivace k dobrovolnictví, osobnostní aspekty dobrovolníků, prosociální a altruistická osobnost, prosociální třída



## INTERVENTION BY MEANS OF DRAMA EDUCATION METHODS IN PREVENTIVE POLICE ACTIVITIES

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**Abstract:** *The aim of this paper is to present the idea of using an alternative approach within preventive activities realized by police officers when working with children in elementary schools. We have been developing the underlying conception in accordance with the aim of the Conference both on the knowledge of problems relating to the objectives of the "Health 21" programme in Czech Republic conditions, and based on the Ministry of Interior of the Czech Republic strategies in the area of prevention of crime and preventive activities of the Police of the Czech Republic, Zlin Region. Completeness of the task solution is ensured by an evaluation research vision. We present findings from the investigation gained in the preliminary research and statistically processed input data on the number of schools involved and frequency of visits by prevention officers among the police to elementary schools in the Zlin Region in the past, whereby we want to illustrate the range of the research sample.*

**Key words:** *preventive police activities, health, risk factors, category of children and adolescents, intervention of drama, evaluation research*

### Introduction

The main goal of the state health policy is to improve health, health being considered as a fundamental human right. Recently a 'Health 21 – health for all in the 21st century' programme of the World Health Organization (WHO) has been created, which summarizes the basic principles of health care policy. The programme proposes a framework policy for the complete care of health and its improvement by communities. The programme is used as a stimulus by the WHO member states and provides guidance for them in dealing with health care related issues based on their individual regional needs. Participation of all sectors of the society is requested as regards improving of the national health and common responsibility of all resorts. In the Czech Republic, cooperation of individual ministries is provided within the implementation of the National Environmental Health Action Plans in the Czech Republic and participation in fulfilling of tasks within the Long-term programme for improvement of health of the

population of the Czech Republic, Health for all in the 21st. century. To identify some areas illustrating the joint responsibility for health and its enhancement in society, we can find a few good examples in the statistics of health disorder causes. In the Czech Republic the third most frequent causes of death are accidents. The health disorder causes include serious lifestyle mistakes, such as excessive use of alcohol, drug abuse and the already mentioned underestimation of an accident risk. One expected response by the Ministry of the Interior is an emphasis on task fulfilment and increased police efforts regarding the provision and protection of road traffic safety, drug-related problems and others, but also increased demands on the effectiveness of preventive measures, especially better awareness of citizens of possibilities and ways of protection against criminal offences and traffic accident frequency. The Police of the Czech Republic share in the responsibility for health and its enhancement in society therefore consists mainly in their preventive activities.

*Preventive activities of the Police of the Czech Republic encompass all measures pursuing reduction of occurrence and level of gravity of criminal offences through the reduction of criminogenous opportunities and education of potential perpetrators and victims of criminal offences. The purpose of the preventive activities of the police is to create, with a significant involvement of the public, a positive image of the police in society and thereby contribute to the protection of safety of individuals and their property.*

Preventive Information Department, Regional Police Headquarters, Zlín Region, 2010

One of the forms of prevention is communication with the public. Preventive communication responds to the needs of citizens, social situation, statistical findings and opinion polls. Communication as a form of crime prevention must reflect not only priorities, but also criminogenous and social pathology phenomena worrying the general public. The communication priorities include:

- protection against general crime,
- concern about personal safety, safety of close persons and
- social environment in which a citizen lives.

As school children up to age of 18 belong to the most exposed population groups, it appears to us not only reasonable but desirable to communicate with them along these lines. Prevention is an evident priority here.

## **Concept of intervention by means of drama education**

An offered range of preventive programmes of the Police of the Czech Republic for Zlín Region school facilities in 2010 - 2011 mainly includes lecturing activities thematically adapted to suit age groups of pupils in the 2nd., 5th. and 8th. years of elementary schools. Their aim is to provide comprehensive information about Czech Police activities for children of school age while they attend school. Pupils can get a picture of activities carried out by one part of the Integrated Rescue System (IRS) and are reiterated safety rules to avoid risk of becoming victims of unlawful behaviour. They are advised on how to behave in a situation where they need help from a policeman.

We have drawn up a proposal for using the methods of drama education (DE)

within preventive activities of policemen in Zlín Region elementary schools, as this is an experience based education, when pupils can test, in a simulated situation, their reactions, look for a solution for which, though, they are never rebuked or punished.

*“Education through drama is essentially a creative, social activity allowing for examination of concepts, questions and problems that form an important part of the human condition. In drama, individuals meet in imaginary, fictitious “as-if” situations, where the behaviour of participants requires an emotional response from the others. This response presents a strong affective stimulus and understanding, which is a basis for (actualized) integrated knowledge. The drama framework offers pupils a possibility of bringing their acquaintance with the real world to an imaginary world and, using reflexions, understanding and attributing of meanings to one’s imaginary experiences in a fictitious world, finding a new awareness of the surrounding world and their place in it.” (Clark, Dobson, Good, Neelands, Lesson for Life, 2008, p. 21)*

We can add the following to the above definition based on our research:

*Together with rational learning, drama education also stimulates intuitive understanding, leads towards discovering of personal aspirations transferrable to a child’s adulthood, and practices, too, an advanced skill of self-restraint and develops all sides of an individual’s personality. This takes place in a group based on solving tasks of a complex nature by means of a drama game.*

## **Elementary forms of drama education**

A prevention police officer can use different forms of prevention with DE methods employed. He can use short games including drama education elements, story telling and interactive theatre or dramatizing or playing of stories.

### **1. SHORT DRAMA-BASED GAMES WITH DRAMA EDUCATION ELEMENTS**

A typical form of classroom activity with children, exploiting the theatre and drama principles and methods of management of learning processes in drama education, is the use of group cooperation where a class is divided into synergy subgroups and activities in pairs (use of short drama scenes played by pupils in roles either prepared in advance or on an improvised basis). An ad hoc managerial role is expected to be taken by a Czech Police member who conducts preventive activities in schools. A prevention officer must be ready to handle several roles practically at the same time. First of all, he enters the classroom as an **authority** figure, formal and unquestionable, second, he comes as a **professional** bringing some expected information and, in addition, an extraordinary offer of activity that he, moreover, has to initiate and make pupils familiar with, and third, as a **teacher-facilitator**, who of course needs to be able to help pupils handle the assigned activities and facilitate the process of creative searching for and finding of solutions to problems submitted. A prevention officer can naturally intervene in children’s talk or game and while doing so passes between all his roles. This mostly involves kicking off situations with and without a presence of conflict, staging of fictitious situations, involving or not involving a conflict of interest between two or more adverse parties. An important condition when solving a task is an open-ended attitude,

so that children are not imposed on a single anticipated ending considered as the right one. It is just the differing ideas that create room for reflexion and discussion.

## 2. NARRATING OF STORIES AND INTERACTIVE THEATRE

Popular and very effective are activities based on real-life examples. Pupils are told a story with characters that they can easily identify with, it is a real life story always with a bad ending. A proven form of drama education for similar purposes is a theatre-forum. The story is performed for an audience who can, during its second performance, take over the initiative and influence its course and in this way reverse the original ending heading for a disastrous or warning outcome. The important thing, again, is the creation of a forum for consideration and discussion. From the preventive perspective, beneficial is both the initial work with the group producing the performance (if these are young people), and the involvement of children (viewers) in classroom while the story unfolds and they are looking for an acceptable solution of the problem. A preventive officer should be able to, when the performance is over, evaluate the story in question and the viewers' solution, as well as provide reliable information that he is familiar with or is available to him.

## 3. DRAMATIZATION OR PERFORMANCE OF STORIES

A more demanding form of drama education oriented on processes going on in classroom environment (in contrast to product oriented activities where a product means an output produced through a theatre scene performed) is a structured exploration of a story. A story carries the theme intended to be explored, serves as a binder between individual activities and, importantly, its ending is not known in advance. The story is not narrated as a whole or dramatized in gradual steps, but its development and final completion only takes place within the communication between pupils and a prevention officer and between pupils themselves. Generally it is important to win the pupils' trust and offer them an attractive range of activities. To this end, techniques of drama education are employed, that make it easier for pupils to get involved in the process, while utilizing pantomime movement and verbal-sound methods.

## **Expected benefits of the concept**

The main purpose and benefit of the aforementioned intervention using drama education consists, in our opinion, in showing respect for the character of the target group comprising children (in our study elementary school pupils predominate). In practice we often face the necessity to catch and keep the attention of young people (Karnsová, 1995). A lecturer entering the classroom in the uniform of a Czech Police officer is, of course, no exception to this. He/she will by no means avoid dealing with teaching situations where problems will appear, implicit in the circumstances and conditions of communication with pupils in school environment.

The preventive police officer needs to actively listen and prepare a footing for a kind of partnership in the discussion with children. Pupils are typically not interested in preaching (pontificating) and, in contrast, appreciate when they meet with genuine expressions of interest in their views on things discussed. Still it is not always easy to

achieve this. We are aware that our verbal and non-verbal communication is frequently accompanied by unwanted or excessive (supportive etc.) expressions (words, phrases, gestures and the like), that may cause misunderstanding. What helps us really communicate effectively are pragmatic indicators (specific words or phrases, timing etc.) that guide the communicant toward positive thinking about our message. We will not manage with just an awareness of what we should avoid in conversation with children, e.g. in face-to-face communication or an open discussion during a lecture, it is important to know how to make it work.

The use of the concept of drama education involvement in meetings with elementary school pupils may be just the ability to create in an entertaining way a secure space for confronting of personal or transmitted experience of pupils and children's preconcepts with the knowledge of adults. Furthermore, drama education accommodates particularly the need of an increased activity of some children and in the same way makes up for largely a passive (sedentary) way of receiving information that children are used to at school and home, especially at home they often spend several hours a day in front of the computer and on the Internet.

A key phase in human development is adolescence (spanning approx. the age of 11 - 23). A young person in the period of transition from childhood to adulthood observes his/her surroundings with great sensitivity. They are sensitive to issues of justice (Štěpánková: In Smékal, Macek, 2002) and tend to behave with increasing authenticity, which brings with it not only clashes with their surroundings, but also important experience for creating their value system. Norms, concepts of good and evil or justice are not acquired by adolescents on purely a rational basis, but also in the form of emotionally coloured wishes, sympathies and antipathies. Emotions play a great role in building relationships with people. Further activities include the need of authenticity and possibility of self-expression, which we perceive in relation to children's personality growth. Authenticity is understood as a condition for free expression through which adolescents perceive their uniqueness. Also based on the mentioned knowledge in the field of developmental psychology we envisage suitability of the submitted concept. Drama education is an opportunity for children to express their yearning for the possibilities of self-expression and acknowledgement. And owing to the natural ability of children to get into the spirit of their peers and understand their interpretation of problems, lectures presented by policemen and talks with them in schools may be, if complemented by practical forms of drama education, a suitable means of effective prevention.

## **Thematic scope of lectures and talks**

The preventive programmes of the Police of the Czech Republic offered for Zlín Region school facilities in 2010/2011 all include three basic subjects adapted to the age groups of children with regard to the risk to be prevented, namely for second-, fifth- and eighth-year pupils of elementary schools.

Taxonomy of selected subjects:

1. A policeman is our friend.
2. Safe behaviour

### 3. Criminal offences (CO) by youth and CO perpetrated against youth

The content of individual programmes is divided into three groups:

A)

- Introduction of a Czech Police officer
- Difference between the policemen maintaining public order, the traffic policemen and criminologists, samples of equipment.
- Rules of safety conduct, e.g. conduct in road traffic, encounter of an alien person etc., preventive recommendation.
- Emergency call lines, how to use them in the right way.

B)

- Criminal responsibility
- the (UN)safe Internet, threats associated with using of means of communication (the Internet, mobile phone ...).
- Preventive recommendation on how to not become a victim of unlawful behaviour.
- the Czech Police emergency line number 158, how to call it.

C)

- Criminal responsibility
- Difference between an offence and crime (criminal offence) including penalties.
- Typical kinds of unlawful acting of youth
- Typical kinds of unlawful acting of adults committed against children
- Alcohol, cigarettes, drugs – legislative regulation
- the Czech Police emergency line number 158, how to use it in the right way.

Preventive Information Department, Regional Police Headquarters, Zlín Region, 2010

We have chosen several sub-topics from the above overview, that indisputably relate to the support of health (*Health is defined as being in the scope of the complete physical, mental and social well-being, and not only as an absence of illness or defect. We have adopted this premise from the valid World Health Organization statement from 1948*) and education to health, though we believe it is important to note that it is not the task of the police to take over the subject from schools. A fundamental preventive measure on the part of the police is considered to be timely informing of children not only about the causes and cases of threats to and impairing of health, but also about consequences ensuing from the criminal responsibility defined by law and steps taken by the police in some exemplary cases.

1. Addictive substances and other addictions, truancy, a gang influence, delinquency and criminality:
  - Risks involved in unlawful behaviour
2. Violent crime, bullying
3. Protection against harm caused by tobacco products, alcohol and other addictive substances;
4. Cyberharassment/bullying, Cybergrooming, Cyberstalking, Sexting:

- Harassment of another person through the Internet, using a mobile phone or other information and communication technologies. The attacker menaces, intimidates, ridicules or psychologically hurts the victim,
  - Acting of a person who tries to manipulate a chosen victim through a series of psychological steps and force him/her to have an appointment. The attacker communicates with a chosen victim through information and communication technologies (SMS, chat etc.).
  - The assailant repeatedly and with increasing intensity harasses the victim using information and communication technologies. The stalker tries to repeatedly contact and bind to himself a victim who does not want to meet him.
  - Electronic mailing of text messages, photos or videos with sexual content. 'Sexting' is a compound of the words "sex" and "texting".
5. Adults and children – criminal activities:
    - sexual abuse,
    - child pornography,
    - non-payment of child support maintenance,
    - abuse of a ward,
    - endangerment of child upbringing,
    - child grooming,
    - give an alcoholic drink to a child,
    - involvement in drug use spreading,
    - dangerous threatening,
    - stalking.
  6. Sects, movements and extremist groups;
  7. Racism, xenophobia and an issue of living together in a multicultural world.
  8. Specific lifestyle:
    - street crime and other forms of pathological conduct of members of part of the society inferior in status.

## **Model of talk involving drama education**

### ***Theoretical basis of the model***

We expect that a positive atmosphere of mutual trust will be created and responsibility for the outcome of the talk will be partially delegated to pupils, without this affecting the quality of content transmitted to pupils and without losing pupils' respect for the police. In practice we can also see a negative response to police officers trying to appeal to civic responsibility or safe behaviour of pupils, who sometimes judge the police work without sufficient knowledge of the subject, based on their experiences of events they witnessed, or more often, adopting judgements of their parents and adults around them. If we give pupils the freedom to express and realize their own suggestions for solving situations, and leave them an adequate share in decision-making on the next development of an event represented, we will be able to gain their personal interest and facilitate them understanding of complexity of the problem. Or we can set up a discussion where pupils are asked to articulate reasons for their decision, and then also defend

them before their peers (in pairs or groups). By structuring the process of argumentation in this way we can avoid a potential (frontal) clash of opinions that we might otherwise have to deal with.

Another positive result of the chosen form of communication is openness of pupils. Some pupils may be sensitive to a number of topics presented for discussion, there may be similarities to their own life scenario or parallels to events impacting lives of people close to them. They may have difficulty coping quickly and just by themselves with unpleasant feelings evoked, to be ready to talk about the given topic without embarrassment. Drama provides protection / security for pupils through fiction and roles they play, freeing them from worries that a painful circumstance will be associated with their own lives. At the end of the game the pupil can thus comment on its story and the identified topic from his/her perspective and talk with some detachment about the character performed. On stepping out of their roles they can securely describe feelings and ideas of characters portrayed and openly talk about them in third person. The function of a substitute role consists in averting the tendency to change the publicly expressed ideas and experiences for one's own thoughts and feelings. A specialist term used when explaining the function of a substitute role from a therapeutic as well as drama-therapy point of view, is 'distance', see <sup>8</sup>M. Valenta (2007), but of course there is a limit to it. A preventive officer is not a therapist and therefore should consult a school psychologist about envisaged or potential complications.

***Criminal offences committed by youth and against youth, 8th. year of elementary school, a "Bicycle" story;***

Introducing oneself; where I work; tasks of the police; a policeman identifies himself, uniform x civilian clothing = specialist Criminal police service and investigation police officers are engaged in problems relating to youth crime, offer of an 'investigation game' – arranging a scene (two chair in forefront, imagination: transparent mirror, microphones, agreeing a secret signal: Rule 1, "Please speak up", Rule 2, "Giving priority to others is a virtue – please repeat!").

1. Right to sanctity of property: 1st. reading (introduction of characters and conditions of situation):

Report on examination of a suspect

Milan's parents were very thrifty, even more so now that they longed for a new car. And so Milan's wish to have his own, quite normal mountain bike, remained unfulfilled. He felt sorry about it, all the more so because most of his schoolmates did not have such worries. For example Petr, a son of a not very honest businessman, even had two bikes and in addition a scooter.

2nd. reading:

One evening Milan found that Petr had left his bike leaning against a garden gate of their house, and that was the limit. Milan made a decision that when Petr did not value his bike at all, he had the right to take it. On the same night he hid the bike in the cellar, resprayed it a different colour and a few days later took it to his grandmother's. His parents were surprised how he had come by a bicycle, but

when he told them he had bought it cheap from a friend, they were not interested any more.

Analysis: What did he do? Was it a criminal or just a minor offence? Do we understand why he did it? Did he have right to do it? How was it found out, where did he make a mistake? Could he have done something different?; Figure on the wall (Can we condemn him? What is Milan like, good or bad?) – Pupils will draw an outline of a figure and describe the person choosing from the following range:

A right sort, interesting, good-looking, tall, sporty type, active, businesslike, healthy, energetic, well-liked.

Non-assertive, not very popular, stutters, slow, short, rather clumsy, not very good-looking.

2. Examination (fictitious character or hot seat, signal and group role: policeman, public prosecutor, judge, lawyer, probation officer, physician, psychologist, class teacher, manager of children's and youth club; put up words on the blackboard: Self-fulfilment. Self-centred. Showing off. Boredom. Bad education in the family. Influence of surroundings and a gang. Alcoholism and toxicomania. Parental indifference.)

- Investigator's questions: Are you aware of what you have committed?
- How old are you?
- What do your parents say to this?
- Do you know what may happen to you?

And then criminal responsibility, refer to Act no. 218/2003 Sb., on the judicial system in matters relating to youth.

3. Story continued by narration: “ During investigation it has turned out that Milan has committed yet another offence, truancy, by deliberately missing school. It has been established that the offence was already discussed on the school education committee, where reporting to the authority of social and legal protection of children was considered. In that case his parents would be threatened with a financial penalty and should the offence be repeated, even with up to two years in prison.“

“At the time Milan was summoned to the police station for the second time, the following messages appeared on the walls of buildings around his home and school: Milan, M you've had it! Mmmmu---my, I got a big problem!“ Question to ask pupils: “What do they make of it, what does it mean?“

“New evidence has been found that can maybe help ...“ – pupils are shown a mobile phone with a text message: IF YOU TRY AND SHOP SOMETHING I 'LL PUT UP PHOTOS ON FACEBOOK!!! Again a question follows for pupils (possible answers: revenge, extortion, harassment).

and the most frequent criminal offences that can satisfy a case of harassment/victimization, see data from the Czech Police statistics and manual.

4. A moderated talk about the following topics follows:

- Harassment of another person on the Internet, using a mobile phone or various social networks,
- Manipulating a victim, effort to keep communication secret and extortion to reach a personal meeting without witnesses,
- harassment becomes more severe, assailant wants to bind a victim to himself, appeals to emotions, wants to arouse sympathy,
- electronic sending out of text messages, photos or videos with sexual content,
- rules of safe behaviour on the Internet, see e.g. a methodology based on the project E-bezpečí ([www.e-bezpeci.cz](http://www.e-bezpeci.cz), e-safety in English, head of the project Mgr. Kamil Kopecký, Ph.D., Faculty of Education, J.E.Purkyně University, Olomouc),
- I am a victim, what to do? (recommendations, contact for emergency line etc.)
- How to properly call emergency line number 158?

5. Possibility for pupils to finish the story (narration or performance) and final reflection.

## **Development of number of prosecuted individuals in the categories of children and youth in Zlín Region**

In a period of 1 January 2010 to 31 August 2010, and compared to a period of 1 January – 31 August 2009, minors committed 14 (resp. -2) offences and their share in the total amount of crime resolved reached 1.3 % (resp. -0.4 %), and youth also committed 14 (resp. -29) offences, i.e. 1.3 % (-0.4 %) of all offences resolved. Children's share in the total crime rate resolved amounts to 3.25 %, but in the category of the other criminal offences, for example, their share reaches up to 6.42 %. Analysis clearly shows that the declining number of child and youth offenders is not accompanied by a falling number of offences committed. It follows that child and young offenders more frequently commit multiple offences. (We performed statistical assessment, comparison and analysis based on Czech Police available data.)

Delinquency committed by children and youth, was mainly in the area of general crime, where they perpetrated violent offences (8 proven offences), offences against decency (2), burglary (1, breaking into a flat), thefts (5) and property-related offences such as graffiti / spraying of images (6). As for criminal offences committed by adults against children belonging to youth category, they include 1 case of rape, and 1 case of sex abuse in child category. The area of economic crime mainly included an offence of unauthorized holding of a debit card (1).

## **Examination results at the preliminary research stage**

Research in the area of preventive activities cannot be conducted without adequate knowledge of causes and manifestations of pathological behaviour in children.

Pathological phenomena in children

Research on socially pathological phenomena in children has been conducted on a long-term basis by specialists at the Institute for Criminology and Social Prevention,

Prague (ICSP), (comp. Večerka, Holas, Štěchová, Diblíková 2000). Recently an extensive research report (not for sale) was published for study purposes, entitled *Criminology perspective on youth (2009)* that we will in part draw from.

One research study that we found very interesting had been undertaken in the Czech Republic and Slovakia. In 1991 the authors published a final report on the research, entitled “Relation of young people to some legal and moral norms”.

More than 15 years have passed since the completion of the aforementioned research and young people then involved now belong to the generation of middle-aged citizens. Their seats in schools are occupied by the young people who have lived their whole lives in the new conditions of a democratic state and were not shaped by the totalitarian law and morals. Students today only know the problems of the period before overthrowing of the totalitarian regime from hearsay and the curriculum and are influenced by present-time legal and ethical principles. This has raised an interesting research question for ICSP researchers: To what extent have the attitudes of young people today changed as compared to the views of the previous generation of respondents? What will be the answers of young people today from the same schools to the same questions that their predecessors were asked? Can we identify some kind of shift in opinion of respondents, and if so, in what sense? Therefore they decided to undertake a comparative research in 2006. As for methodology, they used just the stories that they presented the children, and the records of written answers by respondents.

The final summary of the 2009 research findings is included below (we consider them useful both for our work and generally for the work of prevention officers at schools):

- Respondents flatly condemn the conduct of perpetrators of offences against property. As opposed to the previous research we have recorded an increase in the number of those stating this uncompromising attitude without considering any “mitigating circumstances”. They are dissatisfied, though, with the means available for a victim of theft to reach justice.
- In the area of sex life, sex between youth and minors is not a rare occurrence, the regulation forbidding this only accepted to a limited degree. It is recommended to decrease the age limit of permitted sexual activity (prevalently to age of 14). Sexual violence is condemned more vigorously than it was in the early 1990s.
- For young people cannabis is a natural part of their peer culture and its use a personal matter. At the same time they are basically aware of the risks involved in such behaviour; many agree that expulsion from school is an adequate punishment for cannabis related misdemeanour.
- Punishing an attacker for using individual physical violence is quite acceptable for a large number of young respondents, although they are basically aware of unlawfulness and risk related to violent retaliation; still they consider such solution as more effective than involvement of state authority.
- Positive perception of ethnic differences based on the citizenship principle is gradually increasing among young people. On the other hand, anti-Roma prejudice is still deeply rooted, mainly among youth in trade schools, and the principle of collective guilt is approved.
- It generally applies that where norms with low acceptance levels are involved

(such as sex between minors, cannabis smoking), the main offence in the eyes of peers is lack of carefulness - "let them catch you" behaving unlawfully. Within peer relations it is expected that possible witnesses of similar transgressions will keep silence.

- Fewer persons (as opposed to the previous research) would ask (someone with "authority" (police or an adult person) for help. A similar tendency (dealing with things on one's own initiative) can be observed regarding different types of problem situations: in cases of physical attack, cheating or teacher-student harassment.

### ***Psychological view of problem behaviour in children***

In the earlier years, a dramatic increase in serious offences committed by minors gave rise to a tempestuous social and professional debate on the age limit of criminal responsibility, approaches to care of children with antisocial behaviour and its results. If we leave aside the facts of the crimes committed, a question arises of not only their motivation, but mainly that of personality make-up of perpetrators. Jan Lašek from the Faculty of Education at Hradec Králové University has studied the problems relating to criminogenous factors in children with regard to psychological deprivation. Among other things he pointed out that some problems appear as almost negligible from an adult's point of view, but in children's world are just as serious as divorce, quarrels or conflicts in our adult world. According to Lašek, children should learn to cope with stress without aggression, with a distance and detachment, but on the other hand, the current model of a successful person offers in the first place a go-getting and uncompromising attitude, asserting oneself using every possible way: in other words, society appears to increasingly approve different forms of aggression and even tends to celebrate them or shed a positive light on them. Psychological deprivation was defined by Langmajer and Matějček already in the early 1970s.

In addition to low resilience to stress and a reduced tolerance for frustration, different specialists mention a child's personality traits as further causes of problem behaviour: temperament, prevailing moods and predispositions; further a level of volitional qualities, self-conception: especially abilities, self-confidence; present state of health: illnesses and handicaps; and outer causes: conflicts resulting from family and school environment and other factors cannot be omitted such as specificities of a big city, town and village, poverty and social exclusion, and life events such as divorce of parents, failings at school, loss of friends, disappointment in love (comp. Klíma 1985, Vítek 1989, Vojtík 1990, Matějček 1991, Lazarová 1998, Sovák 2000, Vágnerová 2002, among foreign authors e.g. Train 2001, Hopf 2001).

### ***Outline of evaluation research methodology***

With regard to function we will primarily aim for evaluation of effectiveness of the proposed intervention. The research plan is medium-term, scheduled for one calendar year. We will apply a mixed methodology (quantitative and qualitative). Data will be collected by means of self-report (teachers) and group conversations (pupils). The subject of conversation with a focus group will be dealing with *podmětových??* (stimulus?) situations that have been experienced/tested by pupils. Conversations will be recorded

and later transcribed. Self-reports will be evaluated with a statistical method. The transcribed conversation with the focus group will be examined through content analysis.

### ***Elementary school pupils involved in the research***

Data from the statistics of preventive information activities realized by the Police of the Czech Republic in Zlín Region school facilities:

Type of school	Number of schools	Children approached
Nursery school	8	306
EL 1st. stage	21	977
EL 2nd. stage	23	1467
Secondary schools	5	419
Total	<b>57</b>	<b>3169</b>

Preventive Information Department, Zlín Region Headquarters, 2010

## **Summary**

The Police of the Czech Republic share in the responsibility for health and its enhancement in society mainly consists in their preventive activities. A fundamental preventive measure on the part of the police is considered to be timely informing of children not only about the causes and cases of threats to and impairing of health, but also about consequences ensuing from the criminal responsibility defined by law and steps taken by the police in some exemplary cases. A police preventive officer can use different forms of prevention with integrated methods of drama education. He can use short games including drama education elements, story telling and interactive theatre or dramatizing or playing of stories. The submitted conception proposes the use of drama education methods within the police preventive activities carried out in Zlín Region elementary schools, as this is an experience based education, when pupils can test, in a simulated situation, their reactions, look for a solution for which, though, they are never rebuked or punished. Completeness of the task solution is ensured by an evaluation research vision.

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## INTERVENCE POMOCÍ METOD DV V PREVENTIVNÍ ČINNOSTI POLICISTŮ

**Anotace:** Cílem předloženého materiálu je přiblížit myšlenku využití alternativního přístupu v preventivní činnosti policistů při práci s dětmi na základních školách. Představovanou koncepci stavíme v souladu se záměrem konference jednak na znalosti problematiky cílů programu Zdraví 21 v podmínkách České republiky, jednak na východiscích Ministerstva vnitra České republiky pro oblast prevence kriminality a preventivní činnosti Policie České republiky v rámci Zlínského kraje. Komplexnost řešení úkolu zabezpečujeme vizí evaluačního výzkumu. V příspěvku uvádíme závěry z šetření získané v předvýzkumu a rovněž statistické zpracování vstupních údajů o počtech zainteresovaných škol a o frekvenci návštěv preventivistů z řad příslušníků policie na základních školách Zlínského kraje v minulosti, čímž chceme ilustrovat rozsah výzkumného vzorku.

**Klíčová slova:** preventivní činnost policistů, zdraví, rizikové faktory, kategorie dětí a mladistvých, intervence dramatické výchovy, evaluační výzkum

## BURNS AND SCALDS IN THE POPULATION OF CHILDREN AGED UP TO 5 YEARS

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*Lubomír KUKLA*

**Abstract:** *Accidents are the most common cause of death in children older than one year of age and in adolescents. The consequences of accidents are not only static but also psychological, social, economical, educational etc. For the selected interval up to 5 years of age the most common and the most severe accidents include namely burns and scalds. Study sample a methods: within the ELSPAC study mothers with residence in Brno reported on burns and scalds of their children in the age intervals from 0 to 6 months, 6 to 18 months, 18 months to 3 years and 3 to 5 years of age, always at the end of these intervals. With respect to burns and scalds the mothers replied to these queries (among other): whether they occurred in each of the studied intervals, how many times it occurred, where the accidents occurred, what burned or scalded the children, what type of injury was caused, who was with the child at the time of accident, and what he or she did with the child and what kind of treatment he/she provided, what other (subsequent) treatment was provided to the child and how each accident occurred. Results: in the specified study phases successively the following questionnaire counts were returned: 4670 – 3640 – 3627 and 3619, in total 15556 questionnaires, including 13 067 questionnaires from Brno (84,0 %) and from the Znojmo region 2489 questionnaires (16,0 %). From both regions 8036 (51,7 %) questionnaires were returned by mothers of boys and 7520 (48,3 % were returned by mothers of girl: despite uneven representation of town and rural areas the sex ratio was 1,069 which is common for children at this age. Burnt or scalded in the specified age intervals were successively the following numbers of children: 32 (0,68 %) – 413 (11,35 %) – 509 (10,03 %) and 283 (7,82 %), both sexes included. Some of the children were affected repeatedly in the specific interval which of course elevated the number of cases of these accidents. Conclusions: Based on the results the prevention possibilities will be presented.*

**Key words:** *burns, scalds, accidents, prevention, children up to 5 years of age*

### Introduction

Starting from one year of age accidents are the most frequent cause of death in children and young people. Their impacts are not only somatic but also mental, social, economic, pedagogical, etc. Burns and scalds are among the most frequent and most serious accidents in the period until five years of age.

## Group and methods

In the ELSPAC study mothers of children in Brno reported the burns and scalds of their children at the age of 0–6 months, 6–18 months, 18 months–3 years and 3–5 years with the reports submitted at the end of these periods.

Questionnaires in this longitudinal study have a very broad scope where health issues including injuries and accidents in the monitored group of children occupy considerable space. Included were children born to mothers with permanent residence in Brno and Znojmo district from 1 March 1991 to 30 June 1992. It was a 16-month research cohort.

In this paper we are going to discuss a very important topic of early age – burns and scalds.

Concerning burns and scalds, the mothers reported among other things the following:

- whether there were any accidents during the period in question
- how many accidents there were
- where the accidents took place
- how each of these accidents happened
- with what the children were burnt or scalded
- what type of injuries they suffered
- who was with the child at the time of accident
- what the person did with the child
- what treatment the person provided
- what other treatment the child received.

## Results

During the monitored period 4670 – 3640 – 3627 and 3619 questionnaires were turned in, the aggregate number for all periods is 15,556 questionnaires; from Brno there were 13,067, i. e. 84.0 %, from the Znojmo district there were 2,489, i.e. 16.0 %. From mothers of boys we collected 8,036 (51.7 %) questionnaires in both places, from mothers of girls there were 7,520 (i.e. 48.3 %); in spite of the imbalance between city and country the sex ratio of 1.069 was common for this age.

Burns and scalds in the age periods were suffered by 32 (0.68 %) – 413 (11.35 %) – 509 (14.03 %) and 283 (7.82 %) children of both genders. Some of them were afflicted repeatedly and therefore there are more accidents reported for obvious reasons.

**Table 1** shows the total numbers of treated children and numbers and proportions of those who suffered any burns or scalds divided by place of residence and gender.

Information about the number of children in each of the monitored periods of life is empirical data obtained from questionnaires. For aggregate five-year figures for all of these periods the number of surveyed and injured children is estimated as an average using numbers for all periods. This is given by the longitudinal character of the study: information for all four periods relates to the same children, even though their number is decreasing as they age (and due to the study's length, as it happens in all long-term studies) and the children are not all represented in their age groups. This is so-called *mixed longitudinal data*. If we carried out a purely longitudinal study, i.e. included only

children with information for all four surveyed periods, we would have been deprived of part of precious information from those who dropped out of the study or simply did not turn in the questionnaire for a certain period and then continued to participate at a later stage.

With regard to the fact that as far as we know there is no data available on the incidence of burns and scalds in the common population of children at such young age. There is only information on children who were taken in hospital because of burns and scalds. This is why it would be a loss if we reduced this precious information in any way.

Section B of the table shows the proportions of affected children in individual age periods compared by gender and place of residence:

The number of boys in Brno who were burnt or scalded was 1.38-fold higher than in girls aged 6–18 months ( $p < 0.001$ ) and 1.26-fold higher from 18 months and 3 years ( $p < 0.025$ ).

More boys than girls in the Znojmo district were injured in all surveyed periods but the differences – even though sometimes they were even more prominent than in the Brno group – did not reach statistical importance in the smaller population of Znojmo children.

In the entire population in both places the prevalence of injured boys over girls appeared as statistically significant at the age of 6–18 months (1.40 higher,  $p < 0.001$ ) and at 18 months to 3 years (1.23 higher,  $p < 0.025$ ), i.e. similarly to the larger Brno group.

Differences by residence always pointed out that compared to Brno more Znojmo children were burnt and scalded; in the periods in question it was 2.46 times – 1.15 times – 1.03 times – 1.28 times respectively. There was a statistically significant difference among the youngest children in the mixed group of boys and girls ( $p < 0.01$ ) and in the group of boys aged 3–5 years where in Znojmo there were 1.59 times more injured boys ( $p < 0.025$ ).

Also the differences among girls aged 0–6 months were close to the 5 per cent statistical significance; in Znojmo 2.47 times more of them were burnt or scalded and among all children together at the age 3–5 years in Znojmo 1.28 times more children were burnt or scalded compared to Brno.

Some children were burnt or scalded several times during the same period. Their distribution by number of incidents in each of the surveyed periods and by gender and residence are shown in **Table 2**.

Mothers in Brno reported that up to the age of 6 months none of the children was burnt or scalded repeatedly; in the Znojmo district this happened to two girls.

Between 6 and 18 months these repeated injuries occurred more frequently, four times in the Brno group and three times in the Znojmo group.

From 18 months to 3 years these accidents were more frequent, with one boy in Brno they were repeated even six times. In Znojmo children were burnt or scalded three times at the most.

From 3 to 5 years none of the country children suffered this type of injury more than three times but in Brno ten children were injured eight times and one child as many as nine times.

The table shows numbers (products) of burns and scalds cases as well as numbers of affected children. By comparing their number and numbers of children in whom mothers gave a positive answer to the previous question (whether the child was or was not burnt or scalded), we found out that information concerning the number of incidents was missing in 21 children. 17 mothers from Brno and four mothers from Znojmo or 14 mothers of boys and seven mothers of girls did not give answers. Numbers of children with missing information are shown in the table in the relevant sub-groups of children (by gender and residence).

### a) CIRCUMSTANCES IN WHICH CHILDREN SUFFERED BURNS

In this section mapping the circumstances in which children were burnt or scalded we are providing only information from Brno children in a mixed group of boys and girls. Dividing the children by gender or showing data for Znojmo would increase the number of data making the tables contents too dense.

The tables are designed in such way that the heading shows the number of all burns and scalds in Brno children identified in each age period. Sums of each sub-chapter items show how many of these injuries in individual age periods were covered by the mothers' answers.

Individual sub-chapters represent independent units based on mothers' answers to questions asked at the beginning. Individual items show numbers and proportions. In items consisting of more options the most frequent are mentioned ("of this..."). The entire item content cannot be exhausted because it contains various other options with low incidents which we do not report.

Concerning the mothers' answers to questions concerning burns and scalds it is important to mention that the questions were open-ended (with one exception) and mothers provided such eloquent answers that more circumstances could be deduced from each case. All identifiable circumstances have been included to make the overall picture as material as possible.

### b) WHERE WERE THE CHILDREN BURNT OR SCALDED

**Table 3** shows that in 1,202 cases the mothers indicated the **place of accident**, which covers 88.4 % of all identified accidents.

Burns or scalds happened at home in 88.4 %, at places of recreation in 4.7 %, near home in 4.1 % and in other places in 2.7 % cases.

In all age periods most of these children's accidents took place at home: up to 6 months it was a vast majority, at a later age their proportion dropped (94.4 %–92.5 % - 90.4 %–78.2 % respectively).

Of all burns and scalds that children suffered at home during the full five years in the youngest age there were 1.6 % but in the following age periods they increased to 35.0 % - 43.4 % and 20.0 %: home was the riskiest place for children aged 18 months to 3 years.

*At home* children were burnt or scalded mostly in the kitchen and other utility rooms, such as bathroom, boiler room or garage. There were only a few cases in living rooms.

The most frequent *places of recreation* were weekend homes or cottages, in a

smaller number of cases domestic holiday resorts, spas and foreign destinations during holidays. The number of burns and scalds grew with the age of children – up to 6 months there were no cases, after 3 years there were 52.6 %. Less than one quarter of accidents falls to both periods preceding 3 years of age.

Places *near home* where accidents often happened were the garden and backyard, playground, street and parking area. Especially in the garden and backyard over one half of burns happened at the age of 6–18 months (51.0 %), in the earlier and following period it was around 23 %. No accidents happening in these areas were reported in children up to 6 months.

In *other places* that were more distant from home accidents happened during visits to family and friends, in restaurants, outdoors (beaches, summer camps, kindergarten, camping sites, etc.). The number of accidents increased with the age of children from zero in the youngest babies to 15.2 %–33.3 % and 51.5 % in group aged 3–5 years.

### **c) HOW THE ACCIDENT HAPPENED**

The mothers submitted stories varying in length and complexity. There would be enough to write a book of unfortunate stories, however, it was not easy to elaborate it into a comprehensive overview. We made an attempt in **Table 4** (being aware that some simplification was necessary in order to stay within the limits of this paper).

The accident situations are divided into the following situations where the children:

- a) touched something – 52.3 %
- b) leaned on something – 14.9 %
- c) were scalded – 9.7 %
- d) pulled something hot onto themselves – 9.7 %
- e) other – 13.3 %.

Altogether we collected 1,047 answers clarifying 77.0 % circumstances in which burns or scalds were suffered. In individual age groups there were 83.3 %–96.1 %–74.0 %–60.1 % respectively: in older children the mothers did not have as much information as in the younger ones. The informative value of their reports was the highest in the period 6–18 months, in the following periods it dropped by 22.7 % ( $p < 0.001$ ) and by 36 % compared to the accidents in the age group 3–5 years ( $p < 0.001$ ).

### **d) WITH WHAT WAS THE CHILD BURNT OR SCALDED**

(See **Table 5**) This information is available in 1,199 (88.2 %) cases. In 42.4 % the accident involved electrical appliances, in 24.4 % various heaters, stoves and ovens, in 22.4 % hot liquids and food, in 6.9 % open fire, in smaller number of cases hot dishes, lamps, engines and tools.

As regards *electrical appliances*, the children were most often burnt with irons, electrical pans, curling irons, coffee makers, toasters and similar household appliances. However, there were also unusual cases of unexpected scalds, for example when a wa-

shing machine broke down (and was opened during the boiling programme), burns with sun-lamps, contacts with baking ovens, cookers and their accessories (such as grilles), barbecue and smoking equipment or portable heaters. The risk of burns with electrical appliances, heaters and cookers grew with the age in the range 1.1 % - 34.4 % to the maximum 45.6 % from 18 months to 3 years. After 3 years of age the proportion of such injuries dropped to 18.9 % as the children became more cautious thanks to their age.

As regards *food*, children were most often scalded with drinks served for breakfast or snack, soup and, in a smaller number of cases, thick foodstuffs, such as porridge, sauce, spinach, sausages, etc.).

In the five years there were 246 cases ((19.3 %) of **scalding** with hot liquids. Over one half of them (139, i.e. 10.9 %) were caused by carelessness in *handling, serving and drinking tea, milk, hot chocolate*. *Hot soup* caused 63 (3.4 %) of all scalds and the “*classic*” *hot water* during various handling – mostly connected with hygiene – 4.9 % accidents. Scalds with hot liquids were rather rare at the youngest age (2.4 %), then they increased in number many times (to 37.8 %) and after the period 6–18 months dropped to 34.69 and then to 21.1 % at the age of 5 years. In five years only 1.3 % was caused by hot food.

Children mostly suffered *burns with open fire* when stoking fire in a stove or fireplace, at bonfires, when handling candles, sparklers, matches, in one case in domestic fire.

The first burns with open fire happened after 6 months of age, up to 18 months there were 4.7 % of them, then the proportion grew to 5.1 % and 14.2 %. In five years there were 83 cases of which 6.9 % were for causes reported by the mothers and 6.5 % of all 1,276 identified burns and scalds.

In the age periods these accidents are divided as follows: 0 % - 22.9 % - 31.3 % and 45.8 % respectively.

Children suffered 1.6 % burns when trying to help their mothers with cooking or baking or their fathers with DIY. They were burnt with hot dishes, soldering lamps, car or motorcycle exhaust pipes. One child was seriously burnt with jellyfish when swimming in the sea, another by excessive sunbathing.

## e) BODY INJURIES CAUSED BY BURNING OR SCALDING

They are described in **Table 6**. Concerning this sub-chapter the mothers supplied less information than in other cases. The injuries caused by burns were specified in detail only in 65.4 % cases. The fewest details were provided in the youngest babies (44.4 %), the most at 6–18 months (67.1 %). In answering the question “What injury did the child suffer?” they often answered “he/she was burnt, scalded”.

The available answers suggest that burns and scalds most often affected upper extremities (665 cases, i.e. 79.5 %), mostly palms (414 cases, 49.5 %) and fingers (246 cases, 29.4 %). Other parts of upper extremities – shoulders, arms, forearms – were injured only in 5 cases (0.6 %).

Next were multiple burns and scalds on multiple body parts. There were 71 such cases, i.e. 8.5 %.

The following were 48 cases of trunk injuries (5.7 %), 26 cases (3.2 %) of head injuries, 2.9 % (24 cases) on lower extremities.

The age trends in injuries on upper and lower extremities were the opposite to injuri-

es on the head and trunk. The proportion of burns and scalds on upper extremities grew with the age from the youngest to the oldest period (from 37.5 % to 82.2 %), on lower extremities they grew from zero in the youngest age group to 3.9 % in the oldest age group.

On the other hand, the number of head and trunk burns and scalds dropped with the age of children. This is probably because there were a higher number of cases where the children injured themselves whereas at the younger age other persons were involved more often.

Concerning the head, most frequently affected was the face, namely nose, mouth and lips. There were two cases of eye burns and three cases of injuries on the haired part of the head. The proportion of such injuries dropped with age from 12.5 % to 1.7 %.

As regards trunk burns and scalds, the first cases happened after 6 months of age and in the following age period there were 10.5 % of them. As the children progressed toward 5 years of age, they dropped to 1.1 %. Most often were affected the front parts rather than backs and sides. On the lower extremities the shins were affected twice as often as the thighs, the feet only rarely.

#### **f) PERSONS PRESENT AT THE TIME OF ACCIDENT**

**Table 7** shows **who was with the child at the time of accident**: this question was answered in 1,168 cases, i.e. 85.9 % of all burns and scalds.

The present person was the mother in 85.7 % cases (majority). She was all alone in 43.8 % - 67.5 % - 75.8 % - 64.8 % cases, in the remaining cases other persons were also present. 152 (13.0 %) accidents happened in the mothers' absence; of them the fathers were present in 51 cases (4.4 %) and grandparents in 80 cases (6.8 %). In the remaining cases the children were being minded by other family members or friends. Health or pedagogical professionals were present in three cases (0.3 %), in eight cases (0.7 %) the child was all alone.

With the exception of the youngest age the proportion of grandparents present at burns and scalds accidents of their grandchildren increased in the order 5.5 % - 7.0 % - 8.8 %, whereas all other minders including mothers alternated on the children's age scale. It would be interesting to know whether this regularity is due to the fact that the older the children were the more time they spent with their grandparents or because the grandparents grew more careless with the age of the children.

#### **g) WHAT THE PRESENT PERSON DID WITH THE CHILD**

This is shown in **Table 8**. Unlike the previous ones this was not an open-ended question. It offered five options: 1 – nothing, 2 – treated the child himself/herself, 3 – took the child to see a physician, 4 – took the child in hospital, 5 – other (specifying what exactly they did).

There were 1,191 answers to these questions covering 87.7 % burns and scalds. The fewest clarifications were provided by mothers of children aged 3–5 years (90.7 %), the most were provided in children aged 6 – 18 months (98.6 %). In total for five years the mothers reported that in 7.4 % accidents they did not do anything, no treatment was needed. 75.9 % injuries were treated by the present persons, in 8.9 % cases the children were taken to a physician and in 4.6 % cases to hospital. In 3.2 % cases they did something else: asked somebody for help, consulted health professionals or friends

on the phone, sought the children's parents. Almost one half of answers under "other" indicated first aid without further specification.

It is clear from the table that the number of burns and scalds that were mild enough that they did not require any treatment was continuously dropping from 29.4 % in the youngest age group to 5.7 % in the oldest age group. The number of children treated by the present person increased – in the marginal groups at the age scale from 41.2 % to 82.0 %.

The number of children who needed medical treatment was decreasing with the growing age: there were 11.8 % of the youngest babies who were treated in surgeries and only 5.0 % of the oldest. In hospitals the proportion of children treated for burns and scalds dropped only until 3 years of age in the order 5.9 % – 5.3 % – 3.8 % respectively but the proportion of children aged 3–5 years increased to 5.0 %.

The children with burns and scalds treated in various ways were distributed over the age scale as follows: Of 904 children treated after the accident by the present person 0.8 % were young babies, 32.2 % children were aged 6–18 months, 43.2 % were aged 18 months–3 years and 23.8 % were older than 3 years.

Out of 161 children in total, outpatient or hospital care was provided to 1.9 % youngest babies and in the older age groups to 41.6 % – 40.4 % – 16.1 % children respectively.

The age distribution of those who were treated for burns or scalds in hospitals in individual age periods was as follows: 1.8 % – 40.0 % – 34.5 % – 23.6 % children. In outpatients surgeries only treatment was given to 1.9 % – 42.5 % – 43.4 % – 12.3 % children.

The results shown above indicate that 13.5 % children who received medical treatment suffered more serious degrees of burns or scalds which applies especially to 4.6 % of those who were hospitalized.

From the point of view of studying the accident morbidity this means that we can find out the incidence of burns and scalds in only 4.6 %, resp. 4.3 % of the cases (depending on whether we consider the 1,191 mothers' answers or 1,360 identified burns and scalds as the point of reference) which were hospitalized. But this is true only in case that all of these cases are reported by the hospitals for statistical purposes.

Information on 106 (8.9 %) burns or scalds which required medical treatment but were treated in outpatients facilities is not reflected in any accident or morbidity statistics because outpatients facilities do not report these cases for statistical purposes at the time being.

Besides, there are still 75.9 % cases of burns and scalds which happened to 904 children in our population that are not registered anywhere but in the memories of the mothers and their answers in the study.

We believe that this information sufficiently explains the need and usefulness of epidemiological studies in the common population of children mapping out the risks they are subject to.

## **h) WHAT TREATMENT THE PRESENT PERSON PROVIDED**

This is shown in **Table 9**. The result is based on 979 mothers' answers who reported 72.0 % burns or scalds of children during the entire five years.

The fewest answers were provided in the youngest babies (44.4 %) and the most

in children aged 6–18 months (82.9 %). Concerning the injuries of children in the following two age periods we received 73.1 % and 59.8 % answers respectively.

Among the “clients” to whom the present persons gave treatment after the accident were the youngest babies in 0.8 % cases, in the following age groups there were 35.1 % - 40.8 % - 23.3 % children respectively.

The description of treatment suggests that 5.2 % of all children needed to calm down first, as they were shocked at the injury. This necessity ceased as the children’s age increased; it was from 12.5 % in the youngest to 1.7 % in the oldest children.

4.7 % of all children – with the proportion dropping with the growing age and varying from 12.5 % to 3.5 % - needed to be cleaned and stripped of clothes or changed into different clothes.

In terms of treatment, the mothers most often reported the cleaning and disinfection of the wound; in total in 50.8 % cases. In older children this was the case twice as often as in younger children, in the age scale it was in 25.0 % – 47.7 % – 53.6 % – 51.3 % injured children respectively.

As disinfectants for burn wounds they used ajatin, septonex, gentian violet. In 5.0 % burns cases they used ice or cold compression. Children who were scalded with hot drinks or food were given ice in the mouth.

Dry compression using clean cloth was mentioned only exceptionally (three times), more often they used gauze, greased tulle or adhesive patches. Most often they used wet compression with water, less frequently potions of various herbs: camomile, sage, Aaron’s beard, marigold, etc.

The use of various ointments and oils was widespread, in total in 32.8 % cases. They were applied to all children without difference in age. The range of products was wide and varied, most often they used camomile ointment, panthenol, framykoin (27.4 % accidents), in same cases they used an ointment with aloe vera, onion split in halves and other similar home remedies.

Powders, sprays and gels were applied in 1.5 % cases, the used sprays were aku-tol, the powder was framykoin. It is clear that the classical first aid (cooling the wound with running cold water) was applied only rarely. On the contrary, the use of ointments which is not recommended is widespread in our families.

## **i) WHAT OTHER TREATMENT THE CHILD RECEIVED**

**Other treatment** is specified in **Table 10**. The mothers gave only 628 answers to this question relating to 46.2 % of all burns and scalds identified in the population.

After the immediate treatment by the person present at the burning or scalding accident no other treatment was needed in 48.9 % cases according to the mothers’ statements. The older the children were, the less further treatment their injuries required, as we can see in the order 83.3 % – 57.6 % – 43.8 % – 41.4 %.

35.8 % children remained at home. The older they were the more often their injuries were treated at home only, which is clear in the order 16.7 % – 26.9 % – 39.4 % – 44.8 % children for whom this type of treatment was sufficient. Their treatment at home – apart from staying in bed – continued in a way similar to the initial treatment: compressions, dressing and mainly application of ointments, sprays, powders of the same type as at the initial stage.

74 children were taken to see a physician after the initial treatment. If necessary, they were invited for further checks and the physicians controlled the parents' interventions.

No young baby was among these children, the children in other age groups were represented evenly. Together with 106 children referred to outpatients care immediately after the accident (**Table 8**) there were now in total 180 children, i.e. 17.2 % of all children who suffered burns or scalds. In the individual age groups there were 10.5 % – 20.1 % – 16.9 % – 13.8 %.

22 children were referred to hospitals for further treatment, i.e. 2.1 % of all injured children. Together with 55 children transported to hospitals right after the accident there were in total 77 children (7.4 %) in hospital care. The surveyed age groups were represented in hospitalizations due to burns or scalds as follows: 5.3 % – 8.8 % – 5.7 % – 8.4 % respectively.

In total, 257 children in Brno, i.e. 24.5 %, received some form of medical treatment – inpatient or outpatient. Their distribution in age groups was: 15.8 % – 28.8 % – 22.6 % – 22.2 %; the fewest were in the youngest age groups, the most in the group aged 6–18 months.

Seven children had surgical treatment mostly in the burns centre. Concerning specialized checks and treatments the mothers provide very little information. If any, they state neurological, dermatological, ophthalmologic and psychological treatment.

## Discussion and conclusion

I would like to reiterate the main problem in treating children with burns and scalds. Powders, sprays and gels were applied in 1.5 % cases, the used sprays were aku-tol, the powder was framykoin. It is clear that the classical first aid (cooling the wound with running cold water) was applied only rarely. On the contrary, the use of ointments which is not recommended is widespread in our families.

We did not analyze the circumstances of accidents in the Znojmo district in so much detail as in the city. Nevertheless, we can imply some of them. From previous studies we know that in the Znojmo district they use solid fuels more often than in Brno and children can gain access to open fire more easily. Another known difference is the lower age of mothers in Znojmo on the one hand and the higher average number of children in families on the other. There are more farms in the Znojmo district and the people live with their parents or grandparents more often. Mothers have more duties and this may be why they often leave their children to siblings or grandparents, later they give them more freedom than mothers of children who live in the city. All this increases the risk of accident.

In this paper we describe a number of characteristics related to a chapter in the specific accident morbidity in the youngest children. Burns and scalds along with injuries caused by falls are the most frequent in children and it is surprising that their incidence has never been studied more closely in the children's population.

Thanks to the mothers participating in the ELSPAC study we have a chance to get to know these risks better in terms of their range and situations where they are the highest.

The findings in the population of city and country children are valid for the sur-

veyed population but they offer a certain possibility to draw general conclusions – estimates for the situation in this problem in other places.

In this place there should be a sophisticated discussion comparing our data with other. Unfortunately, no information of this type is available at the time being and we cannot compare. In this respect our data has to be taken as primary. From our findings it is possible to assume to what extent such results from other places might differ from ours. Child accident indicators for burns and scalds have a predictive value in some conditions, if we view them as variable and probability indicators.

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**Table 1:** Burns and scalds

Numbers of surveyed children by gender and residence (BO-Brno, ZN-Znojmo district) in age periods up to 5 years

Numbers and proportions of children with recorded burns and scalds, by gender and residence in age periods up to 5 years

Age	Boys	a) Nos. of surveyed children			b) Nos. and proportions of children with burns and scalds						
		BO	ZN	BOZN	BO		ZN		BOZN		p
Residence	Girls	n	n	n	n	%	n	%	n	%	
	Together										
0 – 6 months	p	1897	519	2416	9	0,45	6	1,16	15	0,62	ns
	Boys	1757	497	2254	10	0,57	7	1,41	17	0,75	±
	Girls	3654	1016	4670	19	0,52	13	1,28	32	0,68	0,01
	Together					ns		ns		ns	
6 - 18 months	p	1693	199	1892	218	12,88	31	16,32	249	13,16	ns
	Boys	1567	181	1748	146	9,32	18	9,94	164	9,38	ns
	Girls	3260	380	3640	364	11,17	49	12,89	413	11,35	ns
	Together					0,001		ns		0,001	
18 m.- 3 y.	p	1632	247	1879	251	15,38	39	15,79	290	15,43	ns
	Boys	1509	239	1748	188	12,46	31	12,97	219	12,53	ns
	Girls	3141	486	3627	439	13,98	70	14,40	509	14,03	ns
	Together					0,025		ns		0,025	
3 – 5 years.	p	1541	308	1849	110	7,14	35	11,36	145	7,84	0,025
	Boys	1471	299	1770	115	7,82	23	7,69	138	7,80	ns
	Girls	3012	607	3619	225	7,47	58	9,56	283	7,82	±
	Together					ns		ns		ns	
0 – 5 years	p	1691	318	2009	147	8,69	28	8,80	175	8,71	ns
	Děvčata	1576	304	1880	115	7,30	20	6,58	135	7,18	ns
	Spolu	3267	622	3889	262	8,02	48	7,72	310	7,97	ns
	p					ns		ns		±	

±: p close to the level of 5% statistical significance

**Table 2:** How many times were the children burnt or scalded in individual age periods by residence and gender

Age	Place	<i>How many incidents of burns and scalds there were</i>											
			1x	2x	3x	4x	5x	6x	8x	9x	Burns	Children	N/A
0-6 months	Brno	CH	9	.	.	.	.	.	.	.	9	9	
		D	9	.	.	.	.	.	.	.	9	9	1
		CH+D	18	.	.	.	.	.	.	.	18	18	
	Znojmo	CH	6	.	.	.	.	.	.	.	6	6	
		D	5	2	.	.	.	.	.	.	9	7	
		CH+D	11	2	.	.	.	.	.	.	15	13	
6-18 months	Brno	CH	174	33	3	.	.	.	.	.	249	210	8
		D	129	12	3	1	.	.	.	.	166	145	1
		CH+D	303	45	6	1	.	.	.	.	415	355	
	Znojmo	CH	25	4	2	.	.	.	.	.	39	31	
		D	13	3	.	.	1	.	.	.	24	17	1
		CH+D	38	7	2	.	1	.	.	.	63	48	
18-36 months	Brno	CH	194	42	8	.	1	1	.	.	313	246	5
		D	149	28	8	1	.	.	.	.	233	186	2
		CH+D	343	70	16	1	1	1	.	.	546	432	
	Znojmo	CH	25	11	2	.	.	.	.	.	53	38	1
		D	25	5	1	.	.	.	.	.	38	31	
		CH+D	50	16	3	.	.	.	.	.	91	69	
36-60 months	Brno	CH	79	24	4	.	1	.	2	.	160	110	
		D	75	25	4	.	1	1	8	1	221	115	2
		CH+D	154	49	8	.	2	1	10	1	381	225	
	Znojmo	CH	26	8	1	.	.	.	.	.	45	35	
		D	13	6	2	.	.	.	.	.	31	21	
		CH+D	39	14	3	.	.	.	.	.	76	56	

Under N/A: number of children with unknown number of burns

**Table 3:** Burns and scalds in children – accidents situations and circumstances at the age up to 5 years. Place of accident

Age	0 – 6 m		6 – 18 m		18 m – 3 y		3 – 5 y		Total	
<b>Number of cases</b>	<b>18</b>		<b>415</b>		<b>546</b>		<b>381</b>		<b>1360</b>	
<b>Place of accident:</b>	n	%	n	%	n	%	n	%	n	%
<b>Home</b>	17	94,4	372	92,5	462	90,4	212	78,2	1063	88,4
of this:	Kitchen and kitchenette		265		364		61		701	
	Bathroom. garage. boiler room		23		15		5		45	
<b>Place of recreation</b>	-		14	3,5	13	2,5	30	11,1	57	4,7
<b>Near home</b>	1	5,6	11	2,7	25	4,9	12	4,4	49	4,1
<b>Other</b>	-		5	1,2	11	2,2	17	6,3	33	2,7
<b>Total</b>	<b>18</b>	<b>100,0</b>	<b>402</b>	<b>100,0</b>	<b>511</b>	<b>100,0</b>	<b>271</b>	<b>100,0</b>	<b>1202</b>	<b>100,0</b>
<b>% incidents</b>		<b>100,0</b>		<b>96,9</b>		<b>93,6</b>		<b>71,1</b>		<b>88,4</b>

**Table 4:** Burns and scalds in children – accidents situations and circumstances at the age up to 5 years. How the accident happened

Child - age	0 – 6 months		6 – 18 months		18 m – 3 y		3 – 5 years		Total	
<b>Number of incidents</b>	<b>18</b>		<b>415</b>		<b>546</b>		<b>381</b>		<b>1360</b>	
<b>How the accident happened:</b>	n	%	n	%	n	%	n	%	n	%
<b>A) touching something</b>	7	46,7	232	58,1	198	49,0	111	48,5	548	52,3
<b>B) leaning on something</b>	2	13,3	52	13,0	79	19,6	23	10,0	156	14,9
<b>C) scalding</b>	6	40,0	52	13,0	25	6,2	19	8,3	102	9,7
<b>D) pulling something hot on themselves</b>	.	.	41	10,3	40	9,9	21	9,2	102	9,7
<b>E) other</b>	.	.	22	5,5	62	15,3	55	24,0	139	13,3
<b>Total</b>	<b>15</b>	<b>100,00</b>	<b>399</b>	<b>100,00</b>	<b>404</b>	<b>100,00</b>	<b>229</b>	<b>100,00</b>	<b>1047</b>	<b>100,00</b>
<b>% incidents</b>		<b>88,3</b>		<b>96,1</b>		<b>74,0</b>		<b>60,1</b>		<b>77,0</b>

**Table 5:** Burns and scalds in children - accidents situations and circumstances at the age up to 5 years. With what was the child burnt or scalded

Age	0 – 6 m		6 – 18 m		18 m – 3 y		3 – 5 y		Total	
Number of incidents	18		415		546		381		1360	
With what was the child burnt, scalded:	n	%	n	%	n	%	n	%	n	%
<b>Electrical appliances</b>	8	47.0	148	36.6	250	49.0	103	38.4	509	42.4
<b>Heaters, stoves, cookers</b>	1	5.9	128	31.7	115	22.5	48	17.9	292	24.4
<b>Liquids and food</b>	6	35.3	104	25.7	102	20.0	57	21.3	269	22.4
of this:	Hot water	1		20		17		25		63
	Soup	2		11		29		2		44
	Hot drinks	3		62		49		25		139
	Hot food	-		8		6		3		17
<b>Open fire</b>	-		19	4.7	26	5.1	38	14.2	83	6.9
<b>Hot dishes</b>	2	11.8	-		3	0.6	14	5.2	19	1.6
<b>Light bulb, electrical current</b>	-		4	1.0	6	1.2	4	1.5	14	1.2
<b>Engines, tools</b>	-		1	0.2	7	1.0	2	0.7	10	0.8
<b>Other</b>	-		-		1	0.2	2	0.7	3	0.3
<b>Total</b>	<b>17</b>	<b>100.0</b>	<b>404</b>	<b>100.0</b>	<b>510</b>	<b>100.0</b>	<b>268</b>	<b>100.0</b>	<b>1199</b>	<b>100.0</b>
<b>% incidents</b>		<b>94.4</b>		<b>97.3</b>		<b>93.4</b>		<b>70.3</b>		<b>88.2</b>

**Table 6:** Burns and scalds in children - accidents situations and circumstances at the age up to 5 years. Body injuries caused by burning or scalding

Age	0 – 6 m		6 – 18 m		18 m – 3 y		3 – 5 y		Total	
Number of incidents	18		415		546		381		1360	
What injury was suffered:	n	%	n	%	n	%	n	%	n	%
<b>Head</b>	1	12.5	14	4.9	8	2.2	3	1.7	26	3.1
of this:	Nose and lips	-		10		7		3		21
	Eye and eyelids	1		1		-		-		2
<b>Trunk</b>	-		30	10.5	16	4.4	2	1.1	48	5.7
of this:	Front	-		23		6		2		31
	Back and sides	-		7		10		-		17
<b>Upper extremities</b>	3	37.5	232	81.4	282	77.5	148	82.2	665	79.5
of this:	Shoulders, arms, forearms	-		-		4		1		5
	Palms	3		142		160		109		414
	Fingers	-		90		118		38		246
<b>Lower extremities</b>	-		5	1.8	12	3.3	7	3.9	24	2.9
of this:	Thigh	-		2		3		2		7
	Shin	-		3		8		4		15
	Foot	-		-		1		1		2
<b>More places</b>	4	50.0	3	1.1	46	12.6	18	10.0	71	8.5
<b>Sunburn</b>	-		1	0.4	-		2	1.1	3	0.4
<b>Total</b>	<b>8</b>	<b>100.0</b>	<b>285</b>	<b>100.0</b>	<b>364</b>	<b>100.0</b>	<b>180</b>	<b>100.0</b>	<b>837</b>	<b>100.0</b>
<b>% incidents</b>		<b>44.4</b>		<b>68.7</b>		<b>66.7</b>		<b>47.2</b>		<b>61.5</b>

**Table 7:** Burns and scalds in children - accidents situations and circumstances at the age up to 5 years. Person present at the time of accident

Age	0 – 6 m		6 – 18 m		18 m – 3 y		3 – 5 y		Total	
Number of incidents	18		415		546		381		1360	
Who was with the child at the time of accident:	n	%	n	%	n	%	n	%	n	%
Mother alone	7	43.8	272	67.5	370	75.8	169	64.8	818	70.0
Mother with one other person	3	18.8	60	14.8	55	11.3	39	14.9	157	13.4
Mother with more other people	-		14	3.5	5	1.0	8	3.1	27	2.3
Other persons without mother	6	37.5	5	12.7	53	10.9	42	16.1	152	13.0
of this:	Father		20		15		13		51	
	Grandparents		22		34		23		80	
Health or pedagogical professionals	-		-		1	0.2	2	0.8	3	0.3
Child alone	-		4	1.0	3	0.6	1	0.4	8	0.7
n/a	-		2	0.5	1	0.2	-		3	0.3
<b>Total</b>	<b>16</b>	<b>100.0</b>	<b>403</b>	<b>100.0</b>	<b>488</b>	<b>100.0</b>	<b>261</b>	<b>100.0</b>	<b>1168</b>	<b>100.0</b>
<b>% incidents</b>		<b>88.9</b>		<b>97.1</b>		<b>89.4</b>		<b>68.5</b>		<b>85.9</b>

**Table 8:** Burns and scalds in children - accidents situations and circumstances at the age up to 5 years. What the present person did with the child

Age	0 – 6 m		6 – 18 m		18 m – 3 y		3 – 5 y		Total	
Number of incidents	18		415		546		381		1360	
What the person did with the child:	n	%	n	%	n	%	n	%	n	%
Nothing	5	29.4	37	8.9	31	6.2	15	5.7	88	7.4
Treated the child himself/herself	7	41.2	291	70.1	391	78.7	215	82.0	904	75.9
Took the child to see a physician	2	11.8	45	10.8	46	9.3	13	5.0	106	8.9
Took the child in hospital	1	5.9	22	5.3	19	3.8	13	5.0	55	4.6
Other	2	11.8	20	4.8	10	2.0	6	2.3	38	3.2
<b>Total</b>	<b>17</b>	<b>100.0</b>	<b>415</b>	<b>100.0</b>	<b>497</b>	<b>100.0</b>	<b>262</b>	<b>100.0</b>	<b>1193</b>	<b>100.0</b>
<b>% incidents</b>		<b>94.4</b>		<b>100.0</b>		<b>91.0</b>		<b>68.8</b>		<b>87.7</b>

**Table 9:** Burns and scalds in children - accidents situations and circumstances at the age up to 5 years. What treatment the person provided

Age	0 – 6 m		6 – 18 m		18 m – 3 r		3 – 5 r		Total	
Number of incidents	18		415		546		381		1360	
What treatment the person provided:	n	%	n	%	n	%	n	%	n	%
Calming down the child	1	12.5	33	9.6	13	3.3	4	1.7	51	5.2
Change of clothes, washing	1	12.5	19	5.5	18	4.5	8	3.5	46	4.7
Rinsing and disinfecting wound	2	25.0	164	47.7	214	53.6	117	51.3	497	50.8
Compression, ice	2	25.0	16	4.7	6	1.5	25	11.0	49	5.0
Powder, spray, gel	-		4	1.2	6	1.5	5	2.2	15	1.5
Ointment, oil	2	25.0	108	31.4	142	35.6	69	30.3	321	32.8
of this:	camomile	-	37		80		21		138	
	Panthenol	2	22		35		33		92	
	framkyoin	-	31		2		5		38	
	other	-	18		25		10		53	
<b>Total</b>	<b>8</b>	<b>100.0</b>	<b>344</b>	<b>100.0</b>	<b>399</b>	<b>100.0</b>	<b>228</b>	<b>100.0</b>	<b>979</b>	<b>100.0</b>
<b>% incidents</b>		<b>44.4</b>		<b>82.9</b>		<b>73.1</b>		<b>59.8</b>		<b>72.0</b>

**Table 10:** Burns and scalds in children - accidents situations and circumstances at the age up to 5 years. What other treatment the child received

Age	0 – 6 m		6 – 18 m		18 m – 3 r		3 – 5 r		Total	
Number of incidents	18		415		546		381		1360	
What other treatment the child received:	n	%	n	%	n	%	n	%	n	%
No further treatment	5	83.3	141	57.6	89	43.8	72	41.4	307	48.9
Hospital	-		10	4.1	6	3.0	6	3.4	22	3.5
of this: Surgery	-		3		2		2		7	
Outpatient with checks	-		28	11.4	28	13.8	18	10.3	74	11.8
At home	1	16.7	66	26.9	80	39.4	78	44.8	225	35.8
of this:	Dressing	-	13		28		19		60	
	Packing	-	4		4		5		13	
	Compression, ice	-	2		6		4		12	
	Ointments, sprays, powders	1		39		41		45		126
<b>Total</b>	<b>6</b>	<b>100.0</b>	<b>245</b>	<b>100.0</b>	<b>203</b>	<b>100.0</b>	<b>174</b>	<b>100.0</b>	<b>628</b>	<b>100.0</b>
<b>% incidents</b>		<b>33.3</b>		<b>59.0</b>		<b>37.2</b>		<b>45.7</b>		<b>46.2</b>

## POPÁLENINY A OPAŘENINY V DĚTSKÉ POPULACI DO 5 LET VĚKU

**Abstrakt:** Úrazy jsou od věku rok nejčastější příčinou smrti u dětí a dospívajících. Jejich dopady nejsou pouze somatické, ale i psychické, sociální, ekonomické, pedagogické apod. Pro vybrané období do pěti let věku patří mezi nejčastější a nejzávažnější poranění popáleniny a opařeniny. Soubor a metody: ve studii ELSPAC referovaly matky brněnských dětí o popáleninách a opařeninách svých dětí za věková období 0–6 měsíců, 6–18 měsíců, 18 měsíců – 3 roky a 3–5 let, vždy na koncích těchto období. U popálenin a opařenin matky mj. odpovídaly, zda k nim v každém sledovaném období došlo, kolikrát to bylo, kde se nehody přihodily, čím se děti popálily či opařily, k jakému zranění tím došlo, kdo byl s dítětem v okamžiku nehody, co s ním udělal, jaké ošetření mu poskytl, jakého dalšího ošetření se dítěti dostalo a jak ke každé z nehod došlo. Výsledky: za sledovaná období bylo odevzdáno postupně 4670 – 3640 – 3627 – 3619 dotazníků, celkem za všechna období 15 556 dotazníků, z Brna jich bylo 13 067, tj. 84,0 %, z okresu Znojmo 2489, tj. 16,0 %. Od matek chlapců jich bylo získáno z obou míst 8036 (51,7 %), od matek děvčat 7520 (tj. 48,3 %): přes nerovnoměrné zastoupení města a venkova ukazovalo sex ratio 1,069 obvyklé pro tento věk. Popáleno či opařeno bylo postupně ve věkových obdobích 32 (0,68 %) – 413 (11,35 %) – 509 (14,03 %) a 283 (7,82 %) dětí obou pohlaví společně. Některé z nich byly v daném věkovém období postiženy opakovaně, takže případů těchto nehod bylo pochopitelně více. Závěr: na podkladě výsledků budou prezentovány možnosti prevence.

**Klíčová slova:** popáleniny, opařeniny, úrazy, prevence, děti do 5 let



# SUGGESTIONS OF WAYS OF APPLYING COMPLEX APPROACH TO THE CREATION OF E-LEARNING COURSES OR TO TEACHING IMPLEMENTED BY COMPUTATIONAL TECHNOLOGY

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Vít MIKULÍK

**Abstract:** *Computational technology has become a current trend in the educational process mainly in higher education. The technology sometimes helps students during their self-study time when they search for additional information concerning the topics discussed in the lesson. In other cases the computers are part of the instruction itself e.g. drawing different kinds of pictures, laboratory experiments, using special software in exercises. There also exists teaching based directly on the use of computer. The method, E-learning, exists in various forms and modifications e.g. Blended learning. We often focus on gaining and acquiring of certain skills and so on in teaching, carried out by teacher, as well as in learning, learner's activity. However, we often forget to perceive the work on computer itself from the complex point of view. That means that not only the skill of work with software, but also health aspects of work on computer are important. This paper deals with the problem and suggests unforced ways leading to observing work hygiene. The paper primarily focuses on creation of E-learning courses; however most of the proposed suggestions are applicable to the use of computers in classic instruction.*

**Key words:** *E-learning, health, proceeding*

## Introduction

Computers and computational technology are currently spreading into almost all aspects of life including education. Pupils learn the basics of Computer Science already at primary school. Many children are already able to operate computers perhaps because they play computer games at home. The educational impact of this kind of activity lies beyond the topic of this paper. Let us conclude that children come across computational technology in very early age. The technology accompanies them during their school attendance if not during their whole life. It should be in parents' and pedagogical work-

ers' interest to insure that computer technology is beneficial for young learners. There are various projects in which specialist focus on this problem. For example there are several schools where computers were as part of experiment integrated into the learning process, etc. The teachers explain the subject of the lesson by using interactive boards and students do not take notes in their notebooks but use their portable computers. Even though the school lacks financial resources to provide each student with a computer, their parents are strongly interested in this kind of education. That is why parents are willing to invest their money in a personal computer so their child can be placed into this special kind of class.

The older the students the more are computers used for gaining information to the topics related to the curriculum. When a student is interested in a topic and he or she wants to explore it in detail, there is nothing easier than enter the right word in the search engine on the Internet. The next possibility of application of computers are exercises in Mathematics or various tasks in learning foreign languages. In addition computers can be used for discussions about the given topic among classmates. We could find many more examples of positive effect of computers on a learner.

Although students have a chance to use computers from early years at primary school, mainly university students use computers to support their learning and carry out their homework like research the sources for their essays. Computers are used also for the process of teaching itself. Typical example of this kind of teaching is teaching with the help of E-learning. There are various forms of E-learning: E-learning in its full form or other variations like Blended learning.

Following paper focuses on designing E-learning courses for university students. The main aim of the paper is to ensure high quality of the courses from many different perspectives.

## **Suggest proceeding**

While preparing an E-learning course it is necessary to consider the question of the target group of the course. Different approach should be applied when designing a course for students under thirty years of age and different approach applies to seniors attending University of the Third Age. Different approach is taken to create courses for healthy students and to in some way handicapped students.

The paper does not deal with designing courses for handicapped students. This is a very specific field for Specific Educational Needs teachers. However, E-learning method is a very beneficial way of learning. It is a great advantage when a student is not able to attend traditional teaching process can continue in his learning process by way of E-learning or other method using a computer. In case of less serious illness a student can join his or her classmates and continue in his education as if he or she did not miss any classes. In case of more serious illnesses the computer has a positive effect on the patient's psyche that could, in the end, lead to the improvement of the patient's state of health. At the same time the patient can use computer to continue in his or her studies, which to a certain extent, avoids breaking all social ties with school friends. We can observe the positive effect not only on the side of the ill student but also on his or her friends. They can realise that the nowadays celebrated symbol of young, healthy and

beautiful man is just an illusion which could disappear in a split second in which one becomes disabled.

The target group of the paper is relatively healthy university student under thirty years of age. Once this question has been settled we can proceed further. E-learning course should be designed according to the general principles of pedagogy. We need to follow for example the principle of proportionality, the principle of progress from simple to more complex issues, etc. In addition to these factors it is necessary to take into the account the financial factor: economic return, etc. Health aspect is an inseparable component of an E-learning course, too. Working on computer means following the principles of work hygiene.

The first and the most important principle we need to follow when participating on an E-learning course is from the health aspect the prevention. This aspect is very often neglected since everyone has basic knowledge from this field and does not want to admit that it is not satisfactory. Failing to observe basic principles of work hygiene might become evident only after a longer period of time, which leads to overseeing this problem. Introducing an introductory course in work hygiene at the beginning of the E-learning course itself might solve this problem. A student would be familiarised with the correct way of sitting at the computer, holding the computer mouse, what angle is the most convenient to look at the computer screen and other advice related to the topic. The course would be concluded by a test and only after passing the test the student would be able to access the learning material in the E-learning course. The test should be quite simple as its purpose is not to test the student's knowledge in detail but to make the learner to think about the health aspects of work at computer. Important fact is that the designers of an E-learning course offer the possibility to learn about the protection of the health while working at computer and it is the student's own decision whether or not he or she uses this possibility.

The next suggestion how to improve an E-learning course from the health point of view is to split the course into appropriately long blocks. What do we understand under "appropriately long block"? The main principle of E-learning courses is that every student can determine the time he or she spends studying each component of the course. That is why when designing this kind of course it is necessary to assess approximate time needed for study for example according to the previous experience. When upgrading the course it is already possible to take into consideration the times of the previous students. It is necessary to point out that most of the E-learning platforms like Moodle enable to observe the amount of time the students devoted to each item in the course. To be more precise, how long they were connected to each item, since they could also print some parts it is necessary to make a reductive assessment. Each block of study should be designed in a way that they are not too long and the student does not have to face the dilemma whether to make a break and this way loose the context of the learning material or rather skip the health break and thus risk his own health.

The next field where it is possible to improve the health aspects of E-learning courses is in operating of the hardware. The solution to this on the first sight debatable solution was inspired by in automotive industry, Internet connection or other fields like diving, where an instrument measures the time and the depth of the submersion.

Some automobiles are equipped with a system, which reminds the driver to fasten his seatbelt. It is possible to fully operate the car while the seatbelt is not in place, however the car makes unpleasant noise, which stops as soon the seatbelt is fastened. When we look at the case of change of the oil in a common car, the owner has to watch over the time when it is necessary to change the oil depending on the kilometres made and the time of the last oil change. Other automobiles, usually the more expensive ones, have a built in system, which monitors the oil and informs the driver when it is necessary to change it. When the time comes the driver can have the oil changed in a garage. If the driver ignores the oil change indicator the car fully works on, however, after a certain time it is not possible to start the car and the driver is thus forced to look after the technical state of the car. These precautions are introduced due to the security concerns.

Another example is from the field of Internet connection. Internet providers offer their customers various connection tariffs. Many of them are based on the fact that the high data transfer speed is limited to a certain amount of data. After exceeding this limit the transfer speed is temporarily reduced. This policy is called FUB (fair user policy).

These examples could serve as an inspiration for at the first view distant field of designing E-learning courses. Computer software would observe the time the student dedicates to uninterrupted study of a certain block. In case of excessive time of study the student would be advised to make a break. When the student ignores the warning and continues to work the E-learning course would slow down the computer and it would make an unpleasant noise. Naturally, it is necessary to consider whether the time that the program assesses is the actual time spent on continuous study. If an E-learning course contains documents in PDF format it is not possible to determine whether the student spent the whole time studying or whether he made a break and just left the running program. That is why the suggested method only works when we eliminate this problem. Interactive learning where it is automatically possible to trace the time of uninterrupted learning could be the solution to this problem.

## Conclusion

In conclusion, when designing E-learning courses it is essential to look at the process globally through the optics of other scientific disciplines. Health aspect is an important feature to be considered when creating a course using a computer. Each course should be designed in respect of the health principles. Prevention is essential. However, it is possible to take safety precautions to protect the learner's health. One of the main features of E-learning is that the student takes over the responsibility for the learning process as well as for the health protection. That is why we hope to create suitable conditions to protect health and not to force him/her to protect his/her health.

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# NÁVRHY JAK KONKRÉTNĚ UPLATNIT KOMPLEXNÍ PŘÍSTUP PŘI VYTVÁŘENÍ E-LEARNINGOVÝCH KURZŮ ČI VÝUCE USKUTEČŇOVANÉ PROSTŘEDNICTVÍM VÝPOČETNÍ TECHNIKY

**Abstrakt:** Současný trend v edukačním procesu, zejména pak na vysokých školách, je mimo jiné charakterizován stále větším využíváním výpočetní techniky. Někdy se jedná o pouhé samostudium studentů, kdy třeba na internetu vyhledávají informace k tématům probíraným ve škole. Jindy jsou však počítače přímo součástí vlastní výuky. Například při rýsování obrázků různého charakteru, v laboratorních cvičeních, při používání speciálního softwaru ve cvičeních apod. Kromě toho však existuje i výuka založená přímo na používání počítače. Tím je myšlen E-learning v různých jeho podobách a variantách (např. Blended learning). Při výuce jakožto činnosti učitele stejně tak i při učení se jakožto činnosti studujícího se příliš často zaměřujeme pouze na získávání a osvojování si určitých kompetencí apod., ale zapomínáme, že je třeba se věnovat i samotné práci u počítače, a to v komplexním pohledu. Tedy nejen ovládání softwaru, ale také třeba zdravotní hledisko studia u počítače. Příspěvek se věnuje právě této problematice. Popisuje návrhy, jak studujícího nenásilnou formou přimět k dodržování pracovní hygieny. Příspěvek se primárně zaměřuje na tvorbu E-learningových kurzů, ale mnohé z navržených podnětů lze aplikovat i při využívání počítačů v běžné výuce.

**Klíčová slova:** E-learning, zdraví, opatření



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