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Social and Health Aspects of Health Education

Evžen Řehulka et al.

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INTRODUCTION

The publication *Social and Health Aspects of Health Education*, issued within the Research Intent SCHOOL AND HEALTH FOR 21st CENTURY of Faculty of Education, Masaryk University, is another set of works that have been elaborated since 2005 by solution issues of relation of “school“ and “health“. Health as one of basic human priorities must be projected to programs of institutionalized cultivation of human beings represented by contemporary school. Responsibility for health is often discussed – but it is necessary to educate humans about their responsibilities. In this page we could bring more arguments for supporting need to study relation of “school“ and “health“ but we suppose it is better to refer to next pages of this publication.

In this introduction we would like to remind a new quality in health education, namely using computer technologies, which offers possibilities that are not nearly fully used in this field (see *J. Poráčová et all.*). Those new technologies can bring also negative effects, often we can speak about a certain non-drug-addiction, e.g. the mobile phone addiction (*M. Bucková*). Health education can bear both “small“ and “great“ topics. Ecological/environmental education we consider to be of a great relevance; it was studied by *H. Horká* and *Z. Hromádka*.

In health education the teacher’s personality plays an important and, by our findings, still not evaluated role. *S. Střelec* a *J. Krátká* traced tasks of class teachers and perceiving of the teacher by pupils as a prerequisite for real health education. *E. Řehulka* tried to apply analysis of personal stories for a deeper study of teacher’s personality; this method was used also by *M. Pavlovská* with regard to explication possibilities. In studying teachers there are important questions, however still considered with marginal attention: e.g. voice condition and principles of voice hygiene (*J. Frostová*), also using knowledge and experience of music therapy (*J. Gajdošíková Zeleiová*).

In spite of necessary holistic understanding of health, some research workers are focused more on individual components of health, with presumption that school must be engaged in prevention of mental and social health. Here the way to solution can be in cultivating “healthy“ relationships in social behaviour of teachers and pupils. A certain attempt to define of the “healthy“ relationship and its attributes is presented by *J. Řezáč*. Psychology solves this issue often in context of studies of social climate, here demonstrated in the research work of *J. Veselá* and *J. Strach*. Pupils and students are able to evaluate quality of a social climate but they are not a single determining force. Escalation of negative factors in school social environment can support existence of bullying. This phenomenon is not a new one but lately it is studied with a new intensity. This orientation proved to be suitable, which can be demonstrated in important results of studies performed by *M. Blahutková* and *M. Charvát*.

One of significant parts of health education is nutrition. It belongs to obviously interdisciplinary fields where a more substantial role of school should be supported; therefore any conceptual and research works are valuable. *J. Veselá* and *H. Staňková* dealt with eating habits of pupils at primary school. Analogical topics was studied by *I. Pavelková* and *V. Peterková* for Slovak Republic; in another text the authors asked the question whether the Slovak youth is obese – similarly as social pediatricists do in all developed countries of the world. Many problems of human sciences can not be appropriately seized without accepting gender criteria. The gender and food intake disorders were studied by *L. Zormanová*. *D. Holubová* prepared real instructions for teachers to support healthy lifestyle by using a project education for bio-foods. *B. Matejovičová et al.* presented research results on problems of nutrition of adolescent girls as a part of healthy lifestyle influencing somatic development. Recent changes in health care system lead sometimes to unintentional neglect of problems formerly handled by other means, e.g. keeping oral cavity hygiene as noticed by *M. Taliánová*. *K. Poslušná*, *H. Matějová* and *V. Březková* used similar methods for presentation of risk factors of adolescent girls osteoporosis.

Contemporary school must work with such information and fulfils such tasks that belonged formerly to the competence of the health care system only. *D. Zámečníková*, *P. Kachlík* and *I. Vaňurová* solved education of pupils suffering from chronic or other serious illnesses. The information manual on diabetic pupils was created by *M. Havelková*, *P. Kachlík* and *H. Hájková* to provide guidance for teachers. *T. Doležal* offered possibility of dramatic education in the educational project on epilepsy. Specific questions of child nutrition quality were studied by *A. Dostál*, *Ľ. Jakešová* and *J. Čajdová*.

The publication ***Social and Health Aspects of Health Education*** offers a wide and various spectrum of information on health education in the contemporary school system and a lot of effective procedures for prevention and therapeutic cooperation in the health care area. In this title we also introduce the corresponding part of one solution phase of the Research Intent SCHOOL AND HEALTH FOR 21st CENTURY realized by Faculty of Education, Masaryk University.

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SCHOOL AND HEALTH FOR THE 21st CENTURY
MSM0021622421

MODERN INFORMATION AND COMMUNICATION TECHNOLOGIES AND THEIR IMPACT ON CHILDREN AND YOUTH HEALTH

*Janka PORÁČOVÁ, B. TAYLOROVÁ, M. ZAHATŇANSKÁ,
I. ŠUTIAKOVÁ, M. BLAŠČÁKOVÁ*

Abstract: *The purpose of our study was to investigate the frequency of the use of modern information and communication technologies in relation to children and youth health problems. The research of girls and boys ages 13–14 and 17–18 was conducted at the Secondary Grammar School in Presov District. The results obtained via questionnaire suggest that all observed children and youth have been using computers for longer period than four years. The final outcomes showed no significant increase in health problems of 13–14 year-old children, the youth at the age 17–18 indicated the increase in problems related to bad posture, a need of glasses or feeling of eye fatigue.*

Key words: *information and communication technologies, health, education proces*

Introduction

Modern information and communication technologies have been introduced in all scopes of communication, marketing, banking industry as well as in education system. Multimedia computer with a suitable didactic software has been a natural part of educational programs providing the access to new information. Learning proces is then more attractive and interesting for both students and teachers. Functional literacy, ability to use modern information and communication technologies has become an integral part of life of an individual and society. (Dargová, 2001).

Technological conceptions emphasize the improvement of information intermediation via suitable technologies that supply human interaction with the real-world. Educational technology studies the proces of organization of pedagogical environment. Technological theory focuses on the application of a theory of learning system as well as the use of hypermedia tools and methods in education realm mostly in the area of interaction variety, creation of open models, environment independent on mediated content, cooperative education and multimedia presentation of information. (Ganajová et al., 2006).

The integration of ICT depends on certain didactic situation, certain subject field throughout which using appropriate methods set goals are achieved. How the personal development of a student will be affected depends on the use of computer didactic functions – motivational, informative, managerial and rationalistic (Schellenberger, 1991).

Together with the proces of ICT implementation in schools as well as at homes increase also the problems concerning the effects of such technologies on health condition of young generation. (Kimáková, 2003). It is also the result attributed to dipropionate amount of time devoting to ICT usage during the whole day.

Our study focused on investigation of a frequency of computer usage as well as health problems related to prolonged use of ICT equipment.

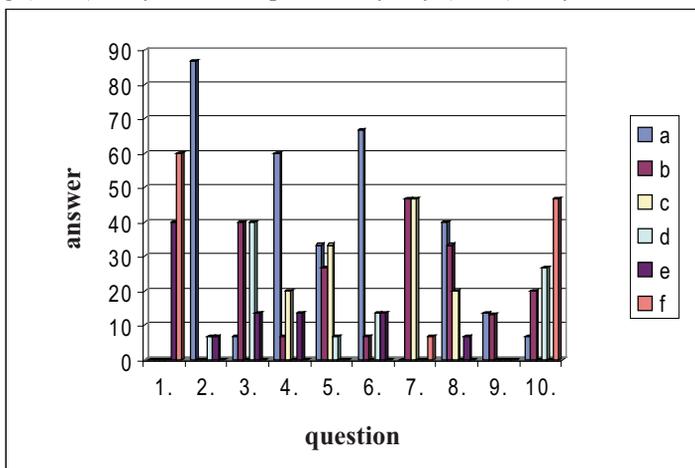
Materials and Methods

Students in our study were considered and evaluated according to their age (13–14 and 17–18) and gender (boys and girls). The questionnaire was provided to 15 girls and 38 boys (total number of 53 students) ages 13–14 and 48 girls and 32 boys (total number of 80 students) ages 17–18 years. Questionnaire consisting of 10 questions focused on investigation of work extent and time to which a computer was actually being used among observed children and youth in the last four years as well as health problems related to computer usage.

The survey was conducted on students of Secondary Grammar School in Poprad (Prešov District). The final results were expressed at percentage.

Results and Discussion

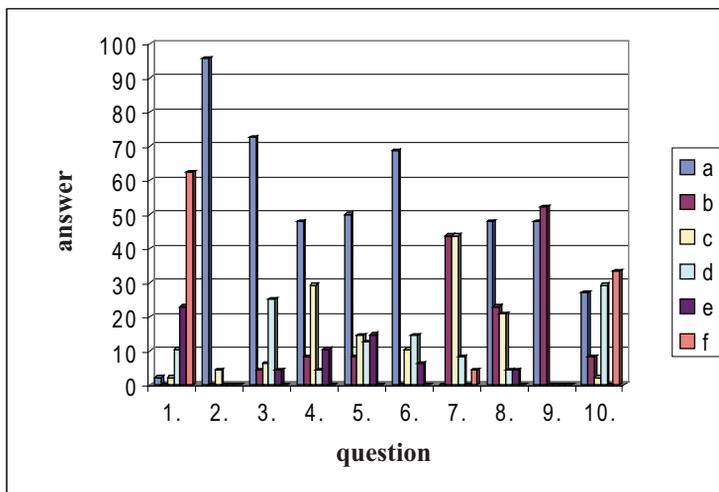
The results were obtained via questionnaire (Enclosure 1). Girls at the age of 13–14 have been using a computer for longer period than 4 years (60%), mostly they have computer acces at school (86.6 %), at home they use computers for playing games and chatting (40 %), they use a computer every day (60 %), they use the Internet daily



Graph 1: Results for girls ages 13–14 years

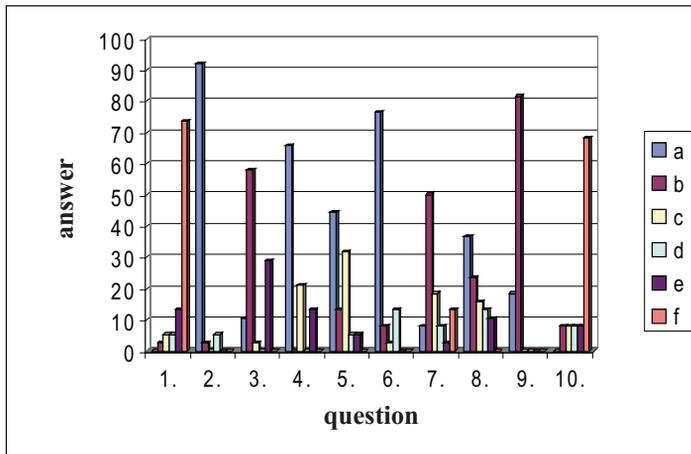
(33.3 %), once a week (26.7 %) or several times per week (33.3 %), mostly they connect to the Internet (66.7 %), at school they use a computer mainly in classes of physics (46.65 %) and biology (46.65 %), 40 % of girls usually spend on a computer for one hour per day, most of the respondents do not wear glasses (86.7 %) and have no health problems (46.6 %) – graph 1.

Girls ages 17–18 years have been using computers for more than 4 years (60%), mostly they have computer access at school (86.6 %), 64.6 % of girls use a computer for learning , 47.9 % of girls work on a computer daily and 29.2 % of them at least few times per week only during working days. They use the Internet every day (50 %), few times per week (14.6 %) or per month (14.6 %). Mostly they have internet access at home (68.7 %) or at their relatives‘ or friends‘ home (14.6 %), at school they use a computer in the classes of physics (43.7 %) and biology (43.7 %), they work on a computer one hour per day (47.9%), there is a minimum difference (4.2%) between the number of girls ages 17–18 who wear glasses (47.9 %) and who do not (52.1 %). 27.1 % of questioned girls indicated postural changes, 8.3 % girls suffered from a headache, 29.2 % girls feel eye fatigue and 33.3 % of girls mentioned no health related issues (graph 2).



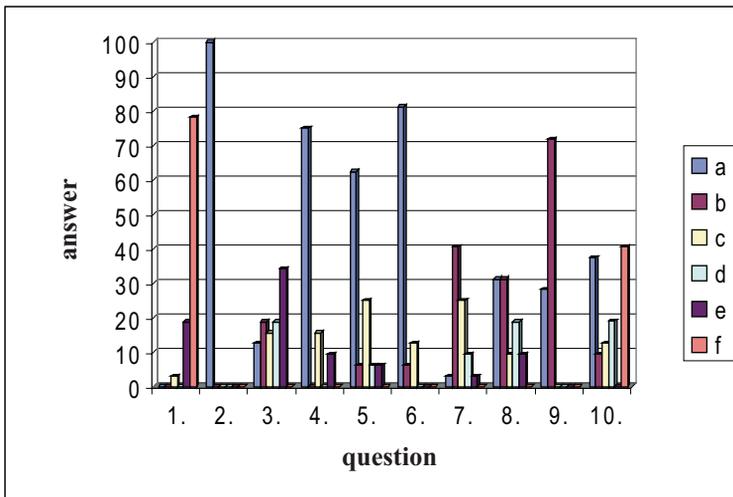
Graph 2: Results for girls ages 17–18 years

Boys ages 13–14 years reported computers usage for more than 4 years (73.6 %), mostly they have computer access at school (92.1 %), at home they use a computer mainly for playing games (58 %), they work on a computer every day (65.8 %), they use the Internet daily (44.6 %), few times per week (31.6 %). 76.3 % of boys access the Internet at home, 13.2 % of boys at relatives‘ or friends‘ homes . At school they perform a task on a computer mainly in physics (50 %), less in biology classes (18.4 %). 36.8 % of boys use a computer for one hour per day, most of the respondents do not wear glasses (81.6 %). The majority of the questioned boys did not complain about any health problems (68.4 %), 7.9 % boys recorded equal complaints about watering of eyes, headache and eye fatigue (graph 3).



Graph 3: Results for boys ages 13-14 years

Likewise in the previous groups, boys at the age 17-18 years (n=32) have been using a computer for more than 4 years (78.1 %), 100 % of boys work on a computer at school, the majority of boys use a computer for other activities than learning (34.3 %), they work on a computer daily (75 %), they use the Internet every day (62.4 %), 81.2 % of boys usually access the Internet at home, they use a computer at school in physics (40.6 %) and biology lessons (25 %). They work on a computer for 0-1 hour per day (31.2 %), the same percentage (31.2 %) of boys use a computer for 1-2 hours per day. 28.1 % of questioned boys wear glasses, 71.9 % do not need glasses. 28.1 % boys reported problems concerning postural changes, 6.3 % boys suffered from a headache, 9.4 % noticed the increase of watering of eyes, feeling of eye fatigue occurred in 18.8 % of questioned boys, 37.4 % of boys reported no harmful effects related to computer usage (graph 4).



Graph 4 : Results for boys ages 17-18 years

Conclusion

Our survey via questionnaire suggests that all questioned girls and boys have been using computers for longer period. There are no significant changes in health condition of 13–14-year-olds. 17–18 year-old youths indicate the increase in problems related to the postural changes and eyes problems resulting in a need of glasses and feeling of eye fatigue.

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MODERNÉ INFORMAČNÉ A KOMUNIKAČNÉ TECHNOLÓGIE VO VZŤAHU K ZDRAVIU DETÍ A MLÁDEŽE

Súhrn: V práci sme sa zamerali na zistenie intenzity využívania moderných informačných a komunikačných technológií vo vzťahu k zdravotným problémom detí a mládeže (chlapcov a dievčat) 8- a 4ročného gymnázia v Prešovskom kraji, vo vekových kategóriách 13-14 a 17-18 rokov. Dotazníkový prieskum poukázal na viac ako 4ročné využívanie výpočtovej techniky vo všetkých sledovaných vekových kategóriách. U dievčat a chlapcov vo veku 13-14 rokov sa zatiaľ nevyskytujú vo zvýšenej miere zdravotné problémy, u 17-18ročných chlapcov a dievčat narastajú problémy súvisiace s nesprávnym držaním tela, prípadne používaním okuliarov a pocitom únavy očí.

Kľúčové slová: informačné a komunikačné technológie, zdravie, edukačný proces

IS A NEW NON-DRUG ADDICTION EMERGING?

Exploring problematic mobile phone use and treatment suggestions based on the Cognitive – Behavioural model

Michaella BUCK

Abstract: *Mobile addiction, a relatively modern phenomenon that has been developed with the recent advancement of mobile technology, is discussed. The negative aspects of this addiction (financial, social etc.) are presented. The core of the paper focuses on the therapeutic programme based on Cognitive – Behavioural Therapy principles.*

Key words: *mobile telephones, psychological dependency, Cognitive – Behavioural Therapy.*

Mobile phone technology is becoming increasingly more widespread. The number of people owning mobile phones is increasing yearly and so is mobile use. It is estimated that in Australia there are about 18 million users, a percentage that comprises more than 80 % of the population which means that 8 in 10 people own mobile phone. Increase in the usage of mobiles is clearly indicated by an overall increase in the number of sms. Statistics indicate a 44 % increase in the number of messages from 2002 to 2003 (Allen Consulting Group, 2004). Another astonishing statistics by Vodafone shows an increase of sms from 200 billion in 2000 to 366 billion by 2002. These numbers show that mobiles and sms are more popular than one may think, and they are not restricted to adults. Various studies on mobiles are focused on young children because they are believed to be more affected by the radio waves and the low frequency magnetic fields. A similar study indicates that 6 % of 9 and 10 year – olds in Germany use mobile phones for making calls daily (Schuz, 2005).

Problematic use of mobile phones: link to abuse, dependency, compulsivity

Not much psychological research has been done to directly address the maladaptive and excessive use of mobiles; therefore the issue is very often approached in the

context of traditional substance dependence. A person who is **physiologically dependent** on a drug requires an increasing amount of the drug to have a desirable effect. Thus, it is said that the person develops tolerance and shows withdrawal symptoms if the substance is stopped (Barlow, Durand, 2005). Physiological dependence though is not always enough to maintain an addiction especially in non-drug addictions such as the case of mobile phones. Psychologists argue that there is something called **psychological dependence**. This is another definition of addiction, which allows psychologists to measure dependence on things other than drugs. Therefore we talk about addiction to chocolate, sex, mobiles etc. According to Barlow, Durand (2005, p. 381–382) psychological dependence measures the level of addiction of an individual based on their “drug-seeking” behaviours, the behaviours which they engage to acquire and use the “drug” or the object of their addiction. However, further research needs to be done in the area of non-drug addictions to formulate an accurate definition of dependence.

Mobile dependence has also been linked by some researchers to obsessive compulsive disorder although it is still uncertain how and if it is related.

Etiology

Unfortunately, there has not been extensive research in the etiology of mobile addiction since it is a new phenomenon. It is suspected that biological factors may play a role (Schuz, 2005), but research is not certain at this point. Unlike drug and food addiction, mobiles are not substances that directly cause a change in the chemicals of the brain. The psychological influence that mobile use has on people and their emotions though may have an effect on their neurobiology, but we cannot be certain at this point. It may be the case that non-drug addictions affect the brain’s “pleasure pathways” just as it happens with various drugs, thus positively reinforcing the person to continue engaging in the addictive behavior.

Psychological factors are perhaps one of the most important causes of mobile addiction. Positive and negative reinforcement are regarded a major factor, as they work just as they work for other forms of addictions. A cognitive factor discussed in the addiction literature is *expectancy effect*. If people think that mobiles will have a positive effect in their lives such as enhance their social life, they may be more likely to develop an addiction to it. In contrast, people who may view the use of mobiles as a waste of time and money are not prone to developing an addiction to it.

Social and cultural factors may also play a role, as peers, media and advertising in general influence our opinions and beliefs. Although research needs to be done to prove it, it seems that among the young generation mobiles are becoming the new fashion after cigarette smoking.

Negative effect of addictive mobile use

One of the primary concerns regarding the negative effects of addictive mobile use is definitely financial cost. Also, social relationships are bound to fail when the person constantly calls or sends sms to someone else. Addiction can be a work problem if the person spends hours on mobile. Psychologically, the person may also suffer from such an addiction, as the stress and the anxiety involved can make a person completely

dependent on it. The effects of excessive mobile use on health are not clear yet, but they cannot be positive. Another problem represents mobile use while driving as it is qualified as a risk-taking behaviour. British psychologists warn that texting messages impoverishes the English language. Clearly, there are many negative consequences from addictive mobile use and therefore psychologists will have to find ways to treat this new type of addiction.

Research

In our research, we have looked at the addictive consumption of mobile technology. We examined the characteristics of dependent users, factors that increase mobile use as well as the negative effects of the maladaptive use. Subjects in the research were 35 university students who spend daily talking or messaging on their phones 1,5–5 hours.

In the first phase of the research all participants answered the **Self-report**, the focus of which laid in several areas. The first area mapped students' **attitudes** towards mobiles. All participants expressed the following attitudinal characteristics: a) the mobile was considered very important in their lives, b) the mobile was important for their self-identity, c) they worried that the peer group will exclude them if they did not use mobiles. The second area identified the **behavioural manifestation** of the previous attitudes. Several characteristics were typical for our participants: impulsiveness to use the mobile, tension prior to mobile use, withdrawal symptoms etc.

Our research confirmed the findings by Bianchi & Phillips (2005) showing an interesting pattern in linking high use of the mobile phone and low self-esteem and extraversion. In our research, these two characteristics were measured by The Rosenberg's Self-Esteem Test and Eysenck's EOD test. Students with low self-esteem and extroverted were more likely engaged in problematic mobile use. As extroverted students need more social contacts than introverted, it can be expected that they will saturate this need also by phoning and messaging others. We also hypothesize that students with low self-esteem would rather communicate over the phone or messaging that is not so anxiety – provoking as a direct contact face to face.

Cognitive-Behavioural Therapy

After this faze, the therapeutic faze has started. We worked in the frame of Cognitive – Behavioural Therapy (CBT) which is a comprehensive approach based on numerous techniques integrated into the conceptual model aimed to help a therapist in the work with a client (Dobson, 2001). As CBT is a hybrid of cognitive and behavioural strategies which aim to change behaviours and cognitions. It helps people to create constructive and adaptive attitude to problem solving, and to realize the meaning they give to situations and emotions. In other words, to reveal the meaning of their own cognitive processes.

The model focuses on the effect of cognitions on feelings and behaviours, the primary interventions tackle thoughts, and secondary emotions and behaviours.

There are numerous techniques that can be used to help people to control their mobile addiction. Various cognitive strategies identify the person's dysfunctional

beliefs that will be challenged and replaced by healthier, more logical beliefs. The new and more functional beliefs can be strengthened through various behavioral exercises.

Mobile use record

Many mobile users may not even realize that their use of mobile is problematic, others underestimate the extent of the problem. If a person is not convinced that there is a problem she/he will not be motivated to change. To start an effective treatment, the client needs to acknowledge and accept that he has a problem and express willingness to work towards changing the dysfunctional behaviour. Monitoring daily use of mobiles is important as it reflects the extent of the problem.

Changing mobile – related beliefs

After identifying and evaluating the addictive beliefs and thoughts, the work on more functional control beliefs starts. Among all techniques used, I will pick up only three:

1. **Cognitive model of control** focuses on the reality testing of a dysfunctional thoughts.
2. **Three-question technique** (Liese and Franz, 1996) uses questions to change maladaptive thoughts.
3. **Advantages – disadvantages analysis** points on positive as well as negative aspects of mobile use, and helps to find alternative strategies to achieve similar benefits.

Conclusion

Mobile addiction is a new phenomenon slowly penetrating into psychology literature. Research needs to be done to investigate the extent and the diversity of the problem in the world. Not all cultures face this problem. Those which “boycott” mobile use do not have to deal with this new type of addiction.

CBT represents a set of strategies that might be beneficial also in this area. In our programme, the set of various techniques was tested. In this stage, we are preparing suggestions how to develop a model for the effective treatment of mobile addiction.

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VYNÁRA SA NOVÁ NEDROGOVÁ ZÁVISLOSŤ?

Súhrn: Príspevok sa zaoberá novým fenoménom prenikajúcim do psychologickej literatúry, závislosťou na mobiloch. Poukazuje na negatívne aspekty tejto závislosti, ktoré sa prejavujú predovšetkým v rovine finančnej, sociálnej, zdravotnej. Ďalej predstavuje program zmeny závislosti na mobiloch, ktorý stavia na princípoch kognitívno-behaviorálnej terapie.

Kľúčové slová: mobilné telefóny, psychologická závislosť, kognitívno-behaviorálna terapia

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

Hana HORKÁ, Zdeněk HROMÁDKA

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

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

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

Theoretical framework

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

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

The Basel Convention – 1989, The Stockholm Convention – 2001.) According to the WEHAB(2) report, health constitutes a key interest of sustainable development and the connection with negative health and environmental impacts is most visible with poor people.

The following issues are related to health and the environment: air pollution, chemical contamination, a healthy environment for children, the electromagnetic field, assessing environmental impacts on health, ionizing emissions, work environment, the quantification of environmental risks for health, UV emissions, water, hygiene, and health; all these categories can be found at the www.who.int/4 website.

A number of authors (3) (Bubeliniová, Havlínová, Liba, Wiegerová, Young) and documents (WHO, The Health and Environment Council – the advisory organ of the Czech government <http://wtd.vlada.cz/scripts/detail.php?id=3461>, The National Institute of Public Health, The Action Health and Environment Plan of the Czech Republic (NEHAP) – <http://www.szu.cz/>) deal with the issues of health and environmental impacts.

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

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

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

The environmental part of health education focuses on:

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

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

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

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

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

The research

Methodology – characteristics of the survey group and methods

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

Hypotheses:

H1: Pupils who are highly aware of the importance of their health will more likely prefer an ecologically oriented lifestyle.

H2: There is a negative relationship between the pupils' preferences of healthy lifestyle and their preference for a motorized lifestyle.

H3: There is a relationship between pupils' understanding of cars as a health threat and preferences for means of transport which are more environmentally friendly than cars.

H4: There is a relationship between pupils' preferences for a healthy lifestyle and between food choice ethics.

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

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

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

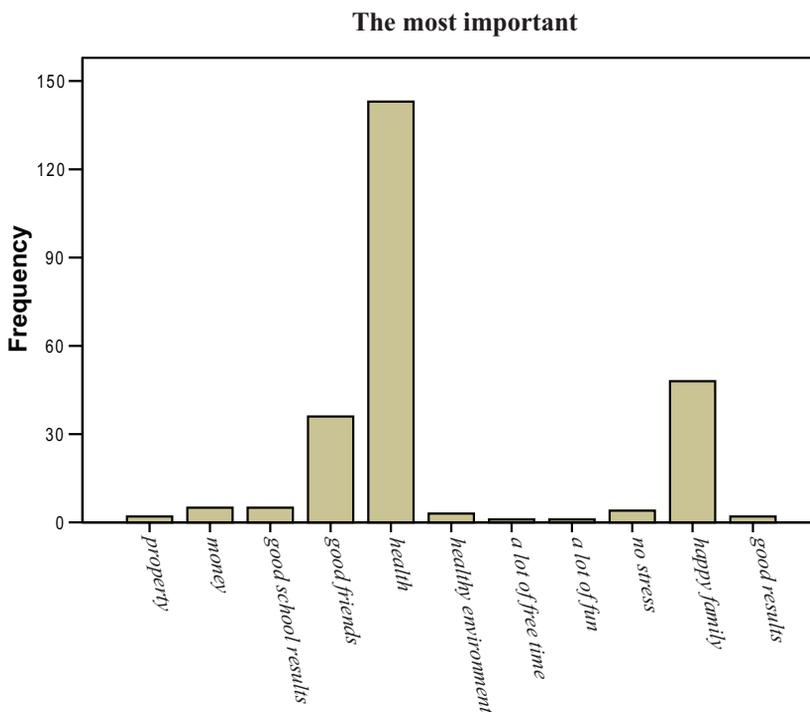
- the importance of sleep
- the importance of regular and sufficient intake of liquids
- the importance of regular and sufficient exercise
- the right choice of eating place
- the choice of drinks
- the importance of “healthy” food
- preferences for preservative-free food
- preferences of chemical additive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

Indicators relevant to attitudes concerning the environment:

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

Research results

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



We find the fact that pupils put their health on the first place of the value scale (57,2 % out of 250 valid answers) very positive.

The following significant items were “happy family” (19,2 %) and “good friends” (14,4 %). These are values that correspond to the social dimension of health. Consequently, pupils appreciate their health in most cases more than other categories (46 % of those who did not state health as the top value placed it as the second most important value).

Another indicator of pupils’ attitude towards their own health was the **importance of sleep**, which is represented by question item # 18: “Good sleep is very important for me” We have found out that out of 95,9 % pupils (254 valid answers) relates to this statement (68,9 % - strong agreement, 24 % – hesitant agreement).

As we have found out by randomly asking teachers, many Czech schools educate pupils to consume liquids regularly and in sufficient quantities and they are aware of the

importance of this habit for their good health. We wanted to know to what extent pupils put it into practice. We found that 81,4 % of pupils (out of 253 valid answers) agree with item # 19: “I try to consume liquids regularly and in sufficient quantities;” (37,9 % strong agreement, 43,5 % hesitant agreement).

Both in general and specialists’ discourse, great importance for healthy living is seen in sufficient and regular exercise, which demonstrably improves health, leaving aside professional and adrenaline sports and the abuse of doping – in general, areas of sport in which it might be somewhat problematic to speak about positive impacts of health). Physical exercise is an excellent way of preventing a wide range of health problems, such as obesity, cardiovascular diseases, etc...). If we should focus only on the research of this phenomenon, we would need a much greater number of items and indicators. As we were, unfortunately, constrained by time limits, we could only ask pupils two questions – items 20 and 21 of the questionnaire: “Exercise (*for instance long and frequent walks, cycling, active sport, etc*) is very important for me.” Item 21 read, “I do active exercise (*for instance long and frequent walks, cycling, active sport, etc*). 89 % pupils (out of 255 valid answers – 28,4 % strong agreement, 31,0 % hesitant agreement) identified with item # 20. In item number 21 a scale was offered: “I do active exercise... *all the time – very often – often occasionally – never – I do not know*, while it is obvious that different pupils could interpret the scale differently. The validity of this item is hence problematic and we are offering it only as a general indicator. Out of 261 valid answers, 25,7 % pupils answered “all the time,” 26,1 % “very often,” 25,7 % “often,” 21,5 % “occasionally,” and 1,1 % “never.”

Diet plays an important role in a healthy lifestyle. Czech pupils are under constant pressure from advertising and from certain food manufacturers (sweets, sweetened drinks, fast food – in general, foods that have detrimental effects on human health). We wanted to find out what kind of food pupils prefer. In item # 22, we asked them what kind of **eating places** they prefer. The item, which was closed, read, “If you could choose where to eat, what would you choose?” with the following possibilities: “*school canteen, McDonalds (or KFC), a restaurant, a fast food restaurant, eating at home, other variant.*” Out of 259 valid answers, “eating at home” was chosen at the first place with 31,7 %, while McDonalds (KFC) was surprisingly given as the third most frequent answer with 25,3 %. We were somewhat surprised that the school canteen was only chosen as the least frequent answer with 0.4 %, despite the fact that food offered by school canteens is characterized as balanced and healthy. The possible reason for the pupils not choosing this answer was the fact that when confronted with special and single situation, they decide against the school canteen despite the accessibility and acceptability of the meals in school canteens.

In item 27, pupils were supposed to agree or disagree with the following statement, “I try to **eat healthy food.**” 65,5 % out of 249 valid answers were positive (17,3 % - strong agreement, 48,2 % - hesitant agreement). In item 23 (closed), pupils answer the following question, “If you could **choose a drink** when you are thirsty, what would you choose?” We were surprised that “water” was given at 48,5 % of 260 valid

answers, which was the first place, second came “soft drinks (Kofola, Fanta, Sprite, Tonic, etc.)” with 29,6 %, and “Coke” only placed third with 8,1 %. The fourth variant was open with 7,3 %, and in 90 % of cases pupils stated beer!

In our survey, we also dealt with the pupils’ attitude to **preservatives and chemical additives-free food**. Item 25 (closed) stated, “I prefer preservative-free food;” out of 206 valid cases, 49 % of pupils agreed (7,3 % – strong agreement, 41,7 % hesitant agreement). Item # 26 (closed) stated: “I prefer chemical additives-free food;” out of 225 valid answers, 49,3 % were positive (12 % – strong agreement, 37,3 % hesitant agreement).

The last category of indicators showing pupils’ attitudes towards their health are habit-forming substances, dealt with in item # 29. Pupils have negative attitudes to habit-forming substance abuse; the more dangerous these are, the more negative the pupils’ attitudes are. 81,8 % of pupils (out of 258 % valid answers) do not agree with the following statement, “Smoking is all right.” (49,6 % disagree strongly, 32,2 % disagree). We did not aim at finding out whether they smoke or not as we were sceptical about the sincerity of their answers (despite their being assured of the anonymity of the questionnaire). However, what we wanted to know is whether they view **smoking (and other habit-forming drugs) as a problem**. 83,6 % (28,0 % strongly agree, 55,6 % agree) of pupils (out of 258 % of valid answers) agree with the statement, “Occasional consumption of alcohol is OK.” Nevertheless, 89,5 % of pupils (out of 257 valid answers – 53,3 strongly disagree, 36,2 % disagree) disagree with the statement reading, “frequent consumption of alcohol is OK.” 86,5 % of pupils (out of 253 valid answers, 55,7 % strongly disagree, 30,8 % disagree) objected to the statement reading, “Soft drug consumption is OK.” 97,6 % of pupils (out of 257 valid answers) disagree with the statement, “hard drugs abuse is OK” (92,2 % strongly disagree, 5,4 % disagree).

In open item # 30 of the questionnaire, we asked pupils, “What do **you** do to stay healthy?” Although this item is open, we were able to find out the pupils’ activities using the following categories: *physical exercise (sports), healthy eating, not abusing habit-forming substances, observing the rules of hygiene, regular and sufficient consumption of liquids, sufficient sleep, other, not doing anything*. The last entry was given in 15,5 % of 256 valid answers, physical exercise in 70,4 %, healthy eating in 45,8 %, not abusing habit-forming substances in 17,3 % of answers.

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

Item # 28, dealing with the above-mentioned issue, provided some interesting answers. The question read, “In your opinion, what are the **threats to health** of living in the **city**?” The pupils gave answers which we put into the following categories: *cars, crime, infections, civilization diseases, stress, obesity, refuse – pollution, lack of exercise, drugs, industry, destruction of trees/landscape, other possibility*. We

were surprised that the pupils saw smog as the most imminent ecological problem (51,3 % of 246 valid answers); it is worth bearing in mind that the question was open! Cars (44,3 %) were given as the second answer, industry as third (23,9 %).

It follows from the above-mentioned results that negative social phenomena viewed by pupils as threats to health are only of secondary importance compared to environmental issues. 15,0 % of pupils see drugs as dangerous, which was the only social category worth noting. About 15 % of pupils stated “various cynical, racist, and xenophobic insults” as a health threat! They rightly understand that ecological problems are not only of biological but also of a social character.

In our survey, we were interested to find out whether viewing cars as an ecological threat could influence the pupils’ attitude towards the motorized lifestyle. In item #15, we asked, “Imagine that you have a car and a driving license and want to visit your friend who lives at the other end of the city. You choose: *public transport, bike (there is a cycling path), car, other means of transport, don’t know*. Out of 257 valid answers, 52,5 % pupils chose the car, 23 % bike, 13,2 % public transport, 5,1 % would walk. The aim of this question was to find out whether pupils see association between this question and question #28 (ecological threats of city life). They formulated the following hypothesis, “There is a relationship between viewing cars as an ecological threat and preferring to use ecologically friendly means of transport.” Hypothesis #3 was proved, however: the relationship was low (Cramerov coefficient $V=0.2$ out of 241 valid answers).

As for other items investigating pupils’ attitudes to their environment, 26,8 % (out of 257 valid answers) pupils said “they do not do anything,” 39,2 % “recycle,” (which is a very good result – recycling is becoming a social norm). We have omitted a frequential evaluation of other answers, as they did not prove significant for the survey.

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

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

- what is worth mentioning, though, is the correlation between the closed items of the questionnaire with ordinal variable # 12 (“I want to lead a lifestyle which is friendly to nature”) and # 27 (“I try to eat healthy food”). The correlation was as follows: $t = 0,326$ (t – Kendall’s tau, significant to a level of 0,01).;
- a negative correlation between the above-mentioned item # 12 and # 29 (“What is your attitude to smoking: Smoking is/is not OK”) was $t = -0,261$ (significant at the 0,01 significance level);
- the correlation between item # 12 and # 20 (“What is your opinion on the following statement, “Exercise (cycling, long and frequent walks, active sport, etc) is very important for me.”) turned out to be $t = 0,213$ (significant at the 0,01 level of significance);

- the correlation between item # 12 and # 24_6 (“To what extent is the health aspect important for you when you choose your food?”) was $t = 0,248$ (significant at 0,01 level of significance);
- the correlation $t = 0,284$ between item # 12 and 24_4 (“To what extent is it important for you that your meals contain a lot of vegetables?”) (significant at 0,01 level of significance);
- a weak negative correlation between item # 12 and 24_3 (“To what extent is it important for you that your meals contain a lot of meat?”): $t = -0,123$ (significant at 0,05 level of significance).

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

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

Analysis

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

More than half (57,2 %) of the respondents put health on the first place in the scale of values, and 46 % put it on the second place. 1/3 of respondents preferred values connected with social dimension of health (“happy family” – 19,2 %, and “good friends” – 14,4 %). In most cases, pupils place health above other values.

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

Almost all respondents (95,9 %) evaluate **sleep and regular and sufficient consumption of liquids** (81,4 %) as being of crucial importance. Nearly half of them (48,5 %) choose water when they are thirsty, almost a third chose “soft drinks” (Kofola, Fanta, Sprite, Tonic, etc...) and slightly less than 10 % chose “Coke.” About a third of the respondents (35,1 %) prefers **eating at home**, eating at a restaurant came next with 31,7 % , 25,3 % choose McDonalds (or KFC). Eating at a school canteen came last with 0,4 %. 65,5 % of pupils tried to **eat healthy food** (17,3 % – strong agreement, 48,2 % - hesitant agreement). 49 % of pupils prefer preservative-free food. 81,8 % of pupils do not agree with the statement, “Smoking is all right” (49,6 % - strong disagreement, 32,2 % hesitant disagreement). **89,4 %** of the respondents practice **regular physical exercise.**

From these data, we can conclude that pupils have adopted a number of health-promoting practices in their everyday life and in a variety of situations. Pupils actively

undertake activities promoting health. Three quarters of them do sport systematically, about a half of them eat healthy food, and about 1/6th does not abuse habit-forming substances. About 1/6th of the respondents admitted not doing anything for their health.

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

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

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

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

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

Conclusions

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

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

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

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

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

According to A. Šteflová from the Czech office of WHO, “health is determined today by different factors from the past. We can see that the economic, social, and

cultural environment significantly determines the behavior of the population and consequently the resulting state of individuals' health" (Kolářová, 2005). Only co-ordinated efforts at maintaining health as a top priority, together with helping the poor in economically advanced countries will make possible gradual improvements in the quality of life.

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PÉČE O ZDRAVÍ A ŽIVOTNÍ PROSTŘEDÍ Z POHLEDU ŽÁKŮ ZÁKLADNÍ ŠKOLY

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

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

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

SOCIO-HEALTH ASPECTS IN CLASS TEACHERS' ACTIVITIES AND THEIR APPRECIATION BY PUPILS

Stanislav STŘELEČEK, Jana KRÁTKÁ

Abstract: *This paper sums up results of one of the partial subjects that belong to Research Intent of Faculty of Education MU Brno MSM0021622421 School and Health for 21st century. The study presents the results of a questionnaire-based research which was carried out to obtain pupils' opinions of class teachers' activities for enhancing and solidifying healthy social relationships in a class. To fulfil this goal we focused on pupils' reception correlating with teacher-pupils communication forms and contacts of a class-teacher with parents, furthermore with options of solving pupils' problems thorough the whole period of study and also with other problems of school and out-of-the school pupils' activities. The data were acquired from 248 respondents - primary school pupils and students of secondary schools. The research results will be also used in pre-graduate programs of the teaching profession studies of primary/secondary school teachers.*

Key words: *healthy social relationships, a class, the class teacher, educational activities, pupils' opinions, primary school, secondary school*

Starting points

Its topic and conceptual aim the paper is connected with problems discussed at the conference on School and Health organized in 2006. In that time we focused on measure of influence of basic educational activities on pupils health as it was seen by class teachers. It was checked how the class teachers see importance and possibilities of their activities in this direction. Now we oriented our research interest to opinions of pupils at primary and secondary schools on educational activities of the class teachers in creation of healthy social relationships in school environment. Those previous and present works are similar and therefore the both contributions can contain some identical data and pieces of knowledge.

The class teacher is a coordinating and integrating agent with a lot of serious educational tasks in relation to pupils in his class, to their parents and other teachers of the school, to school representatives and under certain circumstances also to a broader

public. In this context he becomes an educational subject with many possibilities to influence healthy mental, physical and social development of individual pupils and the school class as a whole. In this case we are interested in social health of pupils and some conditions for its formation by means of class teachers.

Social health is one of significant parts of pupil's health and school is an important institution affecting processes of his development. In literature the term social health is interpreted in various levels and connections. For characterizing social health the term relationship represents a determining and universal attribute. For our need we can distinguish three levels (dimensions) of social health – intra-personal, interpersonal and social ones. In the intra-personal dimension the social health is perceived as an inner change of a personality for expressing relationship of the human to himself, which comprises also his self-acceptance, self-control autonomous acceptance of social roles, needs, values etc. In the interpersonal dimension the social health is taken as an expression of a certain level of relationships to other people. For pupil it comprises e.g. ability to cooperate with classmates, to respect opinions of others, to cooperate in solution of common tasks, to communicate with understanding, to be disposed to friendship, fellowship and partnership. The third dimension of relationships is the social level, in a broader sense of the word (citizenship); it can comprise e.g. reflection of consequences of behaviour and actions of a human for life of social groups and the whole society. This simplified categorizing of relationships can serve us in considering the large scope of problems covered by the term social health.

Among constant activities of the class teacher connected with development of social health of pupils there are the following:

- Continuous diagnostics, analysis and interpretation of personal possibilities of a child, diagnostics of educational and behavioural problems.
- Identification of life conditions of a child, his/her family environment, social structure of the class.
- Solution of various educational situations inclusive those with socially-pathological effects.
- Initiation of positive relationships among classmates, without influence of differences (in culture, religion, social and healthy differences). The class teacher participation in development of climate in the class.
- Coordination of principle activities of other educational agents – other teachers, group of interest, families. The class teacher represents the pedagogical staff among pupils and also the class in public.
- Cooperation with the family and creation of cooperative attitudes to the pupil's parents. The class teacher knows of leisure activities of pupils and provokes to more development.

We are aware that one of the most important ways influencing social health of pupils is a personal example of their teacher. For pupils the class teacher is (together with family members) the nearest representative of the world of adults. Under this angle

of view he can be also taken as a model and example, in positive or negative sense. These basic start points were taken into account in considering our strategy of the intended research probe.

The goal of our research survey was to find what pupils' opinions are of qualities (abilities, skills...) of their class teacher – the qualities that can influence development of healthy social relationships among pupils in school environment. We prepared an authorial (non-standardized) questionnaire for respondents with the question Why do you appreciate your teacher – what is it particularly? To this question the following variants of answers were offered:

- a) suitable, friendly and objective behaviour,
- b) individual solution of your learning problems,
- c) interest in other your problems, active participation in the solution,
- d) unselfish cooperation in extra-school events (e.g. excursions, interest circles),
- e) interest in your family background, communication with parents,
- f) lifestyle of the class teacher,
- g) pursuit of well-being in the class.

For each of the answers (from a) to g)) we used the scale system with the five points scale, from the value 1 (the lowest evaluation) to the value 5 (the highest evaluation). In this connection we were also interested in correlation between variants of answers and the school type, the respondents' sex type and the length of the class teacher's practice in the corresponding class.

Research set, data processing and analysis

Our research set contained 248 (100 %) respondents. 169 girls-pupils/students (69 %), 79 boys-pupils/students (31 %) participated in the research probe. 141 (57 %) respondents were primary school pupils and 107 (43 %) respondents were secondary school students (high school, training school). The highest number of respondents (51 %) has had their class teacher only for 1 year, 33 % of respondents for 2 – 3 years and 16 % for almost 4 years.

To our sampling set which should represented the basic set we defined the pupils of two primary schools (the pupils different in sex, in number of continuous years with the same class teacher) and the pupils of the training centre that represented the situation of the secondary school and the apprentice centre. This sampling set enables a cautious generalization into the basic set, thus the pupils with experience in cooperation with the class teacher in the Czech school system. The described school types, that were fused into two types for our needs (for analysis, depicted as primary school and secondary school), define and identify also individual subgroups of our sampling set.

Data was entered to the database, coded and than analyzed by means of the program SPSS. Graphs were created in Excel, outside the database. The transcript coding

and data processing were controlled in calculation of basic descriptive statistics parameters (minimal and maximal values, missing data, and categorization). Basic descriptive statistics data were processed (e.g. tables of frequencies, calculation of average values, median, modus, variances, distribution normality etc.). Several statistically significant differences were tested by using dispersion analysis with comparison of averages (by the Kruskal-Wallis nonparametric test).

Factual hypotheses had to be operationalized to the form of statistic hypotheses. Further, we decided by using the corresponding significance test that a certain research result is statistically significant, i.e. those results could not be probably caused by coincidence. In our case (the selection of the respondents by accessibility) the variance among groups and variability inside groups could be a reason to check the statistical significance.

Hypotheses:

H1 Primary school pupils appreciate the qualities different from those appreciated by secondary pupils.

H2 Pupils of different sex type (boys, girls) appreciate different qualities of the class teacher.

H3 Pupils with different number of years spent with the same class teacher appreciate different qualities of this class teacher.

Results and discussion

How do pupils appreciate suitable, friendly and objective behaviour of their class teacher?

Answers of the pupils demonstrate that suitable, friendly and objective behaviour of the class teacher was badly or minimally appreciated by 14 % of respondents (the value 1); the same part of the pupils (14 %) marked the mentioned activities with the second lowest value (2). 29 % of pupils appreciated suitable, friendly and objective behaviour of the class teacher by the medium value 3; 18 % of pupils gave the value 4 and 26 % of pupils gave the highest value 5. the average value if this scale is 3,28.

How do pupils appreciate the class teacher's pursuit of individual solution of their learning problems?

It is evident from the answers of the pupils that 13 % percent of them evaluated the class teacher's pursuit of individual solution of their learning problems with the minimal value (2), 30 % of the pupils with the middle value, 24 % of the pupils with the value 4 and 15 % of the pupils evaluated these activities of the class teacher with the highest value 5. The average value of the scale is 3,10.

How do pupils appreciate the class teacher's interest in other their problems and his active participation in solution?

It is evident from the answers of the pupils that 23 % percent of them evaluated the class teacher's interest in other their problems and his active participation in solution minimally (the value 1); 21 % gave the second lowest value 2. The middle value was given by 29 % of the pupils; 17 % of pupils gave the value 4 and 10 % of the pupils evaluated these activities of the class teacher with the highest value 5. The average value of the scale is 2,69.

How do pupils appreciate the class teacher's unselfish cooperation in extra-school events (e.g. excursions, interest circles)?

It follows from the answers of the respondents that 23 % of responding pupils evaluated the class teacher's unselfish cooperation in extra-school events with the minimal value 1; 18 % of the pupils evaluated his activities with the second lowest value (2). The middle value was given by 22 % of the pupils; 16 % of the pupils chose the value 4 and 22 % of the pupils evaluated these activities of the class teacher with the highest value 5. The average value of the scale is 2,96.

How do pupils appreciate the class teacher's interest in the family background, communication with parents?

It follows from the answers of the respondents that 32 % of responding pupils evaluated the class teacher's interest in the family background, communication with parents minimally (the value 1); 28 % of the pupils evaluated his activities with the second lowest value (2). The middle value was given by 19 % of the pupils; 14 % of the pupils chose the value 4 and 8 % of the pupils evaluated these activities of the class teacher with the highest value 5. The average value of the scale is 2,38.

How do pupils appreciate the class teacher's lifestyle (the class teacher as an example)?

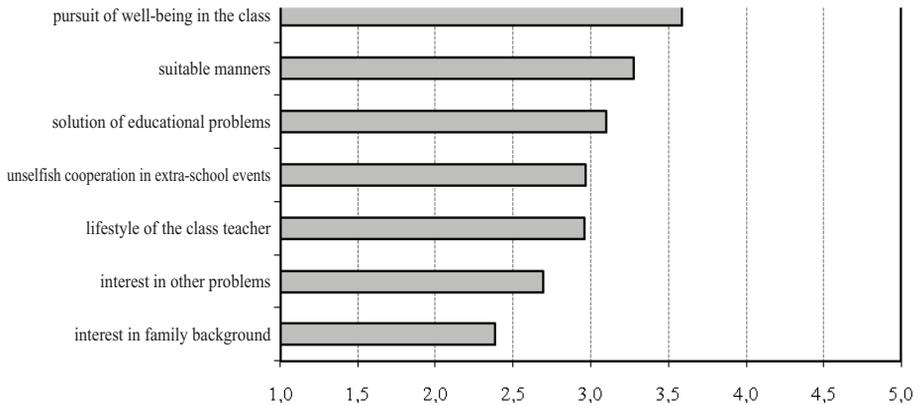
It follows from the answers of the respondents that 25 % of responding pupils evaluated the class teacher as an example and his lifestyle minimally (the value 1); 13 % of the pupils evaluated his activities with the second lowest value (2). The middle value was given by 15 % of the pupils; 15 % of the pupils the pupils chose the value 4 and 22 % of the pupils evaluated these character features of the class teacher with the highest value 5. The average value of the scale is 2,96.

How do pupils appreciate the class teacher's pursuit of well-being in the class?

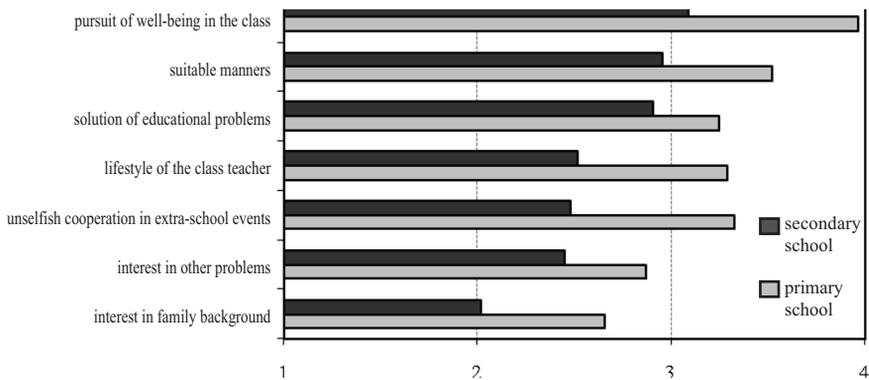
It follows from the answers of the respondents that 10 % of responding pupils evaluated the class teacher's pursuit of well-being in the class minimally (the value 1); 12 % of the pupils evaluated his activities with the second lowest value (2). The middle

value was given by 25 % of the pupils; 16 % of the pupils chose the value 4 a 37 % of the pupils evaluated these activities of the class teacher with the highest value 5. The average value of the scale is 3,59.

The following diagram displays the average values of the survey among pupils on evaluating the class teacher 's qualities (abilities, skills...) with influence social health of the pupils:



Relations among activities of the class teacher appreciated by the pupils and the school type



H1 Pupils from various types of school appreciate different character features of their class teacher.

The null and alternative hypotheses were formulated on differences in evaluation of the class teacher's character features and the school type:

H_0 = there is no dependence between frequency of pupils responses to the questions and the type school attended by the pupils.

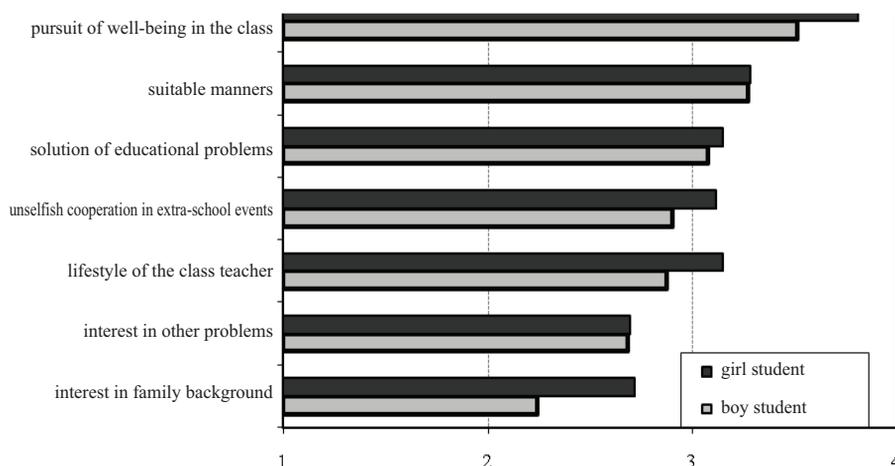
H_A = there is a dependence between frequency of pupils responses to the questions and the type school attended by the pupils.

The null hypothesis was refused, i.e. the non-existence of differences between responses to the questions and the type school attended by the pupils, based on the following results of the non-parametric test which compares two averages (the Mann-Whitney U test); the results show statistically significant differences between answers of respondents from individual school types for all character features of the class teachers that can influence health of pupils.

There is a significant statistical dependence between the type school and the features of the class teacher appreciated by the pupils (the bold print in the Table):

Significance of differences - Test by the school type		
	MANN-WHITNEY U TEST	
You appreciate: suitable manners	sig. H_0	0,001
You appreciate: solution of educational problems	sig. H_0	0,034
You appreciate: interest in other problems	sig. H_0	0,012
You appreciate: unselfish cooperation in extra-school events	sig. H_0	0,000
You appreciate: interest in family background	sig. H_0	0,000
You appreciate: teacher's lifestyle	sig. H_0	0,000
You appreciate: pursuit of well-being in the class	sig. H_0	0,000

Relations among activities of the class teacher appreciated by the pupils and the sex of pupils



H2 Pupils of different sex appreciate different character features of the class teacher.

The null and alternative hypotheses were formulated on differences in evaluation of the class teacher’s character features and the sex type of the pupils:

H_0 = there is no dependence between frequency of pupils responses to the questions and the sex of the pupils.

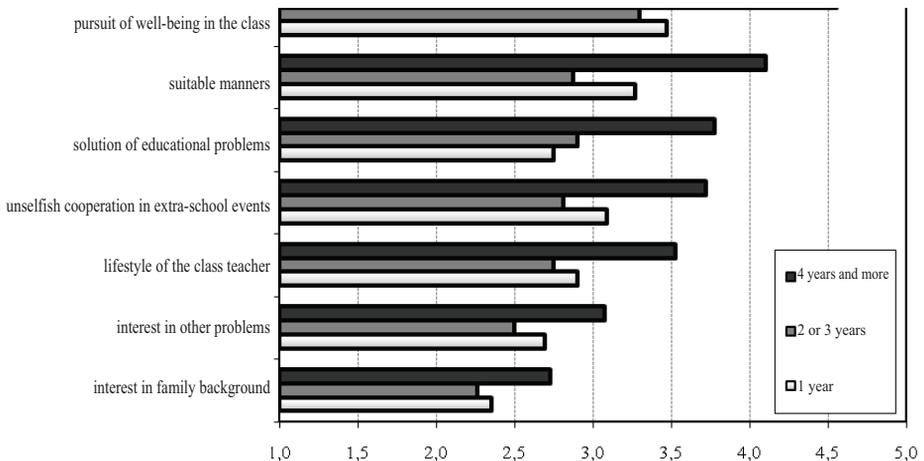
H_A = there is a dependence between frequency of pupils responses to the questions and the sex of the pupils.

The null hypothesis was partially refused, i.e. the non-existence of differences between responses to the questions in dependence on the type sex of the pupils, based on the following results of the non-parametric test which compares two averages (the Mann-Whitney U test); the results show statistically significant differences between answers of respondents of different sex for the character features of the class teachers concerning “interest in family background, communication with parents“

There is significant statistic dependence between the sex of pupils and incidence of the education question on the character features of the class teacher appreciated by pupils (bold print in the Table):

Significance of differences - Test by the sex type		
	MANN-WHITNEY U TEST	
You appreciate: suitable manners	sig. H_0	0,997
You appreciate: solution of educational problems	sig. H_0	0,689
You appreciate: interest in other problems	sig. H_0	0,984
You appreciate: unselfish cooperation in extra-school events	sig. H_0	0,181
You appreciate: interest in family background	sig. H_0	0,025
You appreciate: teacher’s lifestyle	sig. H_0	0,309

Relations among activities of the class teacher appreciated by the pupils and the length of the class teacher’s practice in the same class



H3 The pupils that differ in the number of years with the same class teacher in the class, appreciate different character features of the class teacher.

The null and alternative hypotheses were formulated on differences in evaluation of the class teacher’s character features and the number of years with the same class teacher in the class:

H_0 = there is no dependence between frequency of pupils responses to the questions and the number of years with the same class teacher in the class.

H_A = there is a dependence between frequency of pupils responses to the questions and the number of years with the same class teacher in the class.

The null hypothesis was partially refused, i.e. the non-existence of differences between responses to the question in dependence on the number of years with the same class teacher, based on the following results of the non-parametric variant of the variance analysis with comparison more averages (the Kruskal-Wallis test); the results show statistically significant differences between answers of respondents with different number of years with the same class teacher in the class, namely in the fields: suitable, friendly and objective manners, individual solution of educational problems of pupils, interest in other problems, active participation in their solution, unselfish cooperation in extra-school events (e.g. interest circles, excursions), pursuit of well-being in the class.

There is significant statistic dependence between the number of years with the same class teacher in the class and incidence of the education questions on the character features of the class teacher appreciated by pupils (bold print in the Table):

Significance of differences - Test by years with the same class teacher in the class		
	KRUSKAL WALLIS TEST	
You appreciate: suitable manners	sig. H_0	0,000
You appreciate: solution of educational problems	sig. H_0	0,001
You appreciate: interest in other problems	sig. H_0	0,039
You appreciate: unselfish cooperation in extra-school events	sig. H_0	0,000
You appreciate: interest in family background	sig. H_0	0,120
You appreciate: teacher’s lifestyle	sig. H_0	0,021
You appreciate: pursuit of well-being in the class	sig. H_0	0,000

Conclusion

The results of our research probe demonstrated that the respondents (pupils at primary and secondary schools) appreciate, among other character features of the class teacher, first of all his pursuit of well-being in the class (the average value 3,59 of the five level scale). Then suitable, friendly and objective manners were identified (3,28), individual solution of educational problems of the pupils (3,10), unselfish cooperation

in extra-school events and the lifestyle of the class teacher (the same value 2,96 for the both questions), interest in other problems (2,69) and interest in family background of the pupils inclusive communication with pupil's parents (2,38). Sequence of results in principle corresponds with our assumptions and illustrates some tendencies of the pupil's life at primary and secondary schools with effect on relation of pupils to the teaching profession, relationships between teachers and parents etc. Our findings correspond to a large extent with results of the parallel research probe as published in the contribution "Class teachers' views on the methods to influence pupils' health" (see Střelec, S., Krátká, J. In Řehulka, E. (ed.) School and health for 21st century II. Brno: Paido, 2007).

The answers of the respondents demonstrate statistically significant differences in relation to the type of the school attended by pupils. The results of the non-parametric analysis of variance (the Kruskal Wallis test) show e.g. that the primary school pupils appreciate all offered character features of the class teacher significantly more than the secondary school pupils do. The hypothesis was partially accepted which supposed that pupils of different sex (boys versus girls) appreciate different character features of the class teacher. For some still unknown reason, the boys appreciate all character features of the class teacher more than the girls, significantly more often it concerns the teacher's interest in family background and communication with parents. Also the hypothesis was accepted that the pupils having the same class teacher in the class for more years appreciate this teacher better and evaluate more all his character features.

Partial research findings do not qualify for generalizing conclusions. Our goal was rather initial and orientating view on the above mentioned problems. More detailed research focused on support of the pupil health by means of the class teacher will be executed in future.

SOCIÁLNĚ ZDRAVOTNÍ ASPEKTY V ČINNOSTECH TŘÍDNÍCH UČITELŮ A JEJICH OCEŇOVÁNÍ ŽÁKY

Souhrn: Příspěvek přináší výsledky jednoho z dílčích témat, které je součástí výzkumného záměru PdF MU Brno MSM0021622421 Škola a zdraví pro 21. století. Studie obsahuje výsledky dotazníkového šetření, ve kterém byly zjišťovány názory žáků na výchovné činnosti třídních učitelů, které přispívají k upevnování a rozvoji zdravých sociálních vztahů ve školní třídě. V této souvislosti jsme se zaměřili především na žákovské reflexe související s komunikací třídního učitele se žáky, s jednáním třídního učitele s rodiči žáků, se způsoby řešení studijních a některých dalších otázek školního i mimoškolního života žáků. Výzkumná data byla získána od 248 respondentů- žáků ŽŠ a SŠ. Výsledky výzkumu budou využity také v pregraduální fázi studia učitelství pro základní a střední školy.

Klíčová slova: zdravé sociální vztahy, školní třída, třídní učitel, výchovné činnosti, názory žáků, základní škola, střední škola

STORY – BRIDGE BETWEEN GENERATIONS

Marie PAVLOVSKÁ, Lenka REMSOVÁ

Abstract: *In our contribution we introduce one of the possibilities to improve the relationship between generations and thereby also the relationships at school. We introduce the project Story – Bridge between Generations (seniors, teenagers, university students) done by the students of Drama Education, Faculty of Education, Masaryk University. This project was so successful that it is currently carried out in several places of South-Moravian region. It uses a story to bridge the gap between generations. In the project, we used stories to gain better mutual understanding, to improve the way seniors view teenagers and vice versa. We also point out the relevance of the project for the Drama Education students, future teachers and educators, who by the project completion gained skills and experience that are vital for their future jobs.*

Key words: *healthy school, healthy relationships, senior, teenager, student, project, story.*

Motto:

“Today we live, but by tomorrow today will be a story. The whole world, all human life, is one long story.“

(I.B. Winter, Fairy Tales and Short Stories)

The school nowadays witnesses violence, aggression, bullying, stealing and exceptionally also killing. What causes these pathological phenomena? There are obviously several causes, but one of the most important one is the bad relationships between pupils and teachers and the service staff, relationships among pupils, pupils and school visitors, relationships between generations. What can we do to improve these relationships? Our mutual **communication** should be **better and more open**, in this way we get to know each other better; we learn to be **empathic, open, and less reluctant to help** each other. We achieved all this by the project **Story – Bridge between Generations**. This project originated as a response to “**the misunderstood old and the misunderstanding young**”.

It all started by a discussion within a seminar. Students that are also regular trainee teachers contemplated over stupid remarks the teenagers make at the expense of senior citizens, who take their grandchildren to school every day. The students also noticed the unpleasant answers of the older people, the disrespect the pupils showed for

cleaners, who are usually advanced in age. The students discussed the healthy relationships, the generation problems and not so good interpersonal relationships at school. We decided to create a project, in conclusion of which the two generations would meet. The target groups were senior citizens and elementary school pupils. The connecting link between these two groups was a group of students of Faculty of Education, MU.

We started the project by a survey on the seniors' view of teenagers and teenagers' view of the seniors.

We were surprised at the stock answers. **Most frequent response of the pupils** were the following: *Senior citizen is a retired person who does nothing but gets money; useless person; nervous person who spends his/her time chasing discounts in the supermarket; person who watches stupid soap operas all the time or sits at the doctor complaining about his/her pension; person who likes lecturing others etc.*

Among the most frequent answers of the seniors belong the following: *teenager's behavior is often emotions-driven; mostly a rude individual; oaf; a child with no manners ad time to do something properly; rowdy frightening everybody around; child imitating the worst habits of the adults etc.*"

We thought a lot about the answers. The most discussed answer was: senior is a person who likes lecturing others. This response was the last impulse for us to imply the project. Our aim was to arrange meeting of seniors and teenagers so that both sides get to know each other, learn to listen to each other and amend their opinion of other, alter their point of view. We didn't want the meeting to be just a formal one; the aim was real meeting each other and getting to know each other. And as it is typical of drama education to work with a story, a story became the connecting bridge between the generations.

Generally, the **stories don't instruct, they want to be heard**, they happen again, just in different times, but they are eternal. We decided to use that aspect. To use the story for both groups to get to know each other. We started to look for concrete groups that would later meet. We addressed a group of senior citizens in the course "What life gave and took", one of the many courses in the Brno Family Centre. The group of teenagers was the ninth grade of the Elementary school at Horacke Square in Brno. A group of students began to attend the meeting of seniors regularly. The students actively contributed to the work with the seniors, they offered games to enlarge their vocabulary, they brought extracts from technical literature and fiction, the participants began to sing at the meetings, tell stories etc.

Almost fascinating was for me to observe the students working, to witness the story sharing, listening, living, but also the feedback, to witness the stories of people that want to listen to each other, that look for company of people, that came to talk about the contemporary problems, some try to cope with their past, some want to warn others against errors. The stories were very thrilling, often very funny and at the same time very deeply human, therefore we recorded them and later edited. We always brought them for the next meeting and read them to the seniors. And I have to say the seniors were really pleased to hear them. With every story told the students gained something deeper than just life stories of the individuals. They gained tiny stones of mosaic, which – when put together – pictures a **sense of human life**. Some of the students, especially the students of special pedagogy, were so attracted to the work that they continue the

work even now. The stories of general nature were adapted for stage and performed to the teenagers.

The elementary school pupils were supervised by their Czech language teacher, but the students took part as well. They had some of the lessons of Czech language at their disposal. The pupils' task was to write stories that tell about the joys and worries of teenagers, stories that could alter the seniors' view of teenage generation. Even though the pupils worked on the task during their school lessons, we have to say that they took the job to introduce their generation to the senior citizens very seriously.

The meeting itself was preceded by huge preparations. The university students met both sides, their observations were discussed at the drama education classes and the students were very curious if the project reaches its goal: if the generations will get to share their experience, listen to each other and understand.

Four of the seniors' stories were adapted for stage during the classes of Drama Education towards a Theatre Form. The students chose stories that were funny, spoke about problems that appear in every generation – forcing children to eat, bullying, harmonic relationships among siblings, first love. The rest of the stories was rehearsed within the phonetic lesson.

The project was implemented in the Leisure Centre Labyrinth. There were 20 senior citizens present, 20 university students, 30 ninth graders from Horacke Square Elementary School. The theatre hall was full. The individual stories started after the welcome. The tension that paralyzed us in the beginning has disappeared after the first story, because we saw tears glistening in the eyes of the seniors, the ninth graders vigorously clapped their hands. It was clear that their applause was genuine, it came from their heart. The stories adapted for stage alternated narrated stories. In the end the pupils themselves read their stories. The students and senior citizens listened carefully. After the last story had been read it was time for discussion, for questions and answers. We feared this moment a little. Would there be any questions at all? But our worries were unnecessary, there was a wave of questions and which the seniors eagerly replied. Their fear that the subjects of the stories wouldn't be topical enough was gone. All of sudden the teenagers had a different view of the senior citizens sitting in front of them. Their problems were so similar to those the pupils are having now – first love, violence, betrayal of a friend, nasty tricks, questions whether to forgive or not etc. And as one of the girls asked if she could read the story about the dill sauce at home to her parents, because she has the same problems with parents forcing her to eat, it was the best answer to their fears. The seniors had many questions to ask the teenagers as well.

In the final reflection in the end of the project, we came to the conclusion that the most important thing is passing stories further, because we realized that all the stories were eternal, they happen again only in different times. It is vital to meet, listen to each other and try to understand each other. The project was also a great encouragement for the seniors: they still have things to say to the new generation. The teenagers again realized that the things they are going through are similar to the memories of the seniors and these stories can lead them on their knowledge path. And the university students? The project was carried out by 1st, 2nd and 3rd year students of pedagogy and special and social pedagogy. It follows from their reflection that the project not only attracted them but also enriched everybody in their way. The students learned to listen to other people, they learned mutual understanding, empathy, but also literary and theatre skills, they learned

to prepare and implement a project and many more things. Even though the project came to an end, some of the students carry on the idea of Story – Bridge between Generations in their home towns to improve the relationships on their school, in the community and there by also the society; they see it as a way to enrich the life in their community.

I give here two examples of stories that are still very topical nowadays:

Love Letter

As a sixth grader I wasn't interested in boys, therefore I was very surprised to find the following letter in my desk:

Snášelová, I love you, come to church at five, if you don't come I'll smash you face in.
Daufek

Daufek failed several classes; he was the biggest ruffian of the whole school. Everybody was afraid of him and served him. As others learned about my love letter they were very curious what will happen. They all thought I'd better go there otherwise he will really smash my face in. But the fate decided differently. After I came home from school the parents ordered us all to go to the field to work. There was no point in arguing. While I was working I forgot all about Daufek, but after I had gotten to bed I couldn't fall asleep. What will be tomorrow?

In the morning, I was very scared to go to the bus stop, Daufek was already there and other schoolmates too. They were waiting what will happen. The day before they all came to church to see if I turn out and what will Daufek do if I don't. Now they were waiting if Daufek fulfils his promise and smashes my face in. If we made bets back then he would be the 99 % favorite.

When I came to the bus stop I didn't say a word and faced Daufek. He watched me a while and then it all started. We started fighting so hard that we didn't even notice the bus coming. Out of the bus comes Mr. Kadaňka, the bus driver, flying, he tore us apart, he almost carried us into the bus and said: "And I want no teasing inhere." He seated us close to him and off we went. The whole journey was very quiet, because it could be very dangerous to contradict Mr. Kadaňka. All the way to school, I was trying to figure out what to do after we get off the bus. In the end I decided to rush to school. I managed to outrun Daufek, put my schoolbag into the desk and get my things ready. I didn't have the time to check my homework though, because at that moment Daufek came and dragged me out of the desk pulled me to the ground and started beating me. I didn't like that and tried to defend myself as hard as I could. I was all done in when the bell rung and our teacher came into the class. I gathered my strength the whole lesson and with the bell it all began over again. Really nasty fist fight. And it went on and on through all the breaks that day. In the end of the classes I was all black and blue; I had torn sweater, some scratches and my little finger sprained. Daufek had his ear split, scratches and torn shirt.

The cooks used to come with us to the bus so there was no fight. Mr. Kadaňka noticed our slightly torn appearances turned to the cooks and ordered them: "Keep an eye on those two!" The cooks sat so that we could not reach each other. I was glad,

because I was exhausted from the whole day fighting. But I could see that Daufek had enough as well, because he only barked at me something getting out of the bus and walked away. I felt like a winner. I defended myself! I wasn't disgraced. I also felt that my fight encouraged my friends to stand up against Daufek. Even now, when I recall the story I feel enough strength to face any violence.

Dill sauce

Říčmanice is a village near Brno where I spent my childhood. As I was an orphan my old aunt adopted me, I called her grandma and spent happy childhood in her home. We both enjoyed it. We did what we pleased, cooked what we wanted, so we were very satisfied. The only disturbing factor was always the arrival of my aunt Adélka from Brno, she was grandma's daughter. We were always very nervous when she was to come. But we kept saying to each other that she comes in the morning and leaves in the afternoon, so it is only one day we have to endure.

Aunt Adélka was a real boss. Her word was the law and we never tried to change it. So one July Sunday she came to visit us again. The apricots were ripening in the garden, the sun was shining, and it was a beautiful Sunday. As the aunt walked through the garden, she found out that the dill spread over the whole garden, it is everywhere, so we have to use it. Instead of roasted chicken we would have dill sauce for the dinner. It was one of the meals granny and I didn't cook because it stunk! Granny tried to argue that it is Sunday, but the aunt didn't want to hear of that and started cooking. The bells rung the noon and we sat down at the table for the dinner. When she saw our unhappy faces over the plates, she said angrily: "Mom, I can't force *you* to eat it but Eliška won't get up from the table until she finishes it. She is very spoilt with the food and I won't budge this time." And she didn't. Granny ate some of the dill sauce, Adélka was satisfied. They cleaned the table, washed the dishes, but I was still sitting at the dill sauce plate. I thought the aunt would have some mercy, when she sees my tears falling into the plate, but I was wrong. As she was leaving the kitchen she just said: "You will sit here until you eat it all up." The aunt and granny went into the garden to read Vlasta Javořická. I hated the dill sauce so much! The tears didn't help so I started to look around the kitchen. The cupboard caught my eye and there it was: little statue of Virgin Mary. So I started to pray: "Virgin Mary, please, help me with the dill sauce, I really cannot eat it." And all of the sudden it dawned on me! I went to the cupboard, took the statue, and examined it from all sides: it was hollow! The venture started. First the sauce, then the egg and in the end the dumpling to cork up the hole. I put the statue back and closed the cupboard door. I'd just finished my thanks to Virgin Mary for such a wonderful idea as the aunt entered the kitchen. She looked at the plate, smiled, stroked my hair and said to grandma: "See, she ate everything, you have to be stricter with her and Eliška will be a nice and well-behaved girl." I was a bit ashamed, but after all it was Virgin Mary herself who helped me.

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PŘÍBĚH – MOST MEZI GENERACEMI

Souhrn: V příspěvku představujeme jednu z možností, jak zlepšit vztahy mezi generacemi, a tím zlepšit i vztahy ve škole. Představujeme projekt Příběh – most mezi generacemi (seniorů, teenagerů, vysokoškoláků), který připravili a realizovali studenti specializace dramatická výchova PdF MU v Brně a který natolik zaujal, že v současné době jej studenti realizují na několika místech Jihomoravského kraje. V projektu bylo využito příběhů jako mezigeneračního mostu, pomocí nichž jsme se snažili docílit lepšího vzájemného poznání, zlepšit pohled seniorů na teenagery a opačně. Poukazujeme i na význam projektu pro studenty specializace DV, budoucí učitele a vychovatele, kteří během něj získali dovednosti a zkušenosti, které jsou tolik potřebné pro jejich budoucí práci.

Klíčová slova: zdravá škola, zdravé vztahy, senior, teenager, student, projekt, příběh.

STORIES OF WOMEN TEACHERS: AN ATTEMPT TO IDENTIFY WITH THE PROFESSION

Evžen ŘEHULKA

Abstract: *The study brings information on teaching profession by means of profession stories of fifty women teachers. We assembled the individual stories in a structure by motivation, experience, everydayness, work, significance, sense and teaching fate, comprised in those personal stories. After qualitative analysis we can conclude that teaching is a deliberate choice of the profession; by women teachers it is considered mainly traditionally, with a relatively high moral credit and with differentiation between surplus of upbringing or educational work. By identifying with the teaching profession, the teachers can reach life satisfaction, but they are also confronted with specific loads and problems that can lead to deformations, which are not foreknown by them.*

Key words: *teaching profession, personal story*

„Teaching is a hard, laborious profession, which drains the soul, paralyses fantasy, absorbs strength from the organism; children who come to the school are bad, obstinate, erratically raised beings, crafty wicked, spoiled, lost, instinctually hostile and a high percentage of them is awfully incapable; after five education hours I return exhausted, both physically and mentally, disgusted, deadened, beclouded, dull, stolid and decrepit.“

Otokar Březina to Anna Pammrová, 8.10.1892

Teachers must be convinced that they stand in a high position of dignity and that they have been entrusted with a noble office, which can be surpassed by nothing greater under the Sun.

Jan Amos Komenský

Problem

Teaching belongs to very interesting professions and studies of teaching give substantial narrative value about the society, which - by our opinion - has not yet been fully

appreciated (Havlík, Kořa, 2002). The principle task of the teacher is – as it is evident from the name of this profession – to teach, more exactly to mediate *education* and *upbringing*.

The last mentioned two terms are discussed in our country in the present time and also in one of the last pedagogy textbook (Průcha, 1997) the terms *education/upbringing* are considered to be basic pedagogy terms. Unfortunately, the above mentioned terms are not interpreted in a uniform way; traditionally the concept of education “in a narrow and a broad sense of word“ was used, or we can see using the term education, which comprises both education and upbringing actions. Taking into account also foreign literature sources, J. Průcha proposed integration of the both terms under the Czech term *edukace* (in sense of the English word *education* that is also occasionally translated as “*výchova a vzdělání*“ (in English “*upbringing and education*“) or only as “*výchova*“ or only “*vzdělávání*“). Here we do not aspire to solve pedagogical terminology questions; for our research we consider the term “upbringing“ to belong to the category directed at personality development and the term “education“ to be a process focused on cognitive (information) development. From this standpoint we also understand a criticism or self-criticism of teachers - they often say that they pay attention first of all to *education*, i.e. teaching of a subject, not to development of a pupil personality as a whole (Kurelová, 1998, Průcha, 2002).

Furthermore, for this text we consider as necessary to mention beforehand the difference in interpretation of *profession* and *occupation*. *Profession* is understood as a specialized and skilled activity, which demands deep and planned training; getting skills only is not sufficient, but an effective personality education is necessary for identification with a profession. On the contrary, *occupation* means only outward handling of required tasks resulting from a job. By our standpoint, teaching is a profession.

Our studies have been focused on problems of teachers for many years. We explored problems of physical load and mental stress of teaching (E. Řehulka, O. Řehulková, 1998), coping with stressing situations and their consequences for women teachers (O. Řehulková, E. Řehulka 1988), personality characteristics and coping with workload of women teachers at primary schools (E. Řehulka, O. Řehulková, 1999); our studies were also focused on teaching from the gender point of view (E. Řehulka, O. Řehulková, 2001), stressing situations of teachers in the teacher-adolescent pupil relationship (O. Řehulková, E. Řehulka, 2003), we explored optimistic/pessimistic orientation of teachers (E. Řehulka, 2002), quality of life of teachers (E. Řehulka, O. Řehulková, 2003) and its structure in relation to workload (O. Řehulková, E. Řehulka, 2007), we obtained research results on strategies for coping with stress (O. Řehulková, E. Řehulka, 2004) and on own lifestyle evaluation of primary schools women teachers (E. Řehulka, O. Řehulková, 2004), we made attempts in creation of the “healthy personality“ model in pedeutology (E. Řehulka, 2006); we also worked at using of self-management approach in activities of teachers (E. Řehulka, 2007) and many others.

Here we made attempt to know more about teacher profession by analysis of life stories of women teachers, based in principle on their autobiographies.

In order to characterize this method we can proceed from the term anamnesis. Anamnesis is used in a routine psychological diagnostics, in psychiatric diagnostics or especially diagnostics in psychology and usually it means a registration of personality development in life course, from conception to the present time (in another context also the ability to recall past occurrences before illness), a set of all data and information befo-

re illness or before problematic state of a client (personal anamnesis, family anamnesis, social anamnesis, school anamnesis). Psychological anamnesis is concentrated on finding information on development of an individual as a whole (personal, family and career anamneses). Psychiatric anamnesis, in analysis of personality development of a client, is primarily concentrated on pathological aspects and development deviation of a client.

Curriculum vitae has become a broad source of information and has been in spotlight of psychologists for a long time. In Slovakia in 1957 I. Ruttkay-Nedecký and V. Zikmund published the research monographs on *psychobiographic analysis of curriculum vitae*; in that time they made attempt to analyse curriculum vitae from viewpoint of Pavlov's interpretation of the higher nervous system. A patient told his autobiography and it was later analyzed - adequacy of behaviour in four points, social adequacy and purpose suitability in registered affectogenic and hard life situations were evaluated; then the so called anamnestic index was simply calculated. The patient was asked to describe his/her family and social environment, childhood and adulthood. The authors tried to find connections of the anamnestic index with psychophysiologic characteristics according to Russian Pavlov's school. The book is interesting with pointing out importance of psychological and socio-psychological data for perception of human personality in such past times.

In this connection R. Atkinson et al. (2003) spoke about case studies that "use autobiography for scientific purposes" and advised to be beware of unreliable, distorted and incomplete memories. However, this distortion can be interesting in some sense, mainly if other life plans are projected to the autobiography or description of events is influenced by imagined or expected future.

Curriculum vitae, autobiography is a written description of an author's own life or several parts of his life. It can be formulate in a simple arrangement of outside events, in a complex literary description of the author's life stories, his development and philosophic creed. It can be arranged in daily records, annals, various literary forms, memoirs, historical records, essays and also artworks (literarily stylized dairy, autobiographical novel). In artistic literature there are also autobiographic fictions that use the first person singular form of telling in stories.

The phenomenon of curriculum vitae, autobiography, can be investigated in similar forms and so it can enter into other theoretical denotations, which is valid for theory of personal stories. In methodological manual published by R. Švaříček and K. Šed'ová (2007) the definition of *life story* is quoted by R. Atkinson (1998): "It is a story that is chosen by an individual, for telling about his/her passed life; it is told fully and frankly, to a degree permitted by his/her memory and influenced by his/her wish to provide personal information to others in some measure, usually as a result of a dialogue with the other person". The mentioned authors also called attention to possible difference between *life story* and *life history*. In the life story we can see "how people are living and how they understand living - mainly each of them his/her own life", whereas for the life history "observation, questionnaires, documents or interviews with the third party" are more frequently used (Švaříček, Šed'ová 2007). Probably we can say that the life story emphasises subjective view and the life history objective opinion. By Vybíral (2006) "human life can be seen as "woven of stories"". The story enables to see the life as a meaningful complex. "The story is taken as the unit of a significance that gives a frame for experiences being lived. Thus, the life experiences are interpreted by means of the story." (Čermák 2000).

Z. Dytrych and Z. Matějček (2001) published experience with the method of the life story; they understand this method as “reconstruction of a life story of an investigated individual, which was subjectively processed and now being told to another person“. They differentiate this method from a thorough anamnesis, structured interview or psychoanalytical investigation and also suppose that it can not be measured by use of standard mathematical statistics methods. The attitude of the investigating person is not standardized at all, in general it is recommended to be helpful, encouraging, sympathizing and with minimal influence on story telling. For our research it was important that the authors supported fluency by inciting questions. In spite of Dytrych’s and Matějček’s sceptical conclusions for the problem, evaluated by them as “refreshment of classical investigation repertoire“, we can state also several positives: the method brings not only “a set of anamnestic data but the authentic life story with its specific and hardly noticeable dynamic“.

Theme of the life story is also discussed by P. Gavora (2000) in his handbook for pedagogical research: “In a research of the life story it is not primarily about collection of facts on a man’s life. From the facts we can reconstruct subjective meanings; the facts in themselves are not an end, but a means of the research“. This author also quotes the British research of teacher careers published by J. P. Sikes, L. Measor and P. Woods (1985), who found the following phases in the teacher careers:

1. Choice of the profession
2. Starting practice
3. The first school year, probably also one half of the second school year
4. The third year after starting at school
5. The middle of the carrier in teaching
6. Time before retirement.

In the life story there are critical incidents or key event points of a turn that indicate change of actions/behaviour in the story flow and sometimes they also explain this change. Those events have been mostly filled with emotions and affectively tinged in expressions.

In our theoretical consideration we introduce three terms, namely ”anamnesis, “curriculum vitae“ and ”story“ that can be defined for our work as follows:

ANAMNESIS → data from the past to explain the present state

(time perception: the past times)

CURRICULUM VITAE → anamnesis + personal sense

(time perception: the past times from viewpoint of the present time)

STORY → curriculum vitae by personal interpretation

(time perception: the past times and present from viewpoint of future)

Research, results, discussion and conclusions

In this study we analyze autobiographies of 50 primary school women teachers that described their autobiographies as personal stories of realization/self-realization in the teaching profession. The average age of the investigated persons was 37,5 years, the

youngest woman teacher was 29 and the oldest one 56. The investigated persons (hereinafter IPs) were offered an autobiography structure that could motivate IPs to a better reflection in their position as woman teacher in relation to their personal past times and their future. They told with ease their professional life story, some of them prepared principle parts in written form, because they had disposed of the non-obligatory offer “Questions proposed for personal story of woman teacher“. Theory of research of profession stories had been lectured and discussed in postgraduate psychology courses.

QUESTIONS PROPOSED FOR PERSONAL STORY OF WOMAN TEACHER

Experiences and memories of childhood and youth that have influenced you in choice of your profession (parents, teachers, books, environmen, films, friends) and formed your teaching work till now ...

Experiences and memories from professional preparation (secondary school and the university, courses), positive, negative influence, importance, uselessness; can teaching be learned?...

What substance and sense do you see in your woman teaching profession? Do you take it as vocation or only occupation? How has this work affected your personal development?...

What do you mostly appreciate in woman teaching and what is troubling you; what enrichment, damage or limits have you found in this work? Has it influenced your health, happiness and satisfaction?...

How has your teaching profession impacted on your private life, relationships with your husband, partner, friends, parents?...

Has been your relationships to children and young people influenced by your teaching profession? Or relationships with your own children? Have you more problems with your own children than other women? ...

What relationships have you with your colleagues? Are you socially engaged? Do you want to take part in public events? Are you interested in politics, in education topics?

Have you and important or milestone experiences from your teaching profession that had principle impact on your life? Can you describe it?

What are you interested in? What activities do you prefer? What would you like to do in your spare time? Do you devote time to self-education, culture, social activities?

What personal perspectives do you see in your work: personal satisfaction, fatigue, exhaustion, positive feeling of satisfaction, happiness, acknowledgement...

Would you choose your teaching profession again, never? Have you had another idea? Would you be pleased with succession in teaching in your family? Would (would not) you recommend this work? ...

Please try to express your idea and sense of teaching in a motto, slogan, quotation, aphorism, verse - your own or adopted.

We analyzed the recorded stories and also the written form and so we obtained a lot of information to possible different interpretation. The research described here supplied us with a lot of knowledge; only a part was used in this study. Because of its extent we choose a process structuring the stories into the following fields of interest:

- Origin of "teaching" in the personal story
- Experience of "teaching" in the personal story
- Life with "teaching" in the personal story
- "Teaching" as a labour in the personal story
- Significance (*status*) of "teaching" in the personal story
- Sense (*role*) of "teaching" in the personal story
- Fate with "teaching" in the personal story

In each of the fields we could find essential moments for that the women teachers could express their opinions; for a simple illustration we quote here from the stories and make attempt to draw a general conclusion. Results for individual fields are as follows:

Origin of "teaching" in the personal story

MOTIVATION FOR CHOICE OF TEACHING

("from elementary school age I wanted to be teacher")

- *MOTIVATION FOR TEACHING IS MENTIONED ALMOST ALWAYS*

FAMILY INFLUENCE

("my parent did not prevent me from being teacher but they did not recommended me such a choice")

- *FAMILY DID NOT PREVENT ME FROM BEING TEACHER*

INFLUENCE OF PERSONAL EXPERIENCES

("I wished to be similar to my favourite woman teacher; I have respected her greatly and I am still thinking of her often")

- *POSITIVE EXPERIENCES OF SCHOOL ATTENDANCE ARE IMPORTANT*

SUITABILITY/PURPOSEFULNESS AT CHOICE

("I knew what teacher's work meant, what I would do")

- *CHOICE IS PURPOSIVE*

PROCESS OF DECISION-MAKING

("working with children is the best experience of my woman teacher career; all my life I have strived for it")

- *STRONG MOTIVE: WORK WITH CHILDREN*

LIFE PERIOD AND AGE OF CHOICE

("I choose teaching finally at the secondary school")

- *TIME AT SECONDARY SCHOOL*

Experience of "teaching" in the personal story

AM I SATISFIED WITH TEACHING AS MY PROFESSION?

("I like explaining various things, taking care of kids; I am mostly satisfied with it")

- *TEACHING IN ITSELF IS VERY SATISFYING FOR ME.*

WOULD I CHOOSE THIS PROFESSION AGAIN?

("I think I would be teacher again but the profession is so hard and responsible that I would not dare to recommend it to others")

- *I WOULD LIKE TO BE WOMAN TEACHER AGAIN (BUT I CAN NOT RECOMMENDED TO ANYBODY).*

WHAT ARE POSITIVE AND NEGATIVE CONSEQUENCES OF TEACHING FOR ME?

("one must believe that things will always go well", "When I evoke my pedagogical memories I can sometimes recall extraordinary deep experience", "... sometimes I am afraid that I could be unconcerned, inadequately to the situation")

- *"FORCED" OPTIMISM, "FLOW" STATES ARE NEARLY DESCRIBED, FEAR OF BURNOUT SYNDROME.*

WHAT ENRICHMENT HAVE I FOUND IN TEACHING?

("in my teaching practice I have been enriched mainly by contacts with young people, they represent for me future")

- *REAL CONTACT WITH FUTURE*

WHAT DISAPPOINTMENT HAVE I FOUND IN TEACHING?

("the profession and work of woman teacher I had known - therefore I started my own teaching practice so that I have not met either disappointment or surprise")

- *TEACHING DID NOT BRING ME EITHER SURPRISE OR DISAPPOINTMENT*

WHAT DAMAGE HAS TEACHING BROUGHT ME?

("I thing I am woman teacher always and in every situations and without wishing. I just can not rid of it")

- *ENORMOUS ABSORPTION IN THE PROFESSION, MY LIFE HAS BEEN REDUCED TO TEACHING*

Life with “teaching“ in the personal story

HOW HAS TEACHING IMPACTED ON MY SOCIAL RELATIONS?

(“I often fancy that people relate to me as a woman teacher, with reserve and they are ready to disagree with me“)

- *TEACHING CAN INFLUENCE PERSONAL SOCIAL RELATIONS IN A NEGATIVE WAY*

HOW HAS TEACHING INFLUENCED MY RELATIONSHIPS WITH MY FRIENDS /PARTNER?

(“women teachers are often said to moralize ... but I *think* it is not true“, “most my friends are my colleagues – women teachers“, ...”I am divorced and a lot of my colleagues, too“)

- *TEACHING CAN INFLUENCE RELATIONSHIPS WITH FRIENDS/PARTNER IN A NEGATIVE WAY*

HOW HAS TEACHING BEEN PROJECTED IN RELATIONSHIPS WITH MY CHILDREN?

(“I think I have relations to my own children more complicated than other women... probably because I perceive them as children in a school class“)

- *COMPLICATED RELATIONSHIPS WITH CHILDREN IN OWN FAMILY, PERCEPTION OF COMPLICATED ATTITUDE OF THE CHILDREN TO ME*

„Teaching“ as a labour in the personal story

DO I CONSIDER TEACHING TO BE PHYSICALLY DEMANDING?

(“I often return from school so tired that I must retire to bed“, ”I have not supposed that teaching is so physically demanding“)

- *TEACHING IS VERY PHYSICALLY DEMANDING*

HOW CAN TEACHING AFFECT MY HEALTH?

(“I lost my health at school“, ”I got many health problems at school“)

- *TEACHING HAS A NEGATIVE IMPACT ON HEALTH*

WHAT LOADS/STRESSES CAN BE INDUCED BY TEACHING

(“to outshout children“, ”to maintain discipline“, ”to hold own attention“, ”to handle negative emotions“)

- *SPECIAL PHYSICAL LOAD AND OTHER STRESSES*

HOW CAN I HANDLE THOSE LOADS/STRESSES?

(“I have always been able to handle problems, somehow – but I have never been prepared for it“, ”I think often that I am exhausted unnecessarily“)

- *SUCH SITUATIONS ARE HANDLED UNPLANNED, QUITE INEFFECTIVELY, BY MEANS OF IMPLICIT PROCEDURES*

IS TEACHING TIME DEMANDING?

("teaching is very time-consuming, it does not mean only class hours and other work at school but also time for preparation of lessons, teachers are not able to shake school problems even at home")

- *TEACHING IS VERY TIME DEMANDING*

HOW DO YOU PERCEIVE AGING IN THIS PROFESSION?

("in my profession I do not feel my age, probably only in my experiences that help me in situations of lack of energy")

- *AGING IN TEACHING MEANS INCREASE OF EXPERIENCES, FULL MUTUAL COMPENSATION OF FORCES AND EXPERIENCES*

FINANCIAL REWARD FOR TEACHING

("I think, all teachers consider their salary to be lower than they deserve")

- *LOW FINANCIAL REWARD*

Significance (status) of "teaching" in the personal story

DO I FEEL RESPECT FOR MY PROFESSION?

("I feel that people hold teachers in esteem but I am afraid it will not be long")

- *TEACHING IS TAKEN WITH RESPECT BUT THERE IS A WORRY THAT THE RESPECT COULD BE LOST*

IS TEACHING REPLACEABLE?

("teacher's personality can be substituted by nothing else, neither by computers, nor textbooks, sophisticated projects")

- *TEACHING IS IRREPLACEABLE*

POSITION OF TEACHING PROFESSION IN OUR SOCIETY

("I think people can not imagine our society without teachers but they do not think about it and are not interested in cooperation with them")

- *TEACHING IS IN OUR SOCIETY APPRECIATED (with critical reservation to the society)*

PROFESSIONAL EDUCATION/PREPAREDNESS FOR TEACHING

("I feel that the university did not give me enough for my profession of women teacher; I do not know if it is a mistake of the university or my fault but pedagogical education of teachers at universities should be changed substantially", "by my opinion, for teaching a facility analogous artistic production is also necessary")

- *MANY RESERVATIONS TO THE PROFESSIONAL EDUCATION/PREPAREDNESS*

UPBRINGING VERSUS EDUCATION

("I have no problems with explaining of my subjects and didactics but I know that I do not bring education with upbringing", "I would prefer a real education")

- *UPBRINGING IS MORE DIFFICULT THAN EDUCATION*

HOW AM I PERCEIVED BY CHILDREN AND PARENTS?

("children and parents relationships to me are very different: from friendly and willing collaboration up to disdain and total indifference")

- *CHILDREN AND PARENTS PERCEIVE TEACHER VERY DIFFERENTLY*

WHAT IS MY AUTHORITY AS TEACHER?

("formal authority does not work, informal one must be obtained by a long and hard work")

- *AUTHORITY MUST BE BUILT*

Sense (role) of "teaching" in the personal story

WHAT DUTIES DO I FEEL AS WOMAN TEACHER?

("I, as woman teacher, have a lot of *written* duties but the *unwritten* duties are important, for those I myself feel responsibility...")

- *IF TEACHING IS UNDERSTOOD IN A PROPER WAY IT IS „ABOUT DUTIES“*

WHAT IS MY ENTIRE RESPONSIBILITY?

("when I see what all I could handle, what pupils and teacher expect from me, I am saying to myself I can not be responsible for all such things")

- *I HAVE MORE RESPONSIBILITIES THAN I CAN HANDLE*

WHAT VALUES AND IDEALS DO I – AS WOMAN TEACHER - ASCRIBE TO ?

("my friends say me: 'You as a teacher are an idealist' but I answer them 'That's why I am teacher', "Teacher should first of all educate, not only instruct children")

- *IDEALS AND VALUES ARE CONSIDERED TO BE "IDEALISTIC"*

DO I THINK THAT FOR MY PROFESSION I MUST DEFINE MY MORAL AND SPIRITUAL VALUES?

("education is not possible without moral values; those moral values are evident. I accept them and act in accord with them")

- *MORAL NORMS AND VALUES ARE DEFINED IN A DECLARATORY WAY, ESPECIALLY BY BELIEVERS*

DO I LIVE FOR TEACHING?

("I am convinced that a person satisfied with teaching is also fully identified with this profession")

- *I LIVE FOR TEACHING IF I AM SATISFIED WITH IT*

Fate of "teaching" in the personal story

HAS TEACHING AFFECTED MY LIFE?

("I can not imagine my life without teaching")

- *TEACHING IS MY LIFE*

DO I TAKE TEACHING AS VOCATION?

(“work of woman teaching is a vocation, it means activity, creation and humility“)

- *TEACHING IS CREATIVE PROFESSION AND VOCATION*

AM I A PERSON SUITABLE FOR TEACHING?

(“when my work does not go well I speculate whether my decision to become teacher was a good one“)

- *SUITABILITY FOR THIS JOB IS ADMITTED ONLY BY THOSE WHO ARE SATISFIED WITH THIS PROFESSION*

HAS MY LIFE BEEN ACCOMPLISHED BY TEACHING?

(“I’m sure, I will never be able to do anything else than teaching – whether I like it or not“, “teaching is my fate“)

- *„I HOPE THAT TEACHING MISSION CAN ACCOMPLISH MY LIFE“*

“ME“ AND TEACHING

(“When I am thinking about my profession, I mean I am a proper teacher in the situations when I am authentic - without keeping theories I believe in my experiences and my own feelings“)

- *TEACHING IS „MY TEACHING“*

TEACHING AND SELF-REALIZATION

(“I think I would not find other profession except for teaching with such possibility to express my abilities and to act purposefully and intentionally“)

- *TEACHING CAN RESULT IN SELF-REALIZATION*

TEACHING AND PERSONAL TRANSCENDENCE

(“woman teacher working, if it is taken honestly and deeply, can bring strong sense of life experiences, sometimes so strong that a normal contact with common world and life reality can be lost. “)

- *TEACHING CAN RESULT IN PERSONAL TRANSCENDENCE BUT THERE IS A RISK OF ODDITY*

Here we presented a palette of information with extract of women teachers’ life stories. Data of protocols were distributed to seven areas that we try to summarize now:

Teaching is a profession known practically by everybody; people have met with this profession in their youth, for many years, from “the outside“ as pupils, students and as parents. Women teachers choose this profession by deliberate motives, which originates soon at primary school and they make definite decision at secondary school in time of profession choice. For women teachers there is a strong, understandable motive for this profession – working with children. In the present time teaching does not belong among lucrative professions; it has, however, character of a respectable profession, particularly for a woman and so families of future women teachers did not protect them from this choice.

Personal experience of pedagogical work is satisfying for our investigated persons and they would usually choose this profession again. But they are conscious of some difficulties of this profession that could absorb and exhaust them. Teachers are forced to create simple, positive models of behaviour that are useful for world of children and therefore they tend sometimes to express naive or effusive opinions.

Each profession has influence on social life of a relevant individual – similarly it is valid for women teachers. Here the women teachers observe more negatives; they are often said to transfer school education procedures to relations with family and adults; it is negatively taken mainly by their partners. Women teachers deny often this fact but admit several social and communication unusualness resulting from their profession.

Each profession has character of a work and thus also teaching. Majority of women teachers perceive the pedagogical work as very time- and physically demanding, which is often surprising for publics and also for beginning teachers. For this reason women teachers try to see causes of their own health problems at school and can guess a lot of specific loads/stresses originating in pedagogical work by keeping discipline and own working productivity. Women teachers often say that they are not able to handle stress from teaching. Getting older is not taken as a handicap in this profession because the lower physical productivity is compensated by larger experiences. In the present time our teachers usually complain about relatively low salary.

How can teachers understand significance of their profession, in other words what they say about the teacher status? The answers and meanings are given mainly by traditional conception of teaching. This profession is perceived as socially accepted, irreplaceable but connected more with an individual authority than with the profession. Contemporary we registered a fear of endangerment of those qualities; some women teachers take it by supporting education more than upbringing. It probably can influence criticism concerning profession education of teachers; the criticism is often and noticeable but mainly only general, and seldom concrete.

More personally opinion of teachers appears in looking for a sense of their profession. In answers of women teachers they tell about duties, responsibility and often they mention high ideals, especially in moral level; more distinct opinion was expressed in answers of believing women teachers and those satisfied with their profession.

The most personal formulation we characterize as "the fate of teaching". Teaching is a mission that enables self-realization; it is creative and can fulfil life, sometimes up to possible deformation. Mostly those women teachers have such experiences that are satisfied with their job.

Conclusions

- Teaching is a deliberately chosen profession that is usually well known by candidates.
- Teaching profession brings also physical, time and other loads and stresses and teachers are not professionally prepared for coping with them.
- Women teachers mainly consider teaching to be a traditional profession and in this sense they are afraid of future.
- Women teachers differ by their focusing either on upbringing or education.

- Women teachers highly appreciate moral values of their profession, namely those identified with teaching as a vocation.
- Teaching is a personal identification that brings job satisfaction and also fatigue.

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PŘÍBĚHY UČITELEK: POKUS O POZNÁNÍ PROFESE

Souhrn: Studie přináší poznatky o učitelském povolání prostřednictvím analýzy profesního příběhu padesáti učitelek. Jednotlivé výpovědi jsme strukturovali z hlediska motivace, prožitku, každodennosti, práce, významu, smyslu a osudu učitelství v osobním příběhu. Po kvalitativní analýze docházíme k závěrům, že učitelství je vědomou volbou povolání, je učitelkami chápáno hlavně tradičně, s relativně vysokým mravním kreditem a s diferencí mezi převahou výchovné či vzdělávací práce. Při identifikaci s učitelstvím dochází k životnímu naplnění, ale současně k setkání se specifickými zátěžemi a problémy, které mohou vést až deformacím, na které nebývají učitelky připraveny.

Klíčová slova: učitelská profese, osobní příběh

A STUDY ON TEACHERS' VOICE DEVELOPMENT IN THE CONTEXT OF THEIR PROFESSION

Jana FROSTOVÁ

Abstrakt: Every teacher needs a quality voice as an important component of his or her professional competence. Many teachers are aware of some problems concerning their voices as early as at the beginnings of their pedagogical activity, but do not pay due attention to them. A number of teachers do not also know how to work with voice and how to take care of it.

In the first stage of the project, 65 respondents were questioned – all of them students of combined university studies who had already taken active part in the educational process. The following techniques were used:

1) The author's questionnaire directed towards the subjective perception of one's speaking and singing voice, the knowledge of voice hygiene, the sources of this knowledge and the voice load in extraprofessional activities.

2) The Voice Handicap Index (VHI) questionnaire worked out by Jacobson and her colleagues (1997), by means of which it is possible to establish the subjective evaluation of the quality of one's voice and of the impact one's voice has on socio-professional functions.

At the same time all the respondents' voices were recorded so that objective changes of their voices could be monitored systematically. A computer was used whose software is able not only to record voices but also analyse them by determining their DSI.

Key words: voice, teachers, voice hygiene, voice evaluation, Voice Handicap Index, Dysphonia Severity Index.

Introduction

A quality voice is an important component of the teacher's professional competence. Voice fitness makes the basis of pedagogical communication. A good voice is not only a presupposition of understandability and communicativeness of verbal communication, it also augurs well for the effectiveness of communication, since

fatigue as a result of voice problems leads to decrease in the frequency and intensity of communication.

And vice versa, a good vocal quality helps to assure full understandability of the ideas, announcements and intentions the teacher expresses, does not distract the listeners' attention, does not tire them by their constant guessing the unintelligible words in the communication and does not disturb the mutual contacts.

To master the sound aspect of verbal communication means, however, a good speech technique, including breath technique, the technique of the basic voice formation together with flawless articulation and balanced ratio of resonances.

The disturbing factors of the vocal performance include various degrees of hoarseness, a husky or faltering voice, jumping of the voice (i.e. sound failures in speech), a weak voice, a breaking voice, a voice with constantly disproportionate loudness, etc. The given phenomena usually signalize a temporary or constant interference with the voice function. All sound changes of the voice performance, caused either by a disease of a vocal organ or by incorrect functions of the phonic, respiratory or articulating organs are classified as voice disorders in our conception.

Voice disorders can occur separately or in combination with other kinds of impaired ability of communication (dysarthria, aphasia, balbuties, palatolalia), or as part of somatic diseases (lung diseases, asthmatic bronchitis) or psychic ones (hysteria) (Lechta, 2003).

Voice disorders are mostly beyond an individual's ability to cope with them independently; they usually need consulting a doctor and sometimes subsequent therapeutic intervention.

Many teachers are aware of some problems concerning their voices as early as at the beginning of their pedagogical activities, but do not pay due attention to them, partly because they lack sufficient knowledge of voice that would direct and structure their self-evaluation. In addition, a number of teachers do not know how to work with voice and how to take care of it. Another reason why some teachers lack the ability to assess critically the bad quality of their own voice (self-diagnosis) is the fact that they gradually get accustomed to it, make up for the consequences of the unsatisfactory quality of their voice by raising their effort (which they consider necessary due to the generally demanding character of teaching) and in fact stop thinking about the coming problem. Quite often they do not see a doctor until they are asked to by people around them.

Research objectives

The main output of the present research project will be creating an integral system of exercises and recommendations for work with voice that should inspire future teachers to observe the principles of voice hygiene in their personal and professional lives.

The aim of the present stage of the research is to assess the characteristic features and development of voice in the context of pedagogical practice; this will be our starting point for working out the conception of the exercises.

The research set of respondents

In the first stage of the project, 65 respondents were questioned (4 men, 61 women), all of them students of combined university studies who had already taken active part in the educational process.

Most respondents had been teaching for 1 to 6 years.

Their weekly teaching loads were in the region of usual numbers of classes.

Age	
The oldest	45
The youngest	22
The average	30
The most frequent	23
The median	29

The lenght of practise	
1-3 years	20
4-6 years	28
7-9 years	7
10-12 years	2
13-15 years	2
16-18 years	1
19-21 years	4
25 years	1

The weekly load	
The highest	26
The lowest	8
The most frequent	22
The average	21,4

The research methods

The following techniques have been used:

- A) The author's questionnaire directed towards the subjective perception of one's own speaking and singing voice, the perceived needs for changes of both the speaking and the singing voice, the knowledge of voice hygiene, the sources of this knowledge, and the voice load in professional and extra-professional activities.
- B) The Voice Handicap Index (VHI) questionnaire worked out by B. H. Jacobson and her colleagues (1997), by means of which it is possible to establish the subjective evaluation of the quality of one's voice and of the impact one's voice has on socioprofessional functions. In the Czech Republic it has not been much used yet (Frostová, Lejska, 2006). The questionnaire is not a substitute for medical anamnesis, but it is able to provide information on the seriousness of the troubles, problems, difficulties and restrictions that arise in the personal and professional lives of the respondents and are caused by or connected with various voice difficulties or disorders. The respondents answered according to a five-degree scale. The questionnaire is divided into three groups of 30 questions each, described by the authors as the functional factor, the psychological factor and the emotional factor.

These „factors“ cover:

- 1) *the functional (practical, operational) region* (the impact of voice difficulties on life and life situations);
- 2) *the psychological region* (data on feelings during one's speech and on the perception of one's own voice);

3) *the emotional region* (the respondent's emotions caused by voice problems and the impact of voice problems on the social environment)

C) At the same time all the respondents' voices were recorded so that objective vocal changes could be monitored. A computer was used with software that scans the voices and makes a later analysis, especially the DSI (Dysphonia Severity Index) evaluation, possible. DSI means, according to Wuyts (2000), „a transfer of the audible quality of the voice into a one-dimension correlating value“. The DSI is calculated according to a formula consisting of the values of the highest frequency, the lowest volume, the maximum phonation time (MPT) and the jitter. The DSI values range from +5 (for the normal voice quality) to -5 (for severe voice disorders). The more marked the negative index value, the worse is the voice quality.

Results

With regard to the aim of our investigation we are interested in what we consider one of its starting points, namely the load of both the speaking and the singing voice in the respondents' extra-curricular activities.

Table 1:

Voice load in extra-curricular activities (in hour a week)									
	min	max	mode	average	1-3 h	4-6 h	7-9 h	10-12	13-15 h
Speaking voice	0	10	2	3,49	26	13	1	4	0
Singing voice	0	15	2	2,80	28	2	2	1	1

The extent of the knowledge of voice hygiene

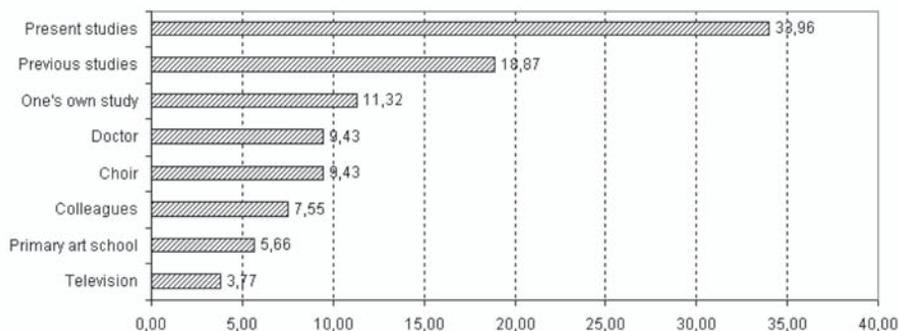
A surprising discovery was the fact that only 52.30 per cent of the respondents had some knowledge of voice hygiene, while 47.69 per cent had none or almost none. The knowledge was considerably restricted, the most frequent answers being: *not to shout, not to overtax one's voice, not to drink cold beverages.*

The sources of the knowledge of voice hygiene

More than one third of the respondents obtained their knowledge of the voice care possibilities while studying at the Faculty of Education (see Chart 1). Others had the knowledge before they came to the Faculty, mostly from secondary pedagogical schools and grammar schools, others gained the information by reading and studying books, articles and selected titles from the Internet. Also choirs (church or secular ones) educated their members (the choirmaster playing an important role here), or the respondents got the knowledge from doctors (general practitioners, phoniatricians, ENT (ear, nose and throat) specialists or from their colleagues. A well-informed group were respondents who had studied solo singing at primary art schools, because they had taken

part in voice training. These respondents could be expected to have higher perceptiveness towards the changes in the quality, health and needs of their voices. The smallest part of the respondents obtained their information on voice hygiene from TV programmes.

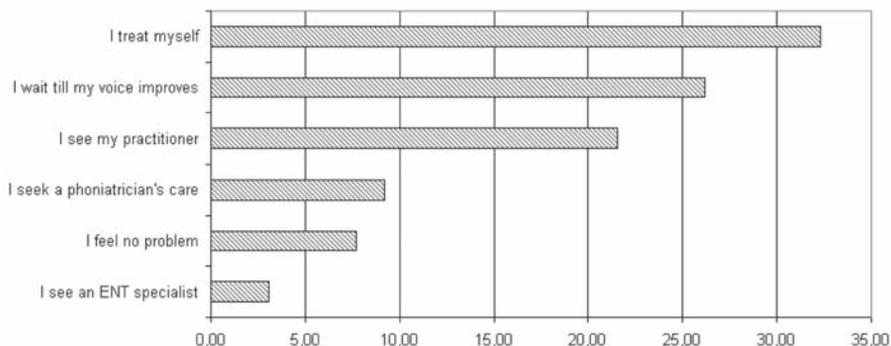
Chart 1: The sources of the knowledge of voice hygiene



The ways of tackling voice problems

The results suggest that the prevailing tendency is a certain trivialization of voice problems (32 per cent of the respondents would „*have their own treatment*“, 26 per cent would only wait for spontaneous improvement of their voice). We would expect a more responsible attitude to voice care from teachers as voice professionals¹, since their voice is their working tool (see Chart 2).

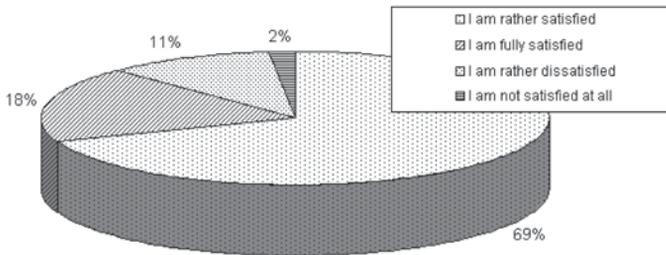
Chart 2: The tackling of voice problems



¹ The concept of voice professional means a person who necessarily needs a perfect voice function for performing his or her profession. According to the instructions of the Union of European phoniaticians, teachers are, in agreement with the voice quality requirements, classified into the second group of voice professionals (Novák, 2000).

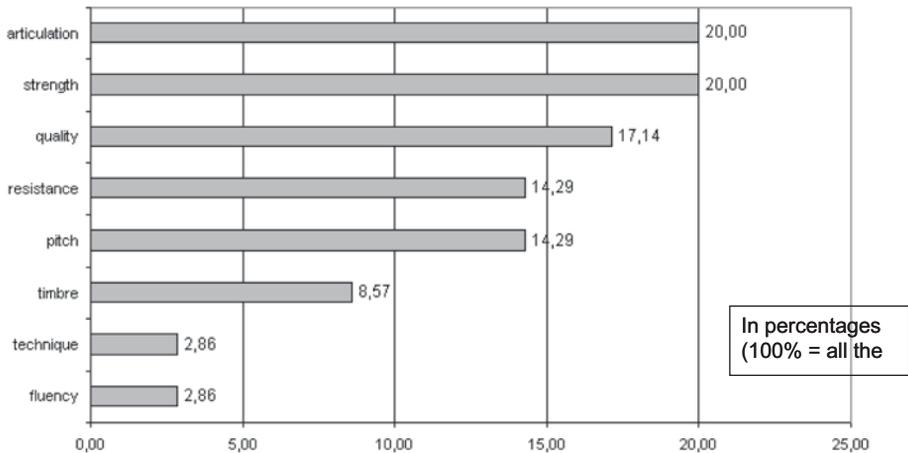
Subjective evaluation of the speaking voice quality

Chart 3: Subjective evaluation of the speaking voice quality



Fewer than one fifth of the respondents are fully satisfied with their voice (see Chart 3) and in principle do not want to change anything on it (only one answer concerned some improvement of the articulation). Approximately 43 per cent of the respondents said they needed a change of their speaking voice (see Chart 4).

Chart 4: Subjectively felt need for a change of one's speaking voice



The respondents most often answered the open question concerning their feelings about a change by saying they needed to improve articulation. (Two respondents were aware of their articulation defects (rotacism, sigmatism) that needed logopaedic care.) The same percentage of the respondents felt that they needed a stronger voice. The wish for „a stronger voice“ may include – in regard to the teaching profession – also a more sonorous and resonant voice.

Dissatisfaction with the quality of one's voice is relatively frequent in the investigation, too. The respondents mostly characterized their voice as *hoarse*, *raspy*, *rough*, *unrefined*, and wanted a *smooth voice*, *pleasant to the ear*. A statement of the type: „*my voice is rather hoarse in the morning*“ probably refers to a voice disorder connected with a change on the vocal cords.

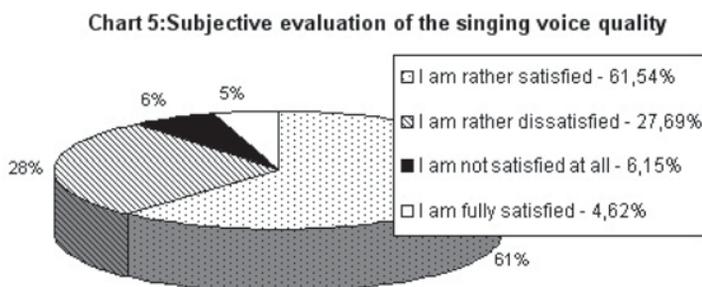
Nearly 15 per cent of the respondents would like to raise the resistance of their voice. Their statements (*I feel that my voice is tired after my classes, I wheeze, my voice is going, my voice keeps failing, I sometimes start shouting and my voice aches me then*) are signals of some voice problems. A functional or organic disorder may be present, needing phoniatric examination.

About the same percentage of the respondents would like to raise or lower the pitch of their voice.

Subjective evaluation of the singing voice quality

Roughly one half of the respondents (52 per cent) teach music within their teaching loads and nearly three quarters of the respondents say that they use their singing voice either in their profession or in hobby groups, the average extra-curricular load of the singing voice being almost 3 hours a week (see Table 1). We were therefore interested in how the respondents evaluated, in addition to their speaking voice, also their singing voice, or perhaps if they felt that any changes of its parameters were needed.

A markedly prevailing majority of the respondents (66 per cent) evaluated the quality of their singing voice favourably (three quarters of them being music teachers). The group of respondents „dissatisfied“ with their singing voice contained mostly teachers who did not teach music as their specialization (48 per cent of the 31 respondents not teaching music and 21 per cent of the 34 music teachers).



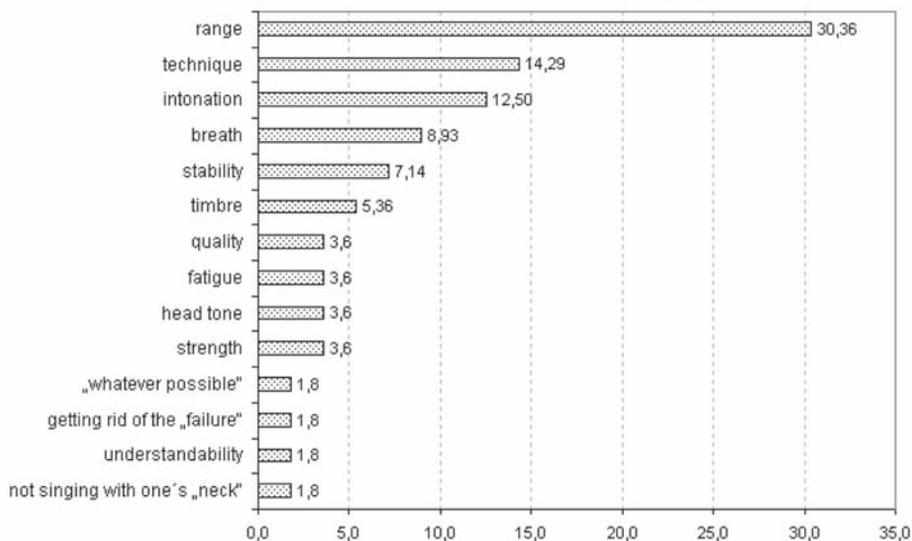
There is an interesting difference between those who were not at all satisfied with their voice and the others: while the thoroughly dissatisfied respondents were only exceptionally able to specify what parameters of their singing voice they wanted to change, the other respondents managed to perceive and evaluate the drawbacks of their singing voice and also to formulate more exactly what changes they needed.

Subjectively felt need for a change of one's singing voice

One third of the respondents answered the open question concerning their feelings about a change by saying that they needed to enlarge their singing voice range (see Chart 6).

The demands made on the singing voice (in the context of teaching music) are higher than those made on the speaking voice.

CHART 6: Subjectively felt need for a change of one's singing voice



All the required vocal changes the respondents mentioned (like *improving the breath technique, a stronger voice, vocal stability, a better understandability*) are subjects in building the singing technique. There are many aspects where a quality singing-voice technique exerts a favourable influence on the speaking-voice technique, and vice versa, a good speaking technique does not burden the singing voice. If the speaking voice is being overtaxed or is not managed properly from the technical point of view, the muscles of all the voice-forming system become fatigued, which has an impact on the quality of the singing voice as well. Some of the many symptoms that may appear then is a gradual reduction of the range of the singing voice² and strenuous voice forming.

Some statements are warning, since they reflect indirectly the health of the respondents' voices: *my voice fails, I wheeze after my music class and don't want to speak, after singing rather long I feel I have a lump in my throat, I have a hoarse voice after singing, I would like to keep a high note without any health problems.*

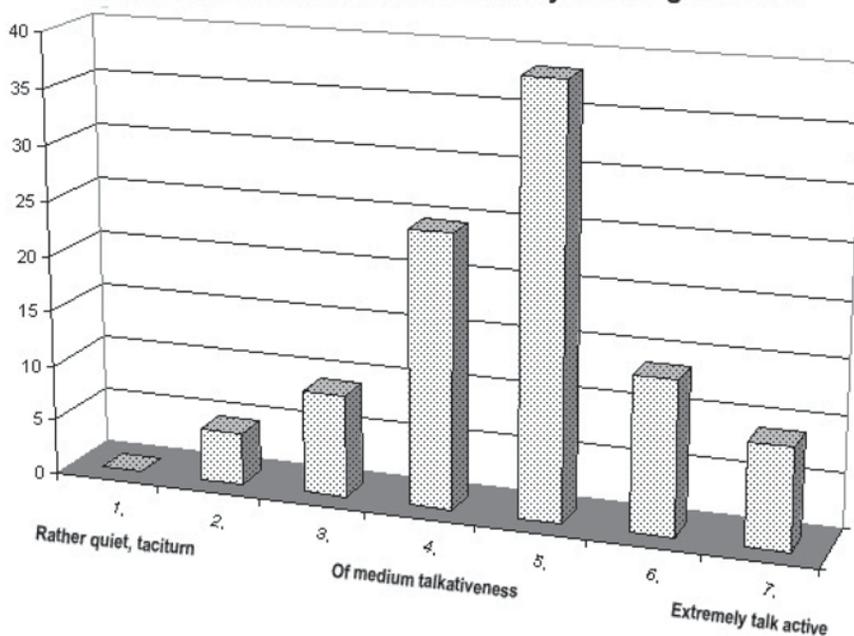
Subjective perception of voice problems by means of VHI

The VHI questionnaire establishes, in addition to the voice problems described in the Introduction of the present paper, also degrees of „talkativeness“ (extremely talkative) on a seven-degree scale.

² The influence of ageing is not meant here.

Chart 7 shows how talkative are the responding teachers.

Chart 7: Self-evaluation of the intensity of talking activities



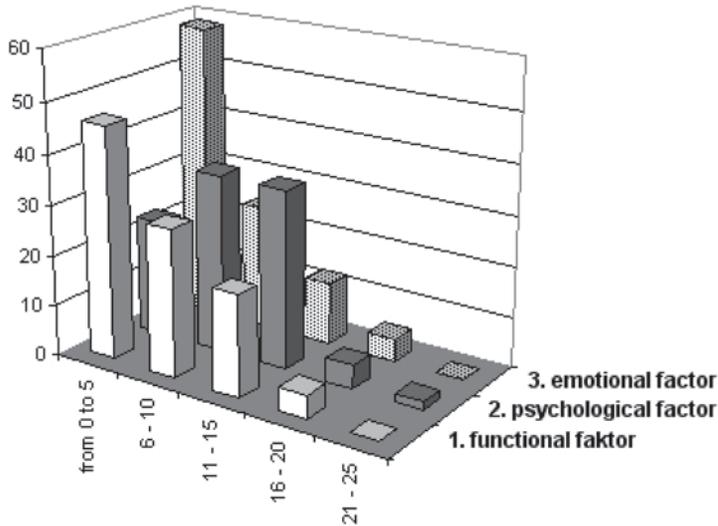
Most respondents see themselves as an average to slightly talkative type. The results, however, should not be taken as fully informative, since experience and similar investigations suggest that respondents are not entirely critical in this kind of self-evaluation. Řehulka, Řehulková (1998), e.g., found out that the women teachers' partners evaluated them as „talkative“.

A comparison of the VHI results in the separate groups of questions (in percentages)

The results show that most voice problems are reflected in the group of difficulties the authors classify as „psychological“ (psychological factor), see above. The self-evaluations mostly refer here to the categories expressed by the index 6–15 points (see Chart 8).

In the „functional“ region (functional factor) and „emotional“ region (emotional factor) the evaluations mostly range from 0 to 5 points (46.15 per cent and 58.05 per cent respectively).

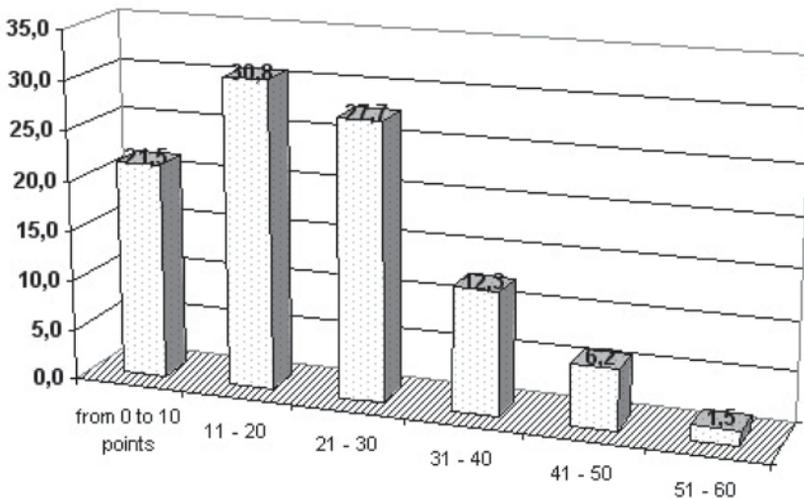
Chart 8: The respondents' self-evaluation according to the VHI groups



Although these results cannot, due to the number of respondents, be taken as fully informative, they are very illustrative of the subjective perception of voice problems.

Total results of the speaking voice subjective evaluations in the VHI questionnaire – the distribution of the degrees (in percentages)

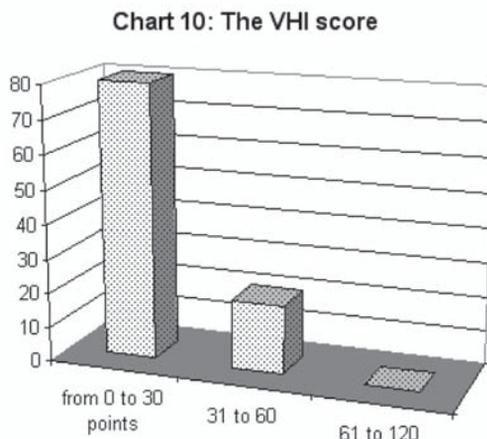
Chart 9: Total results in the VHI questionnaire - distribution of the %



0 to 30 points - no or minimal voice problems, 31 to 60 points - medium type voice problems, 61 to 120 points - serious damage to the voice

Total results of the speaking voice subjective evaluations in the VHI questionnaire

The preliminary analysis of the results shows that 80 per cent of the respondents have no or minimal voice problems, 20 per cent have a medium type of voice problems, and none of the respondents mentions any serious problem.



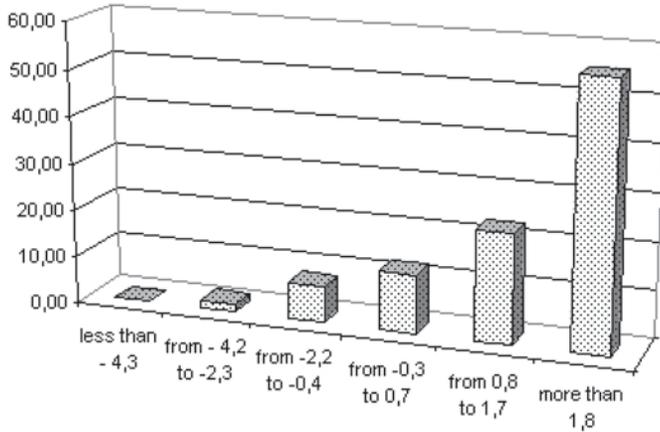
Distribution of the DSI (Dysphonia Severity Index) values

In order to establish the levels of voice damage, the DSI levels found out by our measurements were evaluated according to the table worked out by BOTH, WUYTS (2007). The DSI values are correlated with TOM (Therapy Outcome Measures, Enderby, 1997).

TOM		DSI
0	Severe persisting aphonia: patient has no voice, is unable to phonate	< - 4.3
1	Constant dysphonia: Sporadic periods of phonation, aphonic periods may be present	- 4.2 to - 2.3
2	Moderate dysphonia: patient can produce voice, but there are frequent periods of dysphonia	-2.2 to - 0.4
3	Slight to moderate dysphonia: less frequent periods of disturbed phonation or slight persisting dysphonia	- 0.3 to 0.7
4	Slight dysphonia: sporadic dysphonic moments for short periods	0.8 to 1.7
5	No dysphonia	> 1.8

Chart 11 shows the levels of damage to the vocal function in the respondents we monitored.

Chart 11: Distribution of the monitored respondents' DSI values



The values we measured show that 55 per cent of our respondents have no voice disorders, 23 per cent suffer from slight dysphonia, 12 per cent from a minor permanent hoarseness and 8 per cent from frequent periods of hoarseness. One respondent, whose DSI value suggested permanent dysphonia, was taken into phoniatic care six months ago: she is getting demanding voice rehabilitation from a voice pedagogue.

Conclusion

The results of our investigation indicate that teachers perceive problems with both their speaking voice and their singing voice.

Although it goes without saying that teachers should know the principles of voice hygiene and of observing precautionary measures, they appear to have only minimal or even insufficient knowledge of voice hygiene.

All teachers should be informed on the symptoms of possible voice difficulties so as to undergo the necessary specialized medical examination (phoniatics, ENT) in time.

It follows from the respondents' answers that they do not sufficiently avail themselves of the possibilities of specialized medical care. One would expect a more responsible attitude to voice care from teachers as voice professionals.

The results also show a rather considerable tendency towards trivialization of voice problems and a low level of the basic self-diagnosis of voice difficulties.

The analysis of the given subjective evaluations referring to voice parameters suggests functional voice problems.

The objective measurements using the DSI method (the analysis of voice scans)

that we did as the first stage of our research are in practical accordance with the subjective data (voice problems) stated in the VHI questionnaire.

In order to prevent development of severe voice disorders and voice diseases it is necessary to put the accent on subjective perception of one's own voice. If initially slight or only occasional symptoms of voice dysfunction are underestimated or not accepted, a functional or organic disease may deepen and serious diseases (like malignant tumours) may be neglected.

Voice is an important part of performing the teaching profession, and all changes of its quality or its diseases exert a negative influence on the teacher's work as well as the overall working atmosphere. Voice problems, or, more exactly, their consequences in contacts with people, self-reflection and self-evaluation, could become significant stressors, disturbing the teacher's mental health.

A comprehensive knowledge and information on voice hygiene should contribute to a change of the attitude to one's own voice, because all teachers should realize that their voice is their most important working tool.

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PŘÍSPĚVEK K VÝVOJI HLASU UČITELŮ V KONTEXTU PEDAGOGICKÉ PROFESÍ

Souhrn: Kvalitní hlas je pro učitele důležitou složkou jeho profesní kompetence. Mnozí učitelé již v počátcích pedagogické činnosti určité hlasové problémy registrují, ale nevěnují jim náležitou pozornost. Řada z nich rovněž neví, jak s hlasem pracovat a jak o něj pečovat.

V první etapě projektu proběhlo šetření u 65 respondentů – studentů kombinovaného studia, kteří již působí ve výchovně vzdělávacím procesu. Byly použity následující techniky:

- dotazník vlastní konstrukce zaměřený na zjištění subjektivní percepce mluvního i zpěvního hlasu, na vědomosti o hlasové hygieně, na zdroje těchto vědomostí, i na zjištění hlasové zátěže v mimopracovních aktivitách;

- dotazník Voice Handicap Index (VHI), konstruovaný Jacobsonovou a spolupracovníky (1997), pomocí kterého lze zjistit subjektivní hodnocení vlastní kvality hlasu a vlivu kvality hlasu na socioprofesionální funkce.

Současně byly u všech respondentů pořízeny hlasové snímky pro systematické sledování objektivních změn hlasu. Použit byl počítač se softwarem, který umožňuje záznam snímků a jejich následnou analýzu stanovením DSI (Dysphonia Severity Index).

Klíčová slova: hlas, učitelé, hlasová hygiena, hodnocení hlasu, Voice Handicap Index, Dysphonia Severity Index.

MUSIC THERAPY AND PSYCHOPROPHYLAXIS

Jaroslava GAJDOŠÍKOVÁ-ZELEIOVÁ

Abstract: *The report describes the music therapy within its social-historical, psychological, and musical relations. Music perception paradigms are classified within magic, mathematic, medical, and psychological classes, each of which having its own foundation even under present music therapy forms. The text presents a brief overview of the music therapeutic situation and presents the concept of a humane and dynamically oriented music therapy. The lawfulness of a cure process by means of an improvised music is described here in an analogous manner within the musical and psychic experience. The report interprets important phenomena specific for the definition of the active music therapy. On existential level, as an important recovery means, the relation is raised that is established through adoption by other people. The active music therapy provides space for the readiness to open oneself to important relations.*

Keywords: *active music therapy, improvisation, stimulation, sound in time and area, prophylaxis, concepts of music therapy*

Introduction

Throughout the whole history music is perceived as a self-reflection means - it is adherent to the therapeutic effect to a human being. The bases that verge to the music/therapeutic use of music and sound represent the evolution of the ontological base and existential orientation of man. Within historical context, music therapy is based on the functionality of music, which - seen from the anthropologic, social, and theological view - is tied with the **cult, sensual, magic/ritual**, and **medial** function of music. Due to the narrow interrelation of various modalities, roots of human culture are characteristic for the accord of *art, religion, and healing abilities*.

Modern music therapy has not featured a long-term tradition in Slovakia. In mental homes its development started only in the 60s due to Prof. Matulay of Pezinok; in Bratislava thanks to Mr. Molčan, MD, in the Psychiatric Clinic. To a great extent the use of the music therapy was contributed to by Mrs. Zlatica Mátejová, PhD, and Mr. Silvester Mašura, MD, who started to apply the music therapy when working with children and teenagers with neurotic disorders in the 70s. Their practical, publishing, and educational

activities, within the Faculty of Education of the Komenský University of Bratislava, have represented a valuable contribution to the basic orientation in the music/therapeutic issues till present days.

Unfortunately, for the comprehensive understanding and study of the music therapy conditions have not developed sufficiently in our country so far; apart from popular science articles in magazines only a couple of books do exist in Slovak in respect of this topic (Mátejová, Mašura, 1980 and 1992, Mátejová, 1993, Vitálová, 1999, Zeleiová, 2002). We still lack a global plotting of the situation in Slovakia, as well as detection of modern world trends, in particular in the psychotherapeutic area.

Music therapy as a process

The music therapy is a therapeutic method, systematically controlled and purposefully utilising the interpersonal sound space and music for the purpose of mending, stabilisation and/or recovery of health. By means thereof addressed are natural, psychic, emotional and social problems both of sane and afflicted, disturbed and threatened people.

The music therapy is a creative therapeutic process, in the centre of which there is a non-spoken sound process, i.e. a **non-verbal experience** (in the course of listening to and reception of sound/music) and a non-verbal interpretation (in the course of sound/music play - improvisation). In the music therapy client is stimulated to creatively work with simply controllable music instruments (Orff's Schulwerk -metallophones, xylophones, chimes, pentatonic fipple flutes) and simply with instruments making sound (beetle, rattle, humming and clapping instruments (*frndžadlo, rapkáč*), other objects, kid stuff and natural materials - stones, wood) and at the same time, to use sounds of his/her own body (clapping hands, slapping, stamping feet, snapping fingers) and singing (Krušinská, 2003).

The music therapy is a systematic intervention process in the course of which therapist activates undisturbed and supports disturbed functions. In music space the therapeutic process takes place within different phases, in accordance with the needs and capabilities of the afflicted, disturbed, or threatened clients:

- **Impression** – reception of sounds/music through wits and emotions;
- **Expression** – active self-expression by means of sounds/music;
- **Interaction** – sound/musical communication of more clients;
- **Reflection** – verbal description of the experienced and consumed sound/music;
- **Integration** – internal re-organisation of client's experience (often unaware).

These individual phases of the music therapy process require, from the client, his/her internal or external activity. According to whether the client's attention is focussed externally or inside the sound course of events or according to what means the music therapy uses, we classify it as receptive and creative (expressive):

In the **receptive music therapy** attention is in particular focused to listening to music, sounds, noise, or silence. A rich sound recordings library is mostly used, comprising both classic and consumer music; the client processes either live or reproduced music from electronic media. Music reception, i.e. its perception and reception, is a holistic comprehension of sounds in space depending on listener's individual experience and music abilities. The receptive music therapy distinguishes a lot of methods of work with a sound/music perception. It works with fantasy, images or associations (for

example drawing according to music stream, imitativeness), furthermore, with physical stretch (muscle relaxation), or uses the rhythmical motion of body in relation to given music (dynamising and synchronising of body motions).

Within history it is just this music therapy form to be used as a tradition. Quite often we may come across, with the so-called »music recipe-books« that are lists of compositions that should, after having been listened to, be a »cure against stress and distress«, or to »stimulate good temper, good sleep« etc. Upon indication of music from electronic sound tracks it is, however, necessary to consider specific features of individual listeners (Vitálová, 1999). For weakened personalities with the disturbed Ego-structure the music/therapeutic work should be clearly structured. When listening to music thought-stream and perception may be streamlined only by means of a professional attitude. With labile structure clients anxious experience may be amplified when listening to a certain type of music, depersonalisation feeling may gradate, as well as depressive moods present in latent form.

The receptive music therapy form is used in particular in medicine (for example the so-called focussing music therapy, functional music therapy, palliative music therapy, paradoxical music therapy, and regulative music therapy). It is focused to the control of physiological features by means of rhythmisation and timbre effects (Zeleviová, 2002).

The active (expressive) music therapy represents a summarising description for all types of the music therapy kinds where the client works him-/herself with a music instrument or voice. By its nature it is close to the natural vigour and spontaneity of children. Invoked is the active method, the form of a game, experimenting with sound and discovering of music material. In the sound/music processing or creation a music therapist, or other clients, is/are involved together with the client - it is either an individual or a group music therapy. It stimulates disturbed clients' functions, in a broad manner, by means of their controlled creative/productive activities. To reach the therapeutic objective, the active music therapy uses the music play - the improvisation. From other non-verbal therapies, the active music therapy differs by the fact the sound does not originate from the therapist but from a music instrument, or from body. This way sound mediates establishing of a relation (this phenomenon is used first of all in the communication with autistic children or with those with a disturbed communication and speech ability). Conditioned by selection, a music instrument produces sounds native also to human voice: low, high, loud, silent, resonating, sharp etc. Sounds and tones may be modulated, shaped, combined. Due to the non-verbal attitude this process may be rather expressive.

The active music therapy uses also other artistic elements as motion, dance, dramatization, creative expression, poetics. The connection of speech, motion, dance, music, and dramatic expression is based on the natural syncretic principle appearing within the early development stage. Within the game the medium is the music instrument or own body, as the resonating corpus, and voice.

Music therapy as a system

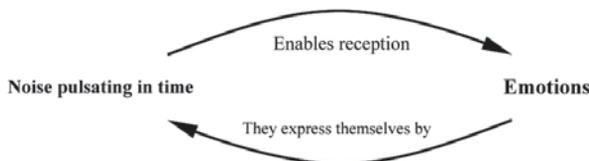
The music therapy begins, primarily, on the **sensual level**, operates in the auditive channel, however, and does not miss even other wits (the same importance feature

touch, resonance, colourfulness, and shapes of the music instruments etc.). By the basic sensomotor experience and reception of oneself through sounds in interaction, it rectifies the experience of oneself. To the sensual experience and reactions emotions are tied, projected and transferred mostly from previous experience. The client reacts emotionally to the sensual - sound - stimuli (**emotional level**). Emotions move the client and encourage his exercise or social interaction (**physiological and social levels**). Emotions are verbally designated within the reflection at level of memory and intellect (**cognitive experience**), or are even intensified and reorganised by a following experience. By the controlled sensomotor experience and reception of oneself through sounds, the client is able to rectify his/her reactions and conduct. Where he/she is able to verbally designate and reflect the music experience, he/she develops also the cognitive level (Zelevová, 2002).

By an overall change of reception and experiencing oneself through the authentic accepting experience (with the therapist, others) respect of the client to him-/herself is rectified. The self-respect and respect of others becomes integral part of existence (**ontological level**).

Noise/music is the reflection of experienced emotions and the vice versa; as well as force of a respective noise/music invokes client's emotions. This process may be directed by the music therapy.

In a schematic manner the above may be represented as follows (Smeijsters, 1994):



In the music/therapeutic practise accented is first of all the sensomotor reception within the noise contact with oneself and with others (impression). From the perception is derived the individual biographic experience and memories and, on the basis thereof, further music improvisation (expression). Through the music experience the client is more concentrated to physical and emotional experience that establish accord together. The sensorial reception and emotional experience get into mind through the verbal reflection. This way the self-reflection is differentiated and extended. A new sensual experience may reorganise the self-reflection. Experience from the past (often even pre-verbal) may be updated in the music communication and inaccessible emotions, being the source of internal and relation conflicts, may be reworked and integrated.

Within the music therapy all of this takes place in relation (to instrument, noise, body, in the relation client - therapist - fellow-clients). The objective of the music therapy is, through the extended self-reflection and reflection of environment, to raise the client's self-respect and to activate his/her communication reserves and resources for his/her existence, i.e. to health.

A substantial part of the music therapy is the improvisation (voice or instrumental), which enables self-experience in interaction. It provides experience at the level of:

- primary confidence experience,

- acceptance of yet un-adopted personality parts,
- reminiscence,
- transition to a higher development phase,
- creative process and self-transcendence,
- comprehensive self-experience,
- mediating noise relation as confronted with reality, the music therapy is an offer of a holistic psycho-spiritual growth.

Music therapeutic paradigms and concepts

The methods of accounting for the effects of music to man - the magic, mathematic, medical, and psychological - established fundamentals of modern development and research trends in the music therapy (Smeijsters, 1994). At present three basic concepts of the music therapy may be recorded:

- **the pedagogic concept:** The centre of gravity of the specially, therapeutically, and social-pedagogically oriented music therapy is the personality development, the development of sensomotor and self-comprehending skills and the social integration; the pedagogically oriented music therapy is oriented to the processes of learning, social integration and communication (social/emotional functionality); it improves reception, concentration, memory (cognitive functionality) and supports motion, wits, and speech (physical and sensomotor functionality);
- **the medical concept:** Music serves as audio-analgetic or sedative and/or otherwise positively influences biomedical or psycho-social status; music application in the medical environment of hospitals testifies rather a »therapy of atmosphere« in such institutions than a direct treatment of diseased people; although research evidently prove positive anxiolytic influence of music, the latter is used in a rather full-area manner (within a department) than in individual indications;
- **psycho-therapeutic concept:** The psychotherapy oriented music therapy has the same objectives as the verbal psychotherapy; it is understood to incorporate the intervention course by means of music, improvised or receptive, on escorting of client's psychical processes.

Individual theoretic concepts that establish the starting-point orientation are adopted by various movements, streams, and schools of the music therapy; therefore up till now it is impossible to establish the music therapy on a common meta-basis.

Overview of recent music therapy streams (Zeleviová, 2002)

PEDAGOGIC CONCEPT	MEDICAL CONCEPT	PSYCHOTHERAPEUTIC CONCEPT		
		Cognitive-behaviour model	Psycho-dynamic model	Humane-existential model
Anthroposofic MT Orff-type MT Ortho-agogic MT Poly-aesthetic MT Recreative MT Creative MT	Focussing MT Functional MT Palliative MT Paradoxal MT Regulative MT	Behavioural MT MT oriented to the improvisation material	Analytical MT Associative MT Guided imagery Klang-trance MT Morphologic MT	Updating MT Analogical MT Expressive MT Gestalt MT Integrative MT Client-oriented MT

Seen in the philosophical context, it is symptomatic for the music therapy to lay down ontological questions in respect of values and personality orientation of a therapist and of the therapy as in general. Potential issues that may help the music/therapeutic relation and process may be based on the personal three-dimensional concept of music therapy set on the “I-you-transcendent” relation where, through the **sensorial, emotional, cognitive, and spiritual levels**, the music therapy may experience – due to structured work and due to a healing relation - a **complete integration of man’s resources**.

Specific nature of music as a medium and therapeutic

In the recent years interest of specialised experts, in assisting professions, increases in respect of methods providing (self-) knowledge not only on the basis of verbalisation and intellectual insight, however they result in the personal progression by way of **sensual and emotional/emotive experience**. The improvisation enables so in the active music therapy. This is a free playing within certain play instructions. The music/therapeutic improvisation is taken as a non-verbal **communication and expressive medium**. What is expressed outwards, during the play, goes out of the player’s entrails. Nothing goes out of man, what is not inside. The active music therapy is creative-oriented - to the work with sound, which is produced by the child/client him-/herself, either vocally, or instrumentally. It uses the play’s improvisation space. The musical improvisation, which is the most often technique of the active music therapy, opens chances for a vocal, instrumental, and motional meeting, in which clients gradually interact with the other person and show their emotions, in a manner different from the verbal one, and touch their limits.

What differs the music therapy from other creative therapies, and what is its specific feature, is the **protective and symbolic manner**, by which relation may be created - i.e. by the communication by means of noise, which does not go out from a partner person, but from an instrument (Smeijsters, 1999). On the origination of (mental) disorders, many social and psychogenic factors disallow clients’ direct communication as it has been interconnected with adverse experience from their past. On the nonverbal communication kind, a corrective (emotional) experience may be healing due to the **symbolization, projection, and associations**. In the music therapy, **analogical processes of the musical and psychical dynamism** are a diagnostic means for indications and for further procedures.

Supportive function of music

On listening to music, or on the amateur or paraprofessional music-making by clients (children), as the case may be, music may provide for the restoration of creative force, relieving, joy, and playing experience, or possibly rest, whereas emotional abstraction is not in question primarily, but a music consumption; musical recreation is in question. To this purpose mass media broadcasts are instrumental, sound carriers, as well as various concerts.

As the very first experience music mostly evokes in us aesthetic feeling, i.e. the one related to the value of the beautiful, or its opposite, as the case may be. The experience of beauty (on listening to some musical compositions even pleasure) is indis-

pensable for man. Our thinking and talking about music touch, first of all, aesthetic categories. The ability to become absorbed in, and to be able to enjoy the beauty in any form is cathartic itself. When speaking about music, we should not, however, forget its creative potentials. Thereby that music, and any sound, attracts us and retains attention, it may fascinate us or stimulate us to motion, activity. The active music therapy enables to utilise just the stimulating function of music. The musical improvisation, which is the most frequent technique of the active music therapy, opens chances for meeting oneself and of others on the emotional level in a creative manner. In the vocal, instrumental, and motional improvisation, man interacts with another person and reflects, in a manner different from the verbal one, and expresses his/her emotions. By music, man experiences him-/herself.

In particular in the recent decades the creative force of music is systematically used in the therapeutic process of physically, mentally, and socially disturbed people. Music features the ability to be structured in time, in particular in the manner, which we are bale to influence and which is able to influence us. By its melodic, harmonic, and rhythmic build-up it may be the »audible version« - i.e. the sounding expression of order and motion. The structure of music has, however, its rules, the beginning and end. Through it a client stabilizes him-/herself and gradually to learns how to initiate contacts, without being endangered, and, without being endangered, to break away from them. The improvised music with concrete rules and objectives, which initiates creativeness in the player, thus also creates (creates or re/creates) new »shapes« of experience. In an indirect manner, clients have the chance to experience themselves in a new, corrective situation. On the music level of the group play this is done by means of:

- focussing to activation (permanent encouraging to play a simply to control instrument, even by the medium of fellow-clients) and by the support of a social activity (music communication),
- intensifying the ego-functions, as are for example the sense of own identity, differentiating between fantasy and reality, the ability to set up ones limits (by means of clearly structured plays, in which clients improvise according to pre-defined rules, for example imitation, music question/reply, rhythmic rota etc.),
- supporting concentration and reception of what is just going on in the group (focussing of attention to current course of events, to rules of play, to a concrete sound as a signal),
- disclosing, experiencing, and differentiated designation of emotions (through the expression of own emotions by music),
- contacting aggression and, at the same time, by its removing (by a strong beat of a bigger instrument),
- orientation in reality (following rules of a play, changing real sounds and silence),
- supporting self-perception and perception of others (motor play an instrument invokes tactile perceptions; others are perceived, by the client, by the acoustic channel through their play),
- build-up and differentiation of a contact and by the ability to establish relations and then, without feelings of guilt, to terminate them (by music communication, rhythmic or metric coinciding with the other).

The therapeutic effect of the group music/therapeutic meetings lays in particular in the use of music as a creative and communication medium. The music therapy may, in a significant measure, participate in the correction of such symptoms as emotional platitude, overall negativism, apathy, autistic features and others and to provide a new, integrating experience. The basic objective is to offer clients structure, clarity, and differentiated nature at various levels, may these be, for example, the rules of plays, difference of sounds, different beats, or handling with music instrumentation.

Analogy of musical and social-psychic processes

Based on the **structural analogy between the musical and social-psychic processes**, the music therapy works with sensorial acquired experience which is further differentiated and structured. The differentiation process of musical activities or practising and structuring of the both group and musical course of events requires a great psychological/pedagogical maturity and skill - the ability to work with limits and clear instructions. The experience from the musical motion, dynamism, and process nature may be the means for a better understanding of other phenomena inside ourselves or around us.

Music captures in itself and, at the same time, creates one or the both dimensions that, analogically, proceed in the psychic/social process:

- **the time dimension** (from the viewpoint of *metre, rhythm, tempo, agogics* - expression; from the psychic/social viewpoint *biorhythms, psychic/cyclic nature*); important is the **sensitisation to duration**;
- **spatial dimension** (from the musical viewpoint *colour, strike* - melos -, *intensity, harmony, tonality* - centre, rest point - *tectonics*; from the psychic/social viewpoint *dynamic nature of a personality, stability measure, emotional saturation of relations*); important is the **sensitisation to tension**.

The excursion to the music/therapeutic work, which may be integrated with educational methods, continues pedagogically oriented music therapies. We endeavour to capture original and basal music elements, co-creating mental or possibly social stability in a positive manner. These are unavoidable for the sane and normal development. Though the provided text is only an inspiration, left out should not be the process itself of the search for and examination of efficiency, humble formation of the relation to children and teenagers that have been confided to our care within education.

Also as a result of de-culturing trends eliminating the space for music and silence in schools a high increase of social pathology occurs with children and teenagers (only causal limits to this issue cannot be applied). In schools we see sharply increasing aggressive and acting-out conduct of uncontrolled coping mechanisms and non-integrated personalities - both of children that are yet under development and their development may still be reversed and of pedagogues and their personalities.

For a child as a personality that is determined by age its is characteristic, from development viewpoint, in the school age that its creative nature is, in the face of the later increasing rationalisation, still supported by the emotional nature, creative fantasy, and spontaneity. Therefore its relation to music will be at first emotional, sensomotor and imaginative, only later it will become an intellectual reflection. Formation of a man

in this age is as best done by means of plays. The plays mobilise children internally. Performance and experience is activated (joy, pleasure, partnership, sociability, freedom, optimism, willingness to experience something, the sense of beauty, respect to oneself, responsibility for oneself, new discovering or application of own talents etc.).

Projection of experiencing oneself of children with conduct disorders often indicate a dichotomy and polarisation among the position of clear (up to rigid) determining oneself and, on the other hand, coinciding with other persons. These two poles are mostly not interconnected. A child sharply dissociates (as a defensive mechanism of checking the value of its own personality) or, on the other hand, lets others tamper with itself and, within the acceptance illusion, leans toward the stronger personalities (for example totalitarian nature of a chicanery group). It tests its own limits, finds out where it is, where the others are, what it is able of and what not. The trend to the social dependence is not conscious, the same as emotional tension and charge that bring about the internal conflict.

Children mostly are not able of direct confrontation with their emotional material, though it may mean their challenging with a great pain, anxiety, fear, sense of guilt, etc. The confrontation with anger is safer as it is more open to projection (the guilt for this is designated to another person). With children, the feedback and control function is often absent. During development it is often necessary to supply it - though often with a time distance. The recording and acceptance of own limits and those of others is the basic condition of a sane (co-)existence. However, it is possible we have not taught children to timely perceive the limits, or possibly the parents have not been evident enough in their love.

The music therapy is suitable and efficient, to be used for the children:

- with a limited or retarded sensual, physical, or mental development, with respect to concrete handicap, threaten, or disturbance,
- with a contact disorder, i.e. for children with problems in communication or reception,
- with a disturbed adaptation or socialisation ability, where a child applies non-functional conduct patterns,
- with low self-confidence and self-respect feelings, that feature aggressive or, on the other hand, sensitive experience.

Play with music and play with relations

Every child - sane, afflicted, disturbed and threatened - has rich creative potentials available. Its inherent creativity manifests itself also in the discovering and inducing of varied sounds. As well a child likes to listen to various sounds and assigns them specific meanings. This play-like method of children's communication is used in the education, leisure-time, and therapeutic processes. Interaction of a child with other children within musical/verbal, musical/motional, or instrumental plays positively stimulates and harmonises its personality. Where upbringing and insensitive criticism do not disallow its access thereto, it is able of creatively react also in the interpersonal relation in an older age. Creativity opens way to self-satisfaction and sane self-confidence. A play provides space where abilities may be creatively developed and, by means of the

play, to acquire even certain skills. Under the play space we understand such a psychic dimension of a human personality, which provides rich occasions for the development of communication abilities, however, also sufficient protection for their implementation and fulfilment. Within this space in question is the flexibility between various polarities of tension and release, activity and rest, withhold and giving way, in question is the flexibility between listening to and allowing others to let ones be listened to, between the invitation to and spontaneous engagement in a play.

Man needs a sufficient »play space« where he/she can fully develop sound and rhythmic motion. It is more than a room with music instruments and sofas. It is the atmosphere, which enables to enter, in a safe way, by means of instruments, sounds and rhythm the world of a child. In the play space of sounds and silence in flowing time it is possible to create conditions that support the personality growth or maturing and offer the experience of joy and fellowship.

The play itself with sound and rhythm is the space of freedom for the trying out of various ideas and reactions. The play becomes space where limits of own doing, reception and learning may be shifted. The play lives with tension, motion, soulfulness, and wit, but also with certain rules, order, and rich intuition and fantasy. The play mirrors reality, however, seemingly still being out of the reality. The play has a reality of itself. This equally applies for music. Where I am in the play? Where is the other? How does it sound? Do we have any chance to resound? With whom/what am I in contact? A part of the play is the layout in space, relation to other players, to own body, and the relation to instruments.

In the music therapy play has a very effective therapeutic force. It offers limits between rules and experimenting. Every play is a chance, opportunity to try ones own capabilities, and it also brings about a certain risk in itself. As it is not fully structured beforehand, it may bring unexpected moments and situations.

Apart from **instructions** and **technical parameters** - as is the choice of a music instrument, choice of space, position, music strike, or time flow - every music **play contains** inherently also an **emotional component**. This consists in the choice of fellow-players, in binding contacts, or possibly in a relation to them, and in the reverse influence of such choice to a child, as well as in an emotional feedback of the improvisation itself (Lenz, 1995).

The reflecting, expressing, and mediation of »one's Ego« through music symbols in the play is addressed not only to the author him-/herself, or to another individual, but also to a whole group. By the necessity to respect rules of the whole group a child learns the socialisation. This is done by means of imitation, identification, respecting the other, by social interaction. By mutual respect among themselves children actively assume attitudes and establish relations. The action and creative nature of the music/therapeutic meeting, with a secondary focus to the instrumental/improvisation and motional activity wakes up wits in the social communication and supports flexibility and adaptability of children in various situations.

The music/therapeutic plays are not conceived wilfully; a therapist offers them with respect to specifics of an individual or group dynamism, concrete situation, topic, therapeutic objective. Whereas perceived as a therapeutic medium within the active music therapy, after every play a sufficient space and time should be paid to reflection of

what has happened and has been experienced within the play. How did I feel in the play? Whom did I have contact with? What did I like and what did not? What would I need more? By means of similar questions experience is anchored in the mind of a child and some new positive experiences may be integrated in its living. Every music/therapeutic play may be varied: as for situation, topics, in relation to instantaneous needs within a group or of an individual. The plays may be diversified, completed, modified.

Objectives of the music/therapeutic play need to be specified in an adequate way with respect to needs of a child and to be implemented by means of music means. Within the music therapy, by means of music it is suitable and possible to:

- increase the self-value feeling,
- mediate self-expression,
- provoke emotional expression,
- stimulate social/communicative ability,
- support autonomous need to create relations without the sense of guilt,
- create a space for social acceptance (reward or refusal),
- improve motor and intellectual concentration,
- activate compensation trends at functional disorders,
- initiate self-reflection in terms of identification and processing of reality.

From the above mentioned facts it is evident that the **improvised music** is the music/therapeutic process and therein it is both implicitly and explicitly the **medium**, as it is, at the same time, both means and environment of the:

- **emotional** expression,
- **social/communicative** expression,
- **creative** expression, and
- **self-reception**.

Conclusion

It is the freely improvised music that initiates, to an increased extent, creativity so needed in the processes of a mature growth and changes in personal life. The improvised form of play is a very good method of introduction to liberty where there is the chance to try ideas and reactions. It is the opportunity and chance for a new experience with oneself, to a new reception of oneself and to a new understanding to oneself, in relation to others. It is an opportunity to new stimuli, occasion to provide stand-by or a challenge, which a child may or need not accept. The abetment to a free decision-making of a client, whereas he/she accepts it, refuses, or changes the offer to a given kind of improvisation, results in the supporting of his/her autonomy. In the therapeutic improvisation no »false« tones exist; a bit of curiousness and willingness to create and to wish to live new experience will suffice.

On the active musical therapy the play with sounds and their layout in time has the central position. The improvisation itself, with sounds of music instruments, own body or voice, becomes the play (as well it is possible to use folk songs, rhymes, sayings, proverbs, counting rhymes, riddles, onomatopoeia, equivoques). It is a play, which may

be governed by certain rules, however, it always incorporates something irregular and unexpected. The improvisation - the same as a play with sound and silence in general - is an important psychic activity. By means of the improvisation reception and self-reception may be changed in terms of concentration to the reality »here and now«. By the client's own creation and interpretation of certain sounds in time - using simply to handle instruments or own voice - he/she communicates him-/herself to his/her surroundings, shares his/her certain skills, abilities and living. Thus the improvisation enables to change the feeling of self-control and to open resources for creativity, inventiveness, reflexiveness, communication, resources for competence and own responsibility. The improvisation enables self-knowledge and self-acceptance.

The recent dynamic age with a challenging life style markedly influences the mental world of a child. The intention of the music therapy is to create a sound space for the children, which will stimulate and saturate their natural needs.

Though this work is only a minor contribution to the wide issue of the music therapy theory and use, I hope it might stimulate a professional discussion, extend the visual angle when looking at the possibilities of the active music therapy in view of new potentialities and conceptualisation of health in school education. In this field it is impossible to document the complete music/therapeutic course of events. In terms thereof the presented work is only a minor study to reflect practical experience with the music therapy. Its intention is to support education in the music therapy, efficiency of the use, and to establish the music therapy in the field of other alternative therapies in the medical sector, social sphere, and in education system as the specific contribution of the music therapy is unquestionable and the music therapy has its legitimate place within the system of assisting professions.

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MUZIKOTERAPIA A PSYCHOPROFYLAXIA

Súhrn: Práca opisuje muzikoterapiu v sociálno-historických, psychologických a hudobných súvislostiach. Rozdeľuje paradigmy vnímania hudby na magickú, matematickú, medicínsku a psychologickú, kde každá z nich má svoje opodstatnenie aj pri dnešných formách muzikoterapie. Text podáva krátky prehľad o muzikoterapeutickej situácii a predkladá koncept humanistickej a dynamicky orientovanej muzikoterapie. Zákonitosti liečebného procesu pomocou improvizovanej hudby sú tu analogicky popísané v hudobnom a psychickom prežívaní. Práca interpretuje dôležité javy špecifické pre definovanie aktívnej muzikoterapie. V existenciálnej rovine je ako významný prostriedok uzdravenia vyzdvihnutý vzťah, ktorý sa tvorí cez skúsenosť prijatia inými ľuďmi. Aktívna muzikoterapia poskytuje priestor pre pripravenosť otvoriť sa dôležitým vzťahom.

Kľúčové slová: aktívna muzikoterapia, improvizácia, stimulácia, zvuk v čase a priestore, profylaxia, koncepty muzikoterapie

THE CATEGORY OF „A HEALTHY RELATION“ AS THE STARTING POINT FOR THE CULTIVATION OF PUPILS' MUTUAL RELATIONS

Jaroslav ŘEZÁČ

Abstract: *The study concentrates on the conception of „a healthy relation“ in teachers in the context of cultivation and development of healthy relations between pupils given by the Skeleton educational programme for primary schools (2000). The present paper is based on two sources of investigation: 1) a questionnaire directed at the interpretation of the concept of a healthy relation (in connection with the conditions affecting the process of its formation) and its basic attributes (N=350), 2) an analysis of essays on „a healthy relation“ written by practising teachers.*

Key words: *interaction, social climate, healthy relation, the attributes of a healthy relation, mental representation, perceptive paradigm, cognitive map, meaning and sense*

Introduction

Nearly all reflections on „**healthy relations**“ are one way or another based on the fact that interactions form the personality's social features as well as attitudes to oneself and other people. „**Healthy relations**“ are therefore expected to be *a means* or at least one of *the influences* that facilitate and support the maintenance or resuming of one's mental and physical health.

It is therefore important, from both the theoretical and practical viewpoint, to seek the content of the concept of *a healthy relation*. I have already suggested the main features of the given problem.¹

¹ ŘEZÁČ, J. Zdravý vztah – hledisko sociálněpsychologické. In ŘEHULKA, E. (ed.) *School and health 21. Škola a zdraví 21. Vvol.1.* Brno: Paido, 2006, p.p. 311–320.

The following introductory theoretical reflections are directed towards the use of the gained knowledge in the planned conception of the so-called *interactive exercises* which should help future teachers to form healthy relations as a part of their psychological professional competence.

Generally speaking, the given problem can for now be viewed from the following *points of view*, all of them facilitating a structured insight into mutual relations in the context of an individual's or the society's health:

The axiological (value) point of view – the relation as a subjective and objective value. It is the very axiological perception of interaction that gives it its importance. The awareness of *the meaning and sense* of the relation is unreplaceable for a cultivated individual self-development. The interpersonal relation is a process of *the exchange of values*. The distinctive and specific character of individual hierarchies of values is an opportunity for the optimization and restructuring of the individuals' systems of values. Comparing mutual relations with the social and cultural systems of values, it is possible to assess how *valuable*², *advanced* and *mature*³ the relations are.

The formative point of view – the relation as a (positive) socializing factor. *A mutual relation*, as well as *a common activity*, is a field where the individual's inner makings are changed into his or her social *qualities*. At the same time it generates, optimizes and stabilizes such attributes of the relation that are usually expressed in the concept of *the character (form) of the relation*.

The emotional point of view – the relation as an experience. A relation, relations and all the other inner transformations that are realized as a consequence of relativity are intensively experienced. The new definition of health reflects this fact, in contrast with the previous one (health as the absence of illness) by emphasizing the experience sphere (the state of well-being). This point of view thus includes two levels: health as *the state of well-being* and health as *experiencing relativity* to another person in its ethical, aesthetic and moral dimensions. The higher emotions also bring the feelings of *relaxation, support, safety, anchorage, peace of mind* etc and lead to the cultivation of social and intellectual emotions.

The health point of view – interpersonal relations as a factor that stabilizes or induces health (a healthy lifestyle); this point of view is practically a synthesis and integration of the preceding viewpoints.

The relation – the interaction

Interaction is mostly understood as *transaction* (ie the exchange of values, data, experiences, meanings etc), *gratification* (ie the exchange of various ways of rewards and satisfaction), or as *mutual managing* (ie directing, influencing) and so on. All the

² Ie in the relation to the assessing criteria of the relative social and cultural system.

³ Ie in the relation to individual hierarchies of values and the overall moral aspect of the personality.

conceptions agree with each other on the fact that the contact is reciprocal, mutual and interconnected, changing the objects that take part in it.

The sociological viewpoint rather takes the concept of *social interaction* as a process, „*topical process*“, while taking *social relations* as „*stabilized* and *regulating structural elements*, repeated in reproduction.“⁴⁴ This is an interesting idea, relating *interaction* to a group's action, and *relations* more to a social formation, to the group's structure. Thus „*the action*“, *the form of the contact* differs from the specific influence of *the field of force* of other contacts where the relations take place.

J. Janoušek's idea is also stimulating in this connection: „... *the interaction is always characterized by the fact that it involves an individual in a wider or narrower social structure which is above the individual.*“ The character of interactions and the normative system regulating their progress are always determined by the specificities of a concrete situation and at the same time enable the individual or small groups to penetrate into the macroenvironment.

As I have mentioned before, my starting point is the conception which takes interaction as a mutual contact of certain elements (objects) within a relatively exactly defined sociocultural system; this contact is realized as *common activities and mutual relations*. Consequently, the (interpersonal) relation appears to be a narrower, more specific and less general concept than the concept of interaction.

Practice interactions are usually based on the fact that quality interpersonal relations accelerate and facilitate common activities and raise their effectiveness. These interactions do not sufficiently avail themselves of the fact that also the character of common activities (*coexistence, coordination, cooperation*), to a high degree unfolding from the structure of the model problem situation, initiates and consolidates desirable interpersonal relations.

The experience from the realized interactive exercises ⁵ shows that a well-thought-out construction of group activities (games, model problem situations etc) or a worked-out behavioural aspect of the activities including a perfect feedback⁶ lead to a more productive social learning than direct creation of atmosphere that is quite often based on the facilitator's prestige or social attractiveness or on the attractiveness of the topic.

The relation – the climate (atmosphere)

The concept of *healthy relations* is very often (especially in some popular sources) taken as a synonym of a *good, desirable* or *adequate* „healthy“ climate.

⁴ MAŘÍKOVÁ, H.; PETRUSEK, M.; VODÁKOVÁ, A. (kol.). Velký sociologický slovník. Praha: Univerzita Karlova. Karolinum, 1996, p.440.

⁵ ŘEZÁČ, J. Možnosti kultivace interakčních dovedností v přípravě učitelů ZŠ. In MAREŠ, J.; SVATOŠ, T. *Novinky v pedagogické a školní psychologii 1995–2005*. Hradec Králové: ESF, IPPP ČR a AŠP SR a ČR, 2005. ISBN 80-86856-11-9.

⁶ SVATOŠ, T. *Malá didaktika v teorii a praxi pro seminární výuku obecné didaktiky*. Hradec Králové: Gaudeamus, 2006. ISBN 80-7041-715-3; SVATOŠ, T. *Pedagogická cvičení ze sociální a pedagogické komunikace*. Hradec Králové: Gaudeamus, 1995.

However, one also has a relation towards oneself, establishes mutual relations with people in the closest social environment and takes up (evaluating) relations to people and objects without any intimate psychological bonds. After all, a person with a healthy relation to himself or herself is able to get on well and for a long time even with people in groups where the social climate is undesirable.

I respect the following definition according to which the social climate is „a sociological and sociopsychological concept expressing the quality of *interpersonal relations* and *cooperation* of people within a concrete social group.“ (Cf Maříková, H., Petrušek, M., Vodáková, A. 1996: 490).

The experience level is emphasized by T. Kollárik's delimitation (thus supplementing the preceding definition), according to which the concept of social climate expresses „a relatively stable and *emotional atmosphere* which connects people's moods, their mental experience, their relations to each other, to work, to the surrounding events ...“ (Kollárik, T. 1990: 501).

But is it possible to speak about climate as an experience related not to an individual but to a group? To speak about group experience in the same way as about *group thinking* (I. Janis) or *group intelligence* (R. Sternberg and W. Williams)? Is climate a mere „*common mood*“ and „*common experience*“, an independent state connected with the group? Or is it possible to say that these concepts express the situation more than anything else? And can social climate be taken as a mere transaction of feelings?

When D. Goleman speaks about „*the degree of emotional connection* that we feel in meeting another person“ (1997: 116), he seems to be near the characteristics of the group climate as a certain „*synchronization of experience*“. Quoting this author, I'd also like to mention here his idea that „*the coordination of moods makes the essence of a harmonic relation*“ (cf p. 117).

It seems to follow from what has been said that an individual, for a relatively short time (topical atmosphere) or for a long time (climate), sensitively perceives and co-experiences certain circumstances (conditions) together with the others. What happens here is in fact *the reciprocity of experience* and at the same time a specific *experience of reciprocity*. „*We experience* it in this way“ (in addition to „*I experience* it in this way“) is an expression and materialization of the group climate. This specific experience becomes an independent factor that influences the performance of the group as well as of the individual and the quality of the newly formed relations in the group.

According to J. Mareš, whose works give a synthetic survey of the conceptions and attitudes concerning the subject of social climate, the term climate (as far as its content is concerned) also includes „stable processes of perception, experience, evaluation and response of all the participants (ie the teacher, all the pupils in the class, various groups of the pupils in the class, the pupils as individuals) to what happened, is happening or shall happen in the class“⁷.

Thus it seems that it will be necessary to draw a clearer distinction between the inner and the outer *conditions* on the one hand and the interactive atmosphere itself, caused by these circumstances, on the other.

⁷ Cf, eg:

For example, the concept of „*the atmosphere of frankness*“ especially expresses the fact that the relations in a group develop from certain conditions. One of such conditions is, eg, the fact that the leader of the group never misuses opinions and experiences expressed openly and that his or her style of management initiates and supports open exchange of ideas. The open atmosphere then does not only mean „that the leader and all the members are open“, it means above all that a certain manner (style) of activities and relations in the given group gains **meaning and sense**, that it is experienced as a common (group) value, that it is regarded highly, perceived and positively experienced as a facilitating effect.

Whether we discuss *the atmosphere of cooperation*, *the atmosphere of trust or the atmosphere of demanding requirements* etc, there always exists a common denominator: *the creation of conditions* for a group atmosphere that will be perceived and experienced by the members of the group as *favourable* (because *supporting*) and *meaningful* (because facilitating the attainment of a goal in the context of values professed individually).

The support does not only relate to activities (the organization of work), but also to the personality (including the acceptance of the personality regardless of his or her performance). In brief, as long as an individual's dominant feeling is the meaningfulness of the common activities and mutual relations, as long as he or she feels support from the leader of the group and all its members, this experience strengthens not only their individual activity but also their readiness to transfer reciprocally their positive feelings.

If the teacher's and the pupils' common discoveries are accompanied by experiences given above, then it is highly probable that this experience will „*be transferred*“ to the group's actions as such, and that it will bring something hardly identifiable, called „*a meaningful and pleasant atmosphere of the group*“. Some teachers make a mistake if they mix up the creation of the atmosphere with „*producing moods*“. It is the learning that should be amusing, not the teacher.

Moreover, neither the climate nor the atmosphere are concepts that can be covered by the paradigm *delightful – undelightful* or *supporting – inhibiting*. A certain climate can, eg, induce creativity, such as creative leading. The interpersonal relation is also a product of creativity and of the various ways in which people „realize“ their contacts: they can be creative, inventive, interesting, or, on the other hand, boring and stereotyped.

The group climate is thus important not only as a facilitator of the events in the group, but also as a means of education. An adequate atmosphere of the school class causes that the pupil not only „*learns better*“, but also „*learns to be better*“ (that is, eg, to be more stable, self-confident, communicative, moral, considerate, quick-witted, assertive, creative etc).

The group climate expresses what space the members of the group have for their self-realizing intentions.

It is therefore possible to distinguish ***the conditions*** that create a certain climate, ***the style*** (manner) of the personal ***interactions*** and a common ***emotional tuning***, ie the feeling of reciprocity in the group.

A favourable (healthy) social climate is characterized by ***freedom of speech***,

support for self-assertion, freedom in mutual relations, **acceptance of individuality**, emotional **resonance and empathy, trust** and **absence of hostility**.

The acceptance of a pupil (but also his or her „pupil’s behaviour“) is discussed in a stimulating way by T. Gordon in his T.E.T. (Teacher Effectiveness Training). From the humanistic point of view he rejects the myth saying that it is possible to accept the pupils’ personalities without accepting their maturities and their current behaviour and acting determined by the situation and status.⁸ It is because the very „social behaviour“ (ie activities and relations) is the materialization or „objectivization“ of relations.

A healthy climate thus *takes for granted*, but also, on the other hand, stabilizes healthy relations, though each of these two concepts reflects different characteristics of the group life.

If the social climate is above all considered to be *the product of the management style* in the group, then a good social climate appears to be *a means* of the cultivation of interpersonal relations, not primarily *a consequence* of (healthy) relations, although their mutual conditionality is indisputable.

The attributes of a healthy relation

The concept of **a healthy relation** is, as has been mentioned before, a relatively frequent topic nowadays, in the pedagogical field undoubtedly thanks to its existence in the skeleton educational programme. It lacks a fairly exact definition, however.

The Czech literature on the problems of health in interpersonal relations has its doyen in J. Křivohlavý, whose book *Já a ty /You and me/* (1977) is subtitled „*On healthy relations among people*“. The title of M. Soudková’s book from 2006 is similar: „*O zdravých vztazích mezi lidmi – Přátelství a manželství*“ /On healthy relations among people – Friendship and matrimony/.

M. Soudková in principle identifies the concepts *good relation* and *healthy relation*, but as one of few specifies the concept of a healthy relation closer; although her book is rather meant for lay readers than for scholars, her conception and interpretation of relevant concepts as well as the information she gives are very elaborate. The author sees the basic attribute of a good, healthy relation in the fact that „*it stimulates our growth and development*“.⁹ She also says there: „*in the often unfriendly and sometimes even frightening environment of the present world, a healthy relation provides us with a place where we can be ourselves. There we can freely express our feelings and ideas, criticize or make mistakes and in spite of this keep affection for each other. A healthy relation also sometimes „pushes“ us to a more positive way of life.*“ This introductory idea in principle suggests the basic attributes of a healthy relation, ie autonomy, authenticity, social support, emotional anchorage.

Due to the fact that one of the main sources for my conception of interactive exercises (which is the goal of all my reflections on healthy relations) is humanistic psychology, I find this conception close to mine even from the point of view of the effort

⁸ GORDON, T. *Teacher Effectiveness Training. The Program Proven to Help Teachers Bring Out the Best in Students of All Aens*. Three Rivers Press, 2003, 368 s. ISBN 978-0-609-80932-7 (0-609-80932-6).

⁹ Ibid, p. 12.

to find suitable techniques that would prepare teachers for the cultivation of relations between pupils and even teachers.

A. Giddens emphasizes that a *good (pure)* relation is characterized by *openness* as a condition of intimacy and *equality*. In this connection he uses the more and more frequently quoted concept of *emotional democracy*.¹⁰

In seeking the attributes of a healthy relation, we can find a guideline in the conception of the personal therapeutic relation in humanistic psychology, because this conception in a way expresses the ideas of an ideal personal relation (as a means of therapy). Similarly to the relation between the therapist and the client, a healthy interpersonal relation should offer „*a certain directing outer arrangement and at the same time also freedom for the personality development*.”¹¹

T. Gordon lays stress on active listening as a form of acceptance through communication.¹² It is a sort of combination of empathy and feedback, but the result should not be *advice* or *instruction*. The teacher's response is only „*checking whether he or she has correctly understood the child's manifestations, behaviour and communication*“. The corrective role is played here not by what the teacher really says but by an independent „*communication*“: „*you are worth my listening to you carefully and my checking that I understand you ...*“. The synonyms of active listening are practically empathetic listening or *reflective* listening.

The relation as the encounter should not be a mere opinion harmony, a meeting of similar life stories or facilitation of reaching near goals; above all it should be a chance for further psychosocial growth of autonomous personalities, whose dissimilarity and originality should not be a source of conflicts but a stimulating momentum giving rise to individual maturation.

An inspiration for a structural view of mutual interpersonal ties can be found in the work of the Ukrainian author T. S. Jacenko, who in the long term works on a variant of training interactions designed for teachers and called ASPO.¹³

She partly supplements the preceding conception based on humanistic psychotherapy with an elaborate system emphasizing the behavioural component of training. Diagnosing the parameters of mutual relations in the training group, she differentiates between *the climate* (cold or warm interpersonal relations), *the atmosphere* (danger or safety), *the character of the relation* (fight, play), the degree of influence¹⁴, *communication* (the style of communication) and *a check* (a sort of feedback).¹⁵ This scheme of the interpretation of relations (worked out for the practical needs of training) is, in my view, very inspiring for establishing the attributes of a (healthy) relation.

P. Řičan points out that a mature, quality relation „*above all presupposes the ability to relate oneself to another person and to oneself as independent beings and to*

¹⁰ GIDDENS, A. *Unikající svět*. Praha: Sociologické nakladatelství, 2000. ISBN 80–85850–91–5.

¹¹ MRKVIČKA, J. <http://www.portal.cz/psycho>

¹² See the work quoted above.

¹³ ЯЦЕНКО, Т. С. *Активная социально-психологическая подготовка учителя к общению с учащимися*. Киев: ОСБИТА 1993. ISBN 5-330-00648-1

¹⁴ (Conceived rather as the symmetry or asymmetry of the positions.)

¹⁵ *Ibid*, p. 180.

*integrate various components (aspects) of the images of oneself and the others, especially the positive and the negative components.*¹⁶

In this sense the relation **falls outside the scope** of the individuals, their relation is „the third one“ on their way through life. The third one it is in the sense of something common, relatively autonomous, which needs care and understanding and which also has to be developed permanently.

Consequently, on the one hand it is **the awareness of the value of the relation**, and on the other **the specific social skills** that are necessary for initiating, maintaining and developing (healthy) relations.

After all, the human society is nothing **but a system of mutual relations**¹⁷; the nature of the relations reflected in **the culture** of the given society makes the basis on which specifically individual characteristics of personalities are created in the process of humanization.

In spite of differences, caused by different paradigms of schools, trends and personalities, it is possible to sum up certain basic attributes of a healthy relation, with respect to the purely practical applications in interactive exercises, as follows:

The characteristics predominantly concerning individuals:

Acceptance (unconditioned acceptance; respect to dissimilarity)

Authenticity (originality)

Autonomy (independence)

Empathy (feeling oneself into somebody else's personal experience, situation or history)

Tolerance (respecting dissimilarities in other people's qualities, their viewing and solving various life situations)

Responsibility (towards the partner, for the consequences of one's own acting etc)

Support (social support; emotional support; mutual help)

Sharing (transaction of feelings; harmony in opinions and evaluations)

Anchorage in social relations (in a wider social context)

The characteristics concerning the relation itself, not the qualities of the individuals connected by the relation:

The degree of interconnection with the surrounding social world – a healthy relation is open to challenges of the social environment

The degree and nature of influenceability (how much the relation can change its form) – a healthy relation means mutual inspiration and excludes the pathic forms of influencing (eg manipulation or aggression)

The degree of stimulation – a healthy relation is a source of incentives stimulating an adequate social development and psychosocial maturation (in this sense it is the opposite pole to sociocultural deprivation); the relation to oneself and to others is a factor determining the effectiveness of self-development

¹⁶ ŘÍČAN, P. Psychologie rodiny - obor ve stavu zrodu. Čs. psychologie, 1991, 1, p. p.38–47.

¹⁷ GIDDENS, 2005: 32

The degree of intimacy – a healthy relation makes it possible to comply with the need of intimacy without cloister oneself away¹⁸

Valence – the valuableness (value), meaningfulness, the degree of maturity of the goals, values and norms

Structure (symmetry – asymmetry, submission – dominance in the position) – a healthy relation is characterized by equality of rights and equality of chances; therefore it rules out forced subordination or superiority in the status

Style and balance of transactions – a healthy relation is based on cooperation and reciprocity

Climate – a healthy relation is characterized by a facilitating atmosphere of reciprocal transactions of experiences, opinions, behavioural patterns and ways of communication

Stability – a healthy relation is characterized by a certain independence on current changes in time and social space and is relatively resistant to the changes due to the consistency given by clarified and shared values as well as social and emotive ties

The investigation results

The aim of the research conceived as a tentative probe was to find out what attributes were ascribed by teachers to the concept of „*a healthy relation*“ as a desired pedagogical and psychological category.

The examined sample consisted of 350 primary and secondary school teachers (73 men and 277 women). Available were the results of the previous phase of the investigation, realized on the same sample; these results express the respondents' views on the conditions and circumstances that affect the creation and cultivation of healthy relations.¹⁹ The qualitative analysis of the answers was directed to the subjective conception of the category of „a healthy relation“ with the use of the following indicators:

– **the differentiation of perception** indicator: the quantity of individual attributes ascribed to the category of „a healthy relation“ and their correlation²⁰, as well as the degree of their structurization;

– **the perception of „a healthy relation“** indicator: a healthy relation understood wholly or predominantly as *interaction*, or more or less clearly as *expectation* towards the relation partner/partners, or with the accent on *the conditions* (circumstances) in which the respondent perceives the relation as a „healthy“ one.

¹⁸ HEWESTONE, M.; STROEBE, W. *Sociální psychologie*. Moderní učebnice sociální psychologie. Praha: Portál, s.r.o., 2006, p.p.442 ISBN 80-7367-092-5.

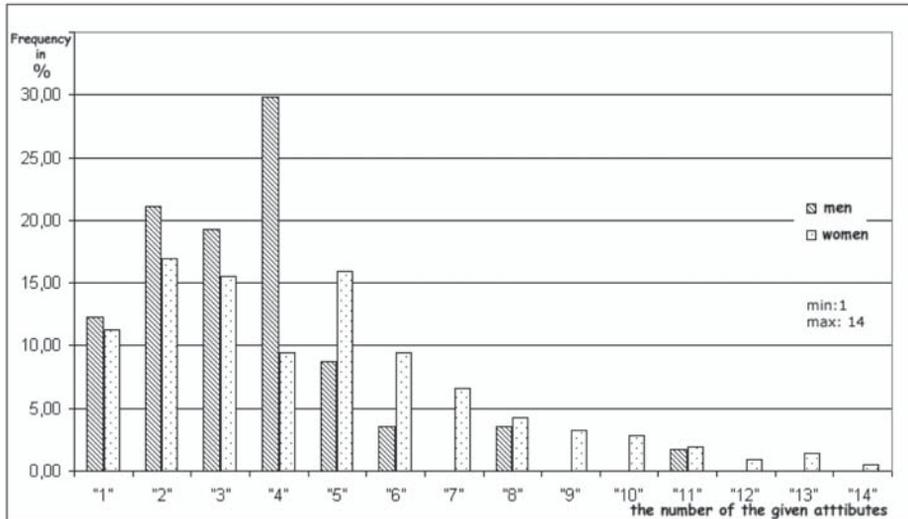
¹⁹ ŘEZÁČ, J. K některým problémům utváření zdravých vztahů ve škole z pohledu učitelů ZŠ. In. ŘEHULKA, E. et al. *School and health 21* (2). Brno: Paido, 2007, p.p. 171–181. ISBN 978-80-7315-138-06.

²⁰ ie to what degree the given attributes express the explicit theory of personality characteristics and whether the attribute clusters show some features of structurization and a unifying paradigm (ie whether they make a meaningful, interconnected unit).

The differentiation of perception

The number of attributes ascribed to „a healthy relation“ ranged from one to fourteen. Most frequently was „a healthy relation“ characterized by two to five attributes. The qualitative analysis of „the cluster of qualities“ suggested that the grouping of features ascribed to „a healthy relation“ by the respondents was not based on a relatively structured paradigm. Further deeper insight would be needed to verify how the paradigm²¹ of perception and evaluation (interpretation) of the category of „a healthy relation“ is structured. Hypothetically, on the basis of the results obtained so far, we could speak about the paradigm „*expectation*“: the view is structured according to the topical expectation of individuals and is obviously connected with their life experience. There are either attributes that the individual appreciates at the moment since they facilitate his or her social life or make it more effective, or, on the contrary, the individuals miss them, and their choice of attributes is affected by „*the hunger*“ for them. The second paradigm that is indicated in the respondents' answers can be called „the paradigm of *evaluation*“. The grouping here is probably based on features that primarily reflect a certain hierarchy of values – a professional or personality philosophy. The third paradigm expresses rather accidental, *freely associated* qualities (one or two „*main features*“) that are ascribed to „a healthy relation“ more or less because the respondent wanted to satisfy the questioner.

Chart 1: The frequency of the „HR“ attributes as given by men and women



²¹ The concept of paradigm is used here in a conception similar to, eg, S.R. Covey's (2006: 24) in connection with the training techniques.

The conception of the category of „a healthy relation“

I had supposed that the respondents' answers would predominantly include attributes ascribed to the relation that appear in the theoretical introduction here, and at the same time that the conception of the category of „a healthy relation“, the organization of the concept, would be more based on their immediate experience without any respect to a relevant theory or scientific discipline (pedagogy, psychology).

The first fifty places in the list of attributes ascribed to a healthy relation were mostly occupied by qualities and features related to the partner (tolerance, openness, friendliness, the ability to cooperate, the ability or readiness to listen, sympathy for another person, unselfishness etc). Considerably less frequent were attributes related to interaction (equality, contentment, safety, harmony etc):

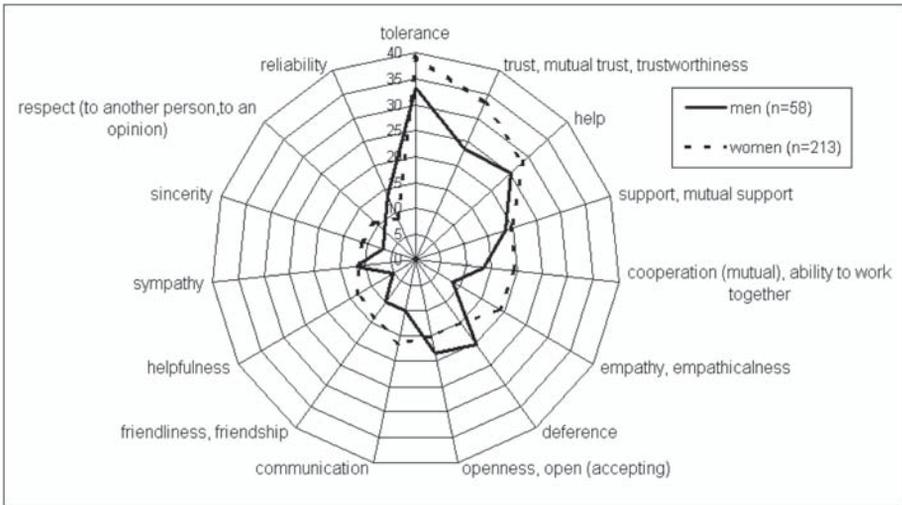
Tolerance 38.18 per cent respondents; trust, mutual trust, trustworthy 32.1 %; help 27.27 %; support, mutual support 19.28 %; cooperation (mutual cooperation), the ability to cooperate 17.82 %; empathy 16.36 %, the ability of empathy 16.35 %; deference 16.0 %; openness, open (accepting) 15.64 %; communication 15.64 %; friendliness, friendship 12.73 %; helpfulness 12.1 %; sympathy 11,27 %; sincerity 10,56 %; respect (to another person, to an opinion) 10.18 %; reliability 9.82 %; considerateness 9.09 %; listening (the ability to listen) 8.36 %; equivalence 7.28 %; fellowship 5.82 %; love, loving 5.09 %. Then between five and almost three per cent: justice; competitiveness; responsibility; sense of humour; creativity; resourcefulness; assertiveness, healthy enforcement, unwillingness to be manipulated; safety; willingness to listen; motivation, motivatedness; decency; patience; solution of conflicts, positive solution of conflicts; understanding; equality, equal; consistency; observance of rules; compromise; partnership; understanding another person's peculiarities; healthy self-confidence; harmonic, harmony; mutual motivating; no boasting; unselfishness; stimulating effect; well-being, good atmosphere; diligence; self-assurance; independence; solution of problems (together).

Differences between men and women of the examined sample were obvious in some of the above attributes only. Women in comparison with men prefer more distinctly *empathy, trust, helpfulness, communicativeness and tolerance*; men prefer *deference, reliability and openness*.

It further follows from the obtained data that tolerance as an attribute of a healthy relation is most often preferred by teachers who evaluate their own personal relations as „not corresponding to the label 'healthy'“ (45.3 % of this subsection of respondents), but also teachers who show positive anticipation of their pedagogical career (43.8 %).

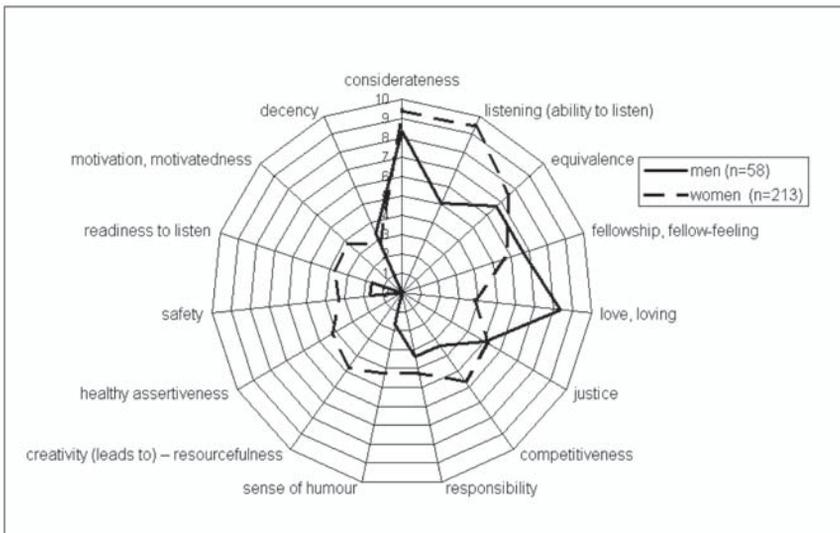
Trust (trustfulness) is most distinctly preferred by the respondents who themselves mark their personal relations as healthy (34.2 %).

Chart 2: Differences between men and women in the ascribed attributes occupying the first 15 positions



Further research would be suitable to find out to what degree the preference of certain relation attributes is a consequence of some „hunger“ for certain manifestations of interaction, or whether the evaluation is based on general „values“, on generally accepted value paradigms.

Chart 3: Differences between men and women in the ascribed attributes occupying positions 16 – 30



A survey of the respondents' basic characterizations of the concept of a healthy relation relevant for the construction of interactive exercises:

All the teachers in the examined sample

- distinctive prevalence of the characteristics related to the *partner* in the relation
- the conception of „a healthy relation“ is rather that of laymen, there is little support in psychological or pedagogical theory
- „*assessment – evaluation*“ and „*expectation*“ are emphasized more than „*the creation*“ of healthy relations
- tendency to a *global perception* of the relation through one or only a few attributes
- viewing the relation preferably through the partner's *qualities or markings*
- *the conditions* of the rise and stabilization of a healthy relation are mistaken for *the attributes* of the relation

Men

- assess things in more distinct contours
- mostly use evaluating criteria of the type: „*main – marginal*“, „*essential –*
- *secondary*“, „*important – not important*“
- are usually more concise
- especially prefer what they evaluate in their current and *real* pedagogical practice

Women

- distinctly *more* extensive view
- *more vivid* description
- sense of *detail*
- preference for rather *descriptive criteria*
- preference or accentuation of the healthy relation attributes that the respondents
- (in their real relations) *miss*, or of what they consider *ideal*
- accentuation of what is valuable *in itself* in the relation

Conclusions for interactive exercises

The techniques of interactive exercises directed to the cultivation of thinking in the context of group discussion will need to be oriented more distinctly to:

- the acquisition of principles and comprehension of the context in which concepts are spontaneously created;
- understanding the regularities in making professional constructs and categories;
- cultivation of situational thinking;
- creation of a theoretically founded view and professional reflection on interpersonal interactions;

- creation of the skill and ability to autodiagnose inadequate perceptive; stereotypes and habitual ineffective ways of the interpretation of interpersonal interactions;
- creativity in the field of seeking strategies of the development and cultivation of interpersonal relations.

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KATEGORIE „ZDRAVÝ VZTAH“ JAKO VÝCHODISKO KULTIVACE VZTAHŮ MEZI ŽÁKY

Souhrn: Práce se zabývá pojetím pojmu „zdravý vztah“ u učitelů v kontextu kultivace a rozvíjení zdravých vztahů mezi žáky daným Rámcovým vzdělávacím programem pro ZŠ (2000). Referát vychází ze dvou zdrojů šetření – dotazníku zaměřeného

na pojetí pojmu zdravý vztah v souvislosti s podmínkami ovlivňujícími proces jeho utváření a jeho základních atributů (N=350) a z analýzy esejů na téma „Zdravý vztah“ zpracovaných učiteli z praxe.

Klíčová slova: interakce, sociální klima, zdravý vztah, atributy zdravého vztahu, mentální reprezentace, percepční paradigma, kognitivní mapa, význam a smysl.

SOCIAL CLIMATE OF SEVENTH-GRADE PUPILS

Jana VESELÁ, Gabriela VESELÁ

Abstract: *Authors compensation deal with comparing school climate Seventh two classes in the academic year 2006/2007. Seeking diversity and conformity assessment of climate pupils between grade selection with a focus on mathematics and science, and the normal class. In the research will verify the methodology to other seventh grade, especially value projective methods, collages, which also used in research. In particular the work of the questionnaire used CES and Test tree and collage followed by an interview with each pupil. Worked with a combined methodological approach, which receive data according to the principles of quantitative and qualitative approach. Research was attended by 40 of respondents aged 12,6–14,5 years. The results confirmed the original hypotheses about the diversity of cohesion, cooperation and the interests of pupils and the selection of normal classes. The authors are aware of a small degree of generalisation of the results and consider their research for the probe into the issue differently composite classes.*

Key words: *academic self-concept, backmarker, behavioural norms in school, cliqueness, context of schooling, educational attainment, lingo, school policy, spatial proximity, student accomplishment, cohesion, discontent*

1. Pupils differentiation

There are 3–10 % of gifted pupils in the population. Talent is usually defined as a group of abilities allowing a person to achieve results above the average of the population. To provide for their maximum development, it is necessary to approach these children differently. Thanks to different quality and quantity of their talent, gifted children need a combination of different forms of work and differentiation directly during the school day.

1.1 Inner Differentiation

Inner differentiation is built on the idea of accommodating teaching of a heterogeneous group of students to suit every member of the group. It is a way to provide gifted children with specific care without selecting (excluding) them. The way and amount

of support of gifted children in the frame of non-selective class is up to the teacher. There are the following possibilities:

- preparation of an individual plan made-to-measure every pupil,
- an offer of elective subjects (courses, activities) at school,
- problem tasks,
- projects,
- preparation of a project plans and groups involving students irrespective their grade,
- involvement of gifted students as “assistants” to pupils requiring extra help,
- work on competitions,
- individual work using e-learning methods,
- setting up of differentiated groups within classes and particular subjects.

1.2 Outer Differentiation

Outer differentiation means dividing pupils into homogeneous groups, for example on the basis of their intellectual abilities, kind of their talent and so on. Special classes (schools) are being created in this way.

Tomáš Houška (2007) defines these forms of care for gifted children:

Creation of special classrooms

It is a classroom for children whose gift enables them to work faster. The faster pace of work allows time for activities and topics that cannot be covered in non-selective classrooms. Presumably, this class will soon be ahead of the other classes. Furthermore, if the number and order of hours stays the same, at the end of fourth grade the level of the students will match with normal fifth grade pupils and these pupils will be prepared to skip one grade (and eventually go to eight-year grammar school). When establishing and running such a class, one has to be prepared for similar difficulties as mentioned concerning specialized school.

Faster and slower groups in different subjects

This solution is similar to the preceding one, but less radical and conflict. The traditional class structure remains unchanged but it splits for a number of subjects. Let us give an example of math – both classes A and B split into faster and slower groups. The two faster groups create one class and the slower groups create the other. This solution eliminates the criticism that gifted pupils from specialized classes loose contact with their peers.

Another advantage is lower tension accompanying the selection of pupils into these groups and also later entering to such a group is not that problematic. However, significant demands of this organisation are considered a disadvantage.

It is of course possible to combine these possibilities. We can establish a specialized class for a particular subject and in some grades pupils might be allowed to attend classes in a higher grade. For other subjects, they would split into groups.

A combination of these possibilities might help to save intellectual and personal development of a number of gifted children to whom school is boring, uninteresting and banal.

Mareš (2004) in his article published in a collective volume “Psycho-social Climate of School” considers an outer differentiation to be of great influence on social climate at schools as well as classes. “Eight-year and six-year grammar schools were established and students with better educational capabilities enter these schools in the period when the majority of pupils attend primary schools. The leaving of these pupils takes place at the end of lower primary school (in the case of eight-year grammar schools) or during higher primary school (in the case of six-year grammar schools) (p. 27).

On one hand this process means that the best pupils, “motors” leave the higher grades, on the other hand, the difference between pupils diminishes. Previously, all these pupils were in the shade of two or three best pupils, after they have left, this position is occupied by those formerly second. The teaching speed lowers; however, the quality of education is not affected. The quantity of acquired knowledge decreases. On the contrary, the quality of knowing (its depth) rises in majority of students.

At schools in the Czech Republic, the most common solution is establishment of selective classes with a certain focus centralizing gifted pupils. Such a division brings along specific features connected to both “original” and new “elite” classes.

Another structure of pupils in the “original” classes changes the social climate of the class. Pupils who leave the classes are very often those acting as a model with which the capabilities and desired behaviour of others were compared. Average and weaker pupils remain in the class. A higher concentration of pupils with potential education and behavioural problems is observed. This fact is connected to lower activity, independence, inquisitiveness, creativity of pupils and often even cooperation. The teacher has to put greater effort to achieve acceptable results. The change of classes after leaving of gifted pupils leads to disturbance of the class climate influencing learning and teaching. Teaching methods that proved themselves to be effective and leading to set goals suddenly fail. Teachers often resign after a few initial complications and instead of finding new methods they develop a negative attitude towards the “original” classes. Teachers’ emotions towards such a class are often considerably colder or even negative. They are aware of the fact that these children have lower educational potential and thus their expectations and demands on pupils decrease. There is a risk of “self-fulfilling expectations” when the teachers expect bad results and deal with the “original” classes in such a way as to fulfil their expectations.

The division of class is not easy for pupils themselves. Their leaving to another class means disruption of friendship. However, the feeling of being “a worse class” has

much more negative influence on pupils. The whole situation is worsened by teachers' behaviour showing their negative opinion on the class. Therefore, it is not surprising that pupils lose motivation and endeavour to extricate from the prejudice. They lose a need to show that they can achieve much more and some of them draw back, others provoke the teacher, bully weaker classmates or concentrate on hobbies instead of school. This type of pupils' behaviour enforces teachers' believe that they have no potential for learning, no perspective and therefore it is useless trying to help them. This closes the vicious circle. To open and destroy the circle, great effort of professional – teachers, school and counselling psychologists and others involved in teacher preparation – is necessary.

It should be mentioned that the situation is not easy for those in selective class either. They were used to being among the best ones, respected, supported and praised. Out of the sudden, they find out that there are more pupils with the same abilities and some of them are even better. They lose their privileged position and have to fight for it again but this time the competition is bigger. They often perceive other classmates as rivals. Especially in the initial period, competition rules over cooperation in the class. There are bigger demands put on pupils and they might not cope with them and thus experience failure.

Research

Research goals

The research dealt with social climate in a selective and non-selective class on a higher primary school. The raised data were then compared in order to find out which class has a better climate. Our main focus was relationship between students, pupils' interest in education and their orientation on assigned tasks. We also tried to answer a question whether the difference of climate in non-selective and selective class is more remarkable in boys' or girls' point of view.

Place of research

The research was carried out in Brno, Primary School **Křídlovická 30b**, university school of the Faculty of Education, Masaryk University, Brno. The school was attended by 647 pupils in 13 classes of the lower and 15 classes of the higher primary school. The curriculum is given by the educational programme Primary School and at the higher primary school also by the educational programme Primary School with Extended Mathematics, Science and IT Education. The school is a member of the Association of Czech Dalton Schools. Furthermore, it is a member of the world organisation Dalton International, as a pilot school. The school has an active cooperation with partner primary schools in the Czech Republic and abroad.

There is a rich tradition of classes with extended education of mathematics, science and IT for pupils of 6th to 9th grade. The timetables contain an extra lesson of mathematics, physics and chemistry and there is also additional IT education. Pupils of

these classes achieve very good results in mathematics and science competitions. The good atmosphere is also supported by traditional math-oriented stays and several-day trips.

Methods

Several research methods were used in the data raising process. In the initial phase, a questionnaire and a projective method were used to determine the social situation – a Tree Test. Consequently, we worked with the children in art classes where they were creating collages “Our Class” which have then been discussed with every pupil.

Questionnaire

The **CES Questionnaire (Classroom Environment Scale)** was used in the research. It was adopted by Mareš and Lašek for the use in Czech schools.

The questionnaire is aimed at pupils of higher primary schools and pupils of different types of secondary schools. The aimed age group is 12–18.

The Czech version contains 23 items¹ focusing on 6 variables of the class climate:

1. Teacher’s help to students (questions no. 3, 9, 15, and 20)
2. Pupils’ focus on tasks (questions no. 1, 4, 10, 16, and 17)
3. Relationship of pupils in the class (questions no. 2, 5, 8, and 14)
4. Interest in lessons (questions no. 7, 12, 13, and 21)
5. Quiet and order in the class (questions no. 11, 19 and 22)
6. Clarity of rules (questions no. 6, 18, and 23)

Projective techniques

A projective technique was used in order to ensure higher reliability of the measurement of pupils’ feelings about their class and their evaluation of their position in the class. A picture of a tree with people in different positions was presented to them (see attachment 1). Pupils were to colour one person with whom they can identify and that shows their feelings about the class.

A technique of collage was used in the surveyed classes as well. The pupils were expressing their opinion on the topic “our class” in the form of a collage. As the technique offers a wide space for expression of opinions, it was necessary to have a free interview with authors about the collages afterwards. The interviews were recorded. Pupils expressed freely about things they subjectively considered important. There was no beforehand prepared set of questions, the pupils were asked only questions that somehow clarified or specified the topics mentioned.

¹ The English version contains 24 items, however, the adopted Czech version left out question 20 that was not included in any of the factors in neither Czech nor Slovak factor analysis.

Respondents

Non-selective class – VII.C

Phase 1 of research (filling of a questionnaire and a Tree Test): 20 pupils (9 girls and 11 boys)

Phase 2 of research (collage) : 20 pupils (8 girls and 12 boys)

Selective class – VII.D

Phase 1 of research (filling of a questionnaire and a Tree Test): 20 pupils (6 girls and 14 boys)

Phase 2 of research (collage): 23 pupils (6 girls and 17 boys)

The second phase of the research was done after a certain time distance from the first one. Therefore, we have not managed to acquire data on all three phases from every participant.

Results of research

Questionnaire

Table no.1: RESULTS OF QUESTIONNAIRE SURVEY VII.C (non-selective class)

NAME OF VARIABLE	MIN.	AVERAGE	MAX.	MEAN	MEDIAN
Teacher's help to students	4	8	12	8,85	8
Pupils' focus on tasks	5	10	15	7,65	7
Relationship of pupils in the class	4	8	12	7,10	6
Interest in lessons	4	8	12	6,90	6
Quiet and order in the class	3	6	9	3,80	3
Clarity of rules	3	6	9	7,40	7

Table no.2: RESULTS OF QUESTIONNAIRE SURVEY VII.D (selective class)

NAME OF VARIABLE	MIN.	AVERAGE	MAX.	MEAN	MEDIAN
Teacher's help to students	4	8	12	10,59	12
Pupils' focus on tasks	5	10	15	11,30	11
Relationship of pupils in the class	4	8	12	10,20	10
Interest in lessons	4	8	12	8,95	10
Quiet and order in the class	3	6	9	7,00	7
Clarity of rules	3	6	9	7,65	9

Graph no.2: Results of questionnaire survey - non-selective (VII.C) and selective (VII.D) class

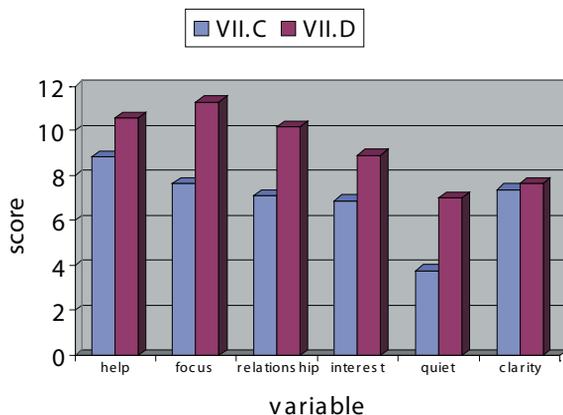
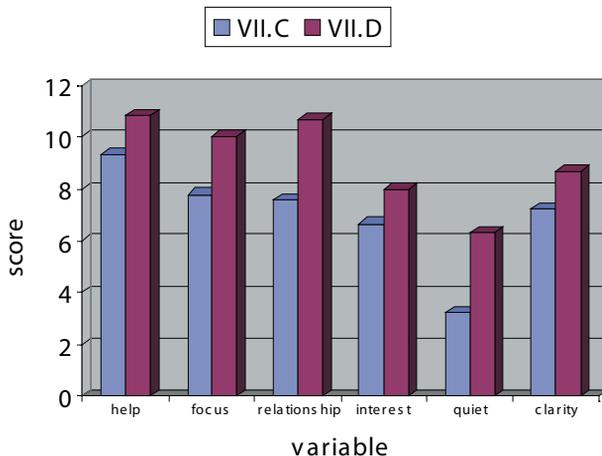


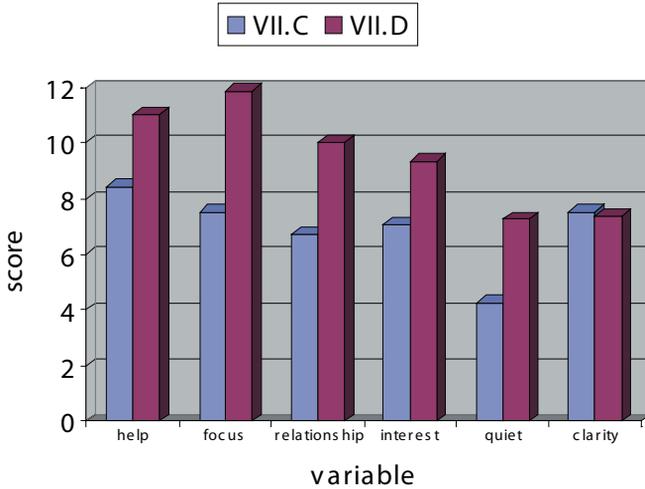
Table no.3: Results of questionnaire survey – girls vs. boys

NAME OF VARIABLE	AVERAGE GIRLS VII.C	AVERAGE GIRLS VII.D	AVERAGE BOYS VII.C	AVERAGE BOYS VII.D
Teacher’s help to students	9,33	10,83	8,45	11,00
Pupils’ focus on tasks	7,78	10,00	7,54	11,86
Relationship of pupils in the class	7,56	10,67	6,72	10,00
Interest in lessons	6,67	8,00	7,09	9,36
Quiet and order in the class	3,22	6,33	4,27	7,29
Clarity of rules	7,22	8,67	7,54	7,36

Graph no.3: Results of questionnaire survey - girls



Graph no. 4: Results of questionnaire survey – boys



Results of the Tree Test

VII.C

Out of 20 pupils taking the test 8 of them characterized themselves as a person that is somehow excluded from the class, does not belong to the peer group and has problems in making friendship. Furthermore, the position of the person reveals not optimal relationship with classmates. The above mentioned problems are usually observable in the students' collages as well. There can be found quarrels, rumours, dispraise and fear of difference.

VII.D

The same number of pupils (20) completed the test in the selective class, however, only 3 of them considered themselves to be a person standing out of the class. Only two of them worked on collages and their attitude is not distinctively reflected in them. Unfortunately, one girl who described herself the most negatively of all respondents – as thrown from a tree (excluded form the class) – was not working on the collage due to an illness. However, even in the questionnaire one can observe lower score.

Results of collages and interviews about collages

When analysing interviews with pupils about their collages, we picked features related to the class climate and divided them into these categories:

VII.C (non-selective class):

Class splitting into groups – majority of pupils mentioned that their class splits into a number of smaller groups that do not communicate with each other very well.

Brands of clothing – One third of pupils said that the brand of clothes, shoes and mobile phones is very important in the class. Those who have them are showing off and that is unpleasant for pupils who do not have money.

Girls – ladies – Six pupils pointed to the fact that some girls care about their look excessively and unnecessarily try to look older than they are.

Boys – clowns, butches

Childishness – Marking some classmates as infants was quite common.

Naughtiness – Some pupils admit that their class often bothers teachers.

Rumours – A few pupils complained about the rumours in the class.

Alcohol and cigarettes – One quarter of pupils mentioned that their classmates smoke and drink alcohol. However, majority of them does not agree with such behaviour.

Rows, fights – I found out that radical exchanges of opinion are nothing rare in this class. They even fight sometimes.

Lack of interest in school – There were some pupils that openly admitted that they do not enjoy school.

Endeavour to get good marks – The majority of pupils agree that being average is enough.

Competitiveness – There is no rivalry concerning school results, only in sports and things possessed.

Cooperation – There was no consensus concerning cooperation. Some pupils took a view that they help each other while others thought the contrary.

Bullying – There is bullying in the class, but no one wants to do anything about it.

Danger – An opinion appeared that the class is dangerous, not because pupils would threaten each other but because they are mean.

Laziness – They are not much into learning.

Change of opinion – A change of opinion and re-formation of groups might appear sometimes.

Community – When it comes to it, they are able to stick together as a class against others.

VII.D (selective class):

Friendship – Pictures expressing a strong friendship, especially among boys, appeared very often. The friendship developed even outside the classroom.

Boys vs. girls – Almost a half of the respondents complained about bad communication between boys and girls.

Groups – An opinion that the class is divided into groups - more precisely 2 groups of girls and 2 groups of boys appeared in this class as well.

Leaving of classmates – Some of the pupils are troubled by the fact that their friends they will go to a new school at the beginning of the next school year and new pupils will come and integrate into the class.

Naughtiness – They can bother their teachers from time to time.

Endeavour to get good marks – They are interested in good school results and try to achieve the best marks.

Competitiveness – There is no competition concerning school results, only in sports.

Pushing off – There is one boy in the class whom the other boys do not take as a friend.

Childishness – Some pupils were marked as infants.

Gift – Pupils are aware of being in a selective class. They consider themselves as brighter than others and feel that there are higher demands being put on them.

Fun – They have fun in the class, but sometimes they laugh at some classmate.

Problems in communication – They have problems in finding consensus when making decisions together.

Rows – There are conflicts.

Feelings in the class – They feel comfortable, well.

Apart from that, these pupils spoke for the whole class about what pupils like (drinks and food) and what they enjoy doing (sports, hobbies).

However, there was one girl in the class who evaluated the class in a different way, compared with her class mates, more negatively. When explaining the collage she described the class as split into a few groups which do not communicate together and secretly fight against each other. They cannot agree on anything. Each group has its secrets that will not give away. They all pretend to be friends, however, the reality

is different. Even though being friends together, they do not understand even their best friends. She does not feel well in the class a bit.

Opinions and attitudes of this girl were derived from her personal experience and they do not seem to influence the overall classroom climate.

Interpretation of results

Non-selective class

The data acquired by the questionnaire show that in the non-selective class there have been achieved average (or slightly above average) results only in the items clarity of rules during lessons, taking exams and writing tests. Presumably, the reason for this result is the fact that in teachers' point of view, this class is a problematic one and therefore they feel exact explanation of rules necessary to handle the class better.

Teachers' help to students can be labelled as average as well. The other variables achieved results below average. The variables relationship between students in the class and interest in lessons were slightly below average. Worse results were found in the variable focus on tasks and considerably below average was perception of quiet and order in the class.

The Tree Test showed that 40 % of students feel that they are not a stable part of the group and perceive their position in the group as problematic.

The collages show that in the area of *interpersonal relationships* one can observe negative phenomena such as rumours, rows, fights, bullying and splitting into groups that are not communicating together. However, as a class they are able to unify when dealing with others.

As for the area of *school work*, they are not very ambitious, feel no need to compete, they rather help each other. They are not interested in the school work too much and do not want to study much.

In the area of *behaviour* they admit being naughty often, having class clowns, butches as well as ones behaving like infants. Some girls try to look older. They judge others by their look and things possessed quite often.

Selective class

All results in this class achieved average score or slightly above average. Teachers' help to students received the best evaluation. It was followed by relationship between students, clarity of rules, focus on tasks and interest in classes. As average can be considered evaluation of quiet and order in the class.

The Tree Test showed a negative evaluation of one's position in the group in 15 % of pupils.

In the area of *interpersonal relationships*, the collages revealed strong friendships, especially between boys, but not between all members of the group. There is one boy in the class who is not accepted by others. Even in this class splitting into groups is observable. These groups do not feel need to communicate with others. Furthermore, a barrier in communication between boys and girls was found. Pupils

mentioned rows and problems when reaching consensus. As for the area of *school work*, these pupils are aware of being in a selective class and having to meet higher demands. They try to fulfil the demands and have good results; however, they do not compete. The area of *behaviour* in the class – some of them are childish, they are sometimes naughty to the teacher, they have fun, but sometimes by laughing at other classmates.

Conclusion

We attempted to make an overview of our findings on class climate. Indisputably, class climate considerably influences pupils not only during lessons but also after school as class is one of the most important environments where the process of socialization takes place. Experience the child gains in the class influences its perception of the world. Therefore, it is vitally important to create the most pleasant class climate with highly positive relationship between pupils, their high interest in lessons and quality help and support from teachers.

The aim of the research was to find out whether such a climate is more likely in non-selective or selective classes. Results acquired by three different research methods show that better climate can be found in selective classes. Therefore, one could say that creation of such classes and selection of pupils is worthy. Gifted students are given more attention and better care while experiencing better class climate. Certainly, this is positive; however, it has its other side as well. Class climate in non-selective classes is worse because the pupils are aware of its “averageness” and pupils that pushed the class forward left. These pupils have feeling that there is no need to try to achieve better results. During our visits in the school we heard teachers’ explanation of pupils’ possible future failure because they are not “the clever ones”. Pupils must have felt their opinion and that certainly has not supported their self-confidence and motivation. Therefore, the advantages experienced by pupils of selective classes might be achieved at the expense of average pupils.

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SOCIÁLNÍ KLIMA ŽÁKŮ SEDMÝCH TŘÍD

Souhrn: Autoři příspěvku se zabývají porovnáním školního klimatu dvou sedmých tříd ve školním roce 2006/2007. Hledají rozdílnost a shodu hodnocení klimatu žáky mezi výběrovou třídou se zaměřením na matematiku a informatiku a běžnou třídou. V předvýzkumu si ověřili metodiku na jiné sedmé třídě, zejm. výpovědní hodnotu projektivní metody, koláže, kterou ve výzkumu také použili. Při konkrétní práci použili dotazník CES a Test stromu a koláž s následným rozhovorem s každým žákem. Pracovali tedy s kombinovaným metodologickým přístupem, kdy získávali data podle zásad kvantitativního i kvalitativního přístupu. Výzkumu se zúčastnilo 40 respondentů ve věku 12, –14,5let. Výsledky potvrdily původní hypotézy o rozdílnosti soudržnosti, kooperaci a zájmech žáků výběrových a běžných tříd. Autoři si uvědomují malou míru zobecnitelnosti výsledků a považují svůj výzkum za sondu do problematiky rozdílně složených tříd.

Klíčová slova: školní sebepojetí, jedinec bez šancí, normy chování ve škole, vytváření klik, kontext vzdělávání, školní prospěch, žargon, koncepce dané školy, prostorová blízkost, výsledky žáků, soudržnost, nespokojenost

EVALUATION OF CLASSROOM CLIMATE IN SECONDARY EDUCATION

Iveta MOCHAROVÁ, Jiří STRACH

Abstract: Evaluation of classroom climate in secondary education is important for understanding healthy life style, which can be influenced by the school itself since it evaluates the classroom as a studying environment both for the classroom and the teacher. Essence of the classroom climate evaluation is based on evaluating answers of the environment attendants themselves. These answers, obtained mainly by using special questionnaires and evaluating scales, should reflect how attendants (e.g. students) experience, perceive and view the climate they are educated in.

Key Words: Social Climate of Classrooms, Preferred Classroom Climate, Actual Classroom Climate

Aim of this study is to learn and evaluate the social climate of classrooms at Hotel school (Hotelová škola) in Třebíč, Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo and Catholic secondary school in Třebíč. The main goal is to compare actual and preferred classroom climate, comparing students' and teachers' opinion of the classroom climate and find out the differences between state, private and church school.

For the inquiry we chose a standardized anonymous questionnaire CES (shorted), which was translated and implemented by J. Lašek from Pedagogical Faculty of the University of Hradec Králové. The questionnaire was used as a tool for evaluating social classroom climate. It was anonymous so the students would not be ashamed and truly answer the questions.

Aim of this empiric inquiry was to learn and evaluate the social climate of third grade classrooms at Hotel school (Hotelová škola) in Třebíč, first and third grade classrooms at Secondary vocation school (SOŠ) Podyjí, sr.o in Znojmo and of third grade classrooms at Catholic secondary school in Třebíč.

Main goals of the inquiry:

- comparison of actual and preferred classroom climate
- comparison of students' and teachers' opinions
- comparison of school differences

We will compare the results and after discussing them with directors of different schools there are to be used as a base for further influence with the aim to create positive classroom climate.

Hypothesis formulation

For the given purpose the following hypotheses were formulated:

- H 1:** We suppose there will be differences between actual and preferred classroom climate evaluation in every classroom.
- H 2:** There will not be significant differences between students' and teachers' classroom climate evaluation in 1.B, as well as in 3.A students' and teachers' evaluation of actual and preferred form at Secondary vocation school (SOŠ) Podyjí in Znojmo.
- H 3:** We suppose there will be differences between actual and preferred classroom climate evaluation at state, private and church schools.

Characteristics of the method of inquiry

A standardized CES (Classroom Environment Scale) questionnaire was chosen because it provides more information from more respondents (Gavora, 2000). It was anonymous and its filling took maximum 20 minutes.

CES – Classroom Environment Scale (actual and preferred shory form)

Authors: E. J. Tricket, R. H. Moos, B. J. Fraser. Translated and implemented by J. Lašek from Pedagogical Faculty of the University of Hradec Králové.

Description: The questionnaire includes 24 items, 6 variable; and evaluates the classroom social climate from the following aspects:

- 1. Student's absorption in schoolwork (questions number 1, 7, 13, 19).**
- 2. Student-to-student relations in the classroom (questions number 2, 8, 14, 20).**
- 3. Teacher's guidance and support (questions number 3, 9, 15, 21).**
- 4. Students' focus on tasks (questions number 4, 10, 16, 22).**
- 5. Order and organization (questions number 5, 11, 17, 23).**
- 6. Rules clarity (questions number 6, 12, 18, 24).**

There are two forms of the questionnaire: actual and preferred.

It is assigned for 7th – 9th elementary school grades and 1st – 4th secondary school grades.

Administration: Each student fills the questionnaire individually by checking Yes – No options. The authors recommend submitting preferred form questionnaires first, followed by the actual form 2 weeks later.

Evaluation: Yes answer is evaluated by 3 points, No answer by 1 point (questions number 3, 4, 7, 8, 12, 13, 16, 17, 22 and 23 vice versa) and blank answer by 2 points. Final score is obtained by calculating points in each section. Student can get minimum of 4 points and maximum of 12 points in each section, the average is 8 points. Filling in the questionnaire in an average size classroom takes approximately 20 minutes including instructions; it takes about the same time to evaluate the results.

There were 141 students' preferred form and 138 actual form questionnaires distributed at schools. Students at Hotel school in Třebíč and Secondary vocation school Podyjí in Znojmo answered each questionnaire, however, at the Catholic secondary school in Třebíč one classroom refused to fill in the questionnaires and the rate of return was only 50%. Therefore, there were 111 preferred form questionnaires and 108 actual form questionnaires to be evaluated.

We also asked the classrooms' teachers at the mentioned above schools to fill in the questionnaires in order to find out how they perceive the environment. We obtained properly filled questionnaires only from teachers at Secondary vocation school Podyjí in Znojmo. Teachers from Hotel school and Catholic secondary school in Třebíč refused to do so. Therefore, We only had 10 teachers' preferred form and 10 actual form questionnaires to evaluate.

The questionnaires' anonymity should guarantee frankness and verity of the answers.

Description of the surveyed sample:

This questionnaire-based survey was held in December 2006 and focused on secondary schools students in Třebíč and Znojmo. Aim of this survey was not addressing all the students but rather performing a test with reasonable number of respondents at three randomly chosen schools - Hotel school as a state school, Secondary vocation school Podyjí as a private school and Catholic secondary school as a church school.

At the Hotel school, as well as at the Catholic secondary school, the survey took place in two classrooms, using questionnaires. First the preferred form ones and 2 weeks later the actual form ones.

At the Secondary vocation school Podyjí the survey was held the same way, however, in the first and third grades, since the school management was interested in evaluating classrooms in this specific grades.

Survey details:

1. Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo:
 1. B – Field of study: Structural engineering – Actual form - 27 respondents
Preferred form - 27 respondents
 3. A – Field of study: Structural engineering – Actual form - 11 respondents
Preferred form - 11 respondents
2. Hotel school (Hotelová škola) in Třebíč:
OB3 – Field of study: businessman/businesswoman -
Actual form - 22 respondents
Preferred form - 21 respondents

HT3 – Field of study: hotel keeping and tourism -

Actual form - 24 respondents

Preferred form -28 respondents

Catholic secondary school in Třebíč:

3.A -

Actual form - 24 respondents

Preferred form -24 respondents

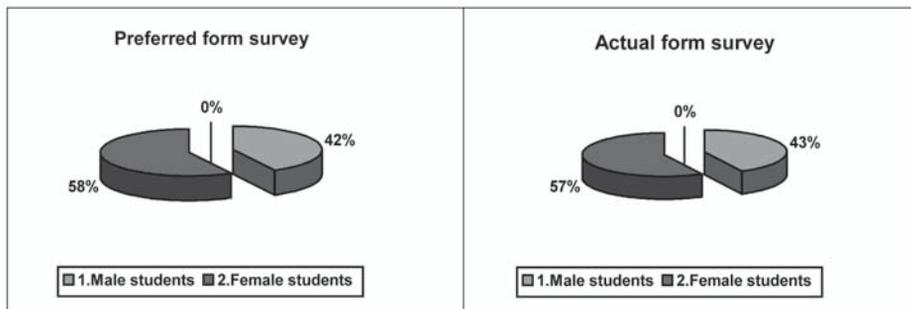
Total: 108 respondents (students) – actual form

Results and their interpretation:

At first a statistic analysis was performed. Following findings are based on its results; some of them are accompanied by graphic illustration for the sake of lucidity.

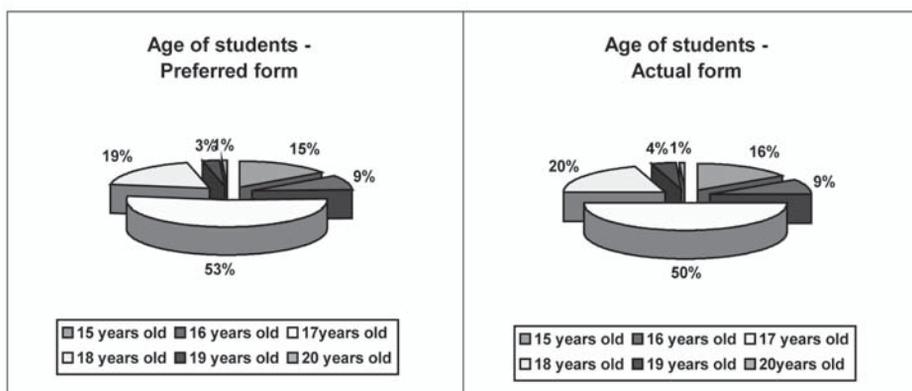
Students were asked to mark on the questionnaires whether they were males and females.

Preferred form questionnaires were filled in by **47 male** and **64 female students**. **Actual form** questionnaires were filled in by **46 male** and **62 female students**. Proportion of both forms of survey was quite even.



Students were also asked to state their age. Preferred form questionnaires were filled in by 17 fifteen years old students, 10 sixteen years old students, 59 seventeen years old students, 21 eighteen years old students, 3 nineteen years old students and 1 twenty years old student. Statistically, seventeen years old students were the most significant percentage group, followed by eighteen years old, fifteen years old, sixteen years old and nineteen years old students. The smallest group was represented by 1 twenty years old student.

Actual form questionnaires were filled in by 17 fifteen years old students, 10 sixteen years old students, 54 seventeen years old students, 22 eighteen years old students, 4 nineteen years old students and 1 twenty years old student.



Statistically, seventeen years old students were the most significant percentage group, followed by eighteen years old, fifteen years old, sixteen years old and nineteen years old students. The smallest group was represented by 1 twenty years old student.

Then the students were asked to state the name of their school and classroom.

Preferred form survey was participated by:

- 21 OB3 classroom students – Field of study: Businessman/businesswoman, School: Hotel school in Třebíč
- 28 HT3 classroom students – Field of study: Hotel keeping and tourism, School: Hotel school in Třebíč
- 27 1.B classroom students – Field of study: Structural engineering, School: Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo
- 11 3.A classroom students – Field of study: Structural engineering, School: Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo
- 24 3.A classroom students – School: Catholic secondary school in Třebíč

Table 1: Participation in Preferred form survey

Classroom	Field of study	School	Number of participants
OB3	Businessman/businesswoman	Hotel school in Třebíč	21
HT3	Hotel keeping and tourism	Hotel school in Třebíč	28
1.B	Structural engineering	SOŠ Podyjí in Znojmo	27
3.A	Structural engineering	SOŠ Podyjí in Znojmo	11
3.A		Catholic secondary school in Třebíč	24

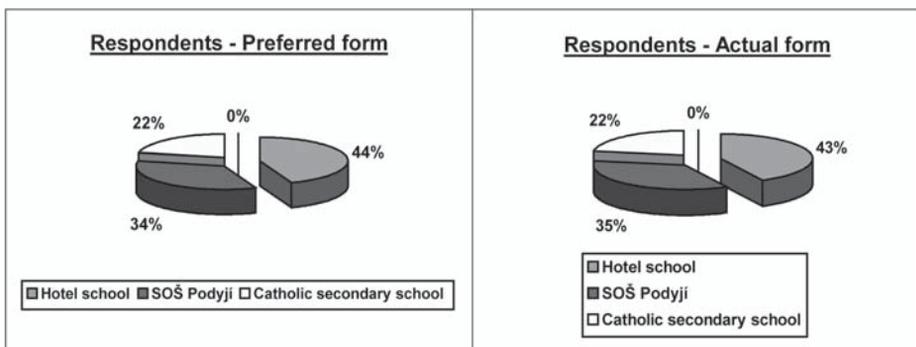
Actual form survey was participated by:

- 22 OB3 classroom students – Field of study: Businessman/businesswoman, School: Hotel school in Třebíč
- 24 HT3 classroom students – Field of study: Hotel keeping and tourism, School: Hotel school in Třebíč
- 27 1.B classroom students – Field of study: Structural engineering, School: Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo
- 11 3.A classroom students – Field of study: Structural engineering, School: Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo
- 24 3.A classroom students – School: Catholic secondary school in Třebíč

Table 2: Participation in Actual form survey

Classroom	Field of study	School	Number of participants
OB3	Businessman/businesswoman	Hotel school in Třebíč	22
HT3	Hotel keeping and tourism	Hotel school in Třebíč	24
1.B	Structural engineering	SOŠ Podyjí in Znojmo	27
3.A	Structural engineering	SOŠ Podyjí in Znojmo	11
3.A		Catholic secondary school in Třebíč	24

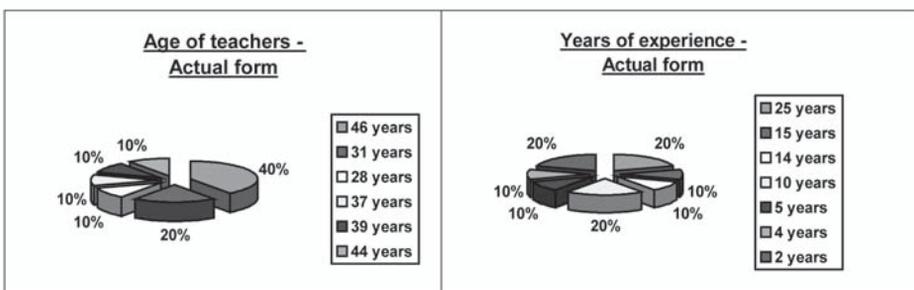
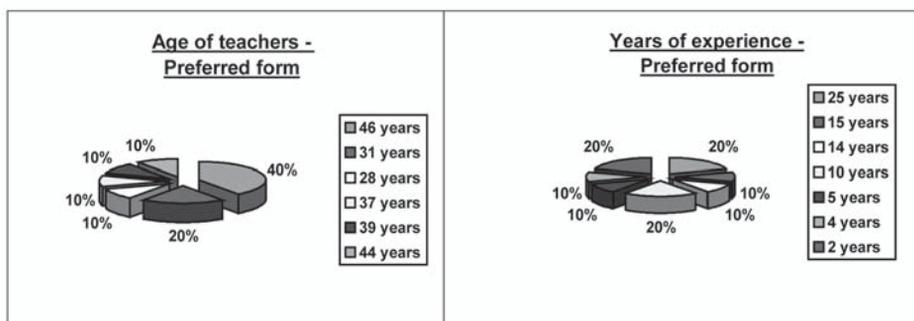
The biggest group participating in this survey was Hotel school in Třebíč – 49 Preferred form respondents and 46 Actual form respondents. Second biggest group was Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo - 38 Preferred form respondents and 38 Actual form respondents. The smallest group was Catholic secondary school in Třebíč - 24 Preferred form respondents and 24 Actual form respondents. Proportion of both forms of survey was quite even.



Teachers were also asked to mark on the questionnaires whether they were males and females. Both Preferred and Actual form surveys were participated by 5 male and 5 female teachers. Proportion of sexes in both forms of survey was quite even.

Teachers, as well as students, were to state their age. Preferred form questionnaires were filled in by 4 forty-six years old teachers, 2 thirty-one years old teachers, 1 twenty-years years old teacher, 1 thirty-even years old teacher, 1 thirty-nine years old teacher and 1 forty-four years old teacher. Actual form questionnaires were filled in by the same respondents.

Apart from their age, teachers were also asked to fill in number of years of experience. Preferred form questionnaires showed that the longest experience was 25 years – two teachers, then 15 years – 1 teacher, 14 years – 1 teacher, 10 years – 2 teachers, 5 years – 1 teacher, 4 years – 1 teacher and 2 years – 2 teachers. Actual form questionnaires were filled in by the same respondents.



Teachers also stated in which classroom they were teaching.

Preferred form questionnaires were filled in by:

- Five 1.B classroom teachers – Field of study Structural engineering, Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo
- Five 3.A classroom teachers – Field of study Structural engineering, Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo

Actual form questionnaires were filled in by:

- Five 1.B classroom teachers – Field of study Structural engineering, Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo
- Five 3.A classroom teachers – Field of study Structural engineering, Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo

Teachers were only a smart part of both preferred and actual forms of survey. Only teachers from Secondary vocation school (SOŠ) Podyjí, s.r.o in Znojmo participated in the project. Teachers from Hotel school and Catholic secondary school in Třebíč refused to participate, as stated above.

Classroom orientated results

Table 3: CES – P, HT3 – Hotel school

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	9,43	2,01	7,42 – 11,44	10
Student-to-student relations	10,36	2,07	8,29 – 12,43	11
Teacher's support	9,5	2,24	7,26 – 11,74	10
Focus on tasks	7,64	2,14	5,5 – 9,78	8
Order and organization	10,61	1,50	9,11 – 12,11	10,5
Rules clarity	10	2,14	7,86 – 12,14	10

Table 4: CES – A, HT3 – Hotel school

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	6,21	1,68	4,53 – 7,89	6
Student-to-student relations	8,83	1,81	7,02 – 10,64	9
Teacher's support	9,46	2,14	7,32 – 11,6	10
Focus on tasks	7,37	2,12	5,25 – 9,49	8
Order and organization	5,83	1,52	4,31 – 7,35	6
Rules clarity	9,83	1,91	7,92 – 11,74	10

From tables 3 and 4 we conclude that students at Hotel school in Třebíč, field of study - Hotel keeping and tourism find absorption in schoolwork and order and organization below average, as well as task focus. Student-to-student relations are rated as average. Only rules clarity during classes, exams and written tests and teachers' support were marked as above average. Students wish order and organization, absorption in schoolwork and student-to-student relations to be improved. **Difference was found between reality and wishes in the following fields: order and organization, absorption in schoolwork and student-to-student relations.** Students in this classroom see

the rules clarity during classes, exams and written tests and teachers' support as well as task focus as satisfactory and do not wish to improve them, even though they rated focus on tasks only average.

Table 5: CES – P, OB3 – Hotel school

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	10,14	1,49	8,65 – 11,63	10
Student-to-student relations	11,05	1,46	9,59 – 12,51	12
Teacher's support	11,28	1,28	10 – 12,56	12
Focus on tasks	7,9	1,80	6,1 – 9,7	8
Order and organization	10,71	1,16	9,55 – 11,87	10
Rules clarity	10,66	1,43	9,23 – 12,09	10

Table 6: CES – A, OB3 – Hotel school

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	6,18	1,69	4,49 – 7,87	6
Student-to-student relations	10,18	2,33	7,85 – 12,51	11
Teacher's support	5,36	2,36	3 – 7,72	4
Focus on tasks	7,81	2,33	5,48 – 10,14	8
Order and organization	6,5	1,75	4,75 – 8,25	6
Rules clarity	9,47	2,09	7,38 – 11,56	10

From tables 5 and 6 we conclude that students at Hotel school in Třebíč, field of study - Businessman/businesswoman find teacher's support and guidance, absorption in schoolwork and order and organization well below average. Focus on tasks was average; rules clarity during classes, exams and written tests and student-to-student relations were above average. Students wish teacher's support and guidance, absorption in schoolwork, order and organization and student-to-student relations to be improved.

Difference was found between reality and wishes in the following fields: teacher's support and guidance, absorption in schoolwork, order and organization and student-to-student relations. Students in this classroom see the rules clarity during classes, exams and written tests and task focus as satisfactory and do not wish to improve them, even though they rated focus on tasks only average.

Table 7: CES – P, 1.B – Secondary vocation school (SOŠ) Podyjí

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	9,55	2,06	7,49 – 11,61	10
Student-to-student relations	9,93	1,92	8,01 – 11,85	10
Teacher's support	10,22	1,37	8,85 – 11,59	10
Focus on tasks	7,63	2,18	5,45 – 9,81	8
Order and organization	9,77	1,99	7,78 – 11,76	12
Rules clarity	10,30	1,16	9,14 – 11,46	12

Table 8: CES – A, 1.B – Secondary vocation school (SOŠ) Podyjí

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	6,74	1,73	5,01 – 8,47	6
Student-to-student relations	10,59	1,42	9,17 – 12,01	10
Teacher's support	10,03	1,64	8,39 – 11,67	10
Focus on tasks	7,03	1,83	5,2 – 8,86	7
Order and organization	7,63	1,89	5,74 – 9,52	8
Rules clarity	10,15	2,03	8,12 – 12,18	10

From tables 7 and 8 we conclude that 1.B students at Secondary vocation school (SOŠ) Podyjí, Field of study: Structural engineering find absorption in schoolwork, focus on tasks and order and organization below average. However, as above average they rated student-to-student relations, teacher's support an guidance and rules clarity during classes, exams and written tests. Students wish order and organization, absorption in schoolwork and rules clarity during classes, exams and written tests to be improved.

Difference was found between reality and wishes in the following fields: order and organization, absorption in schoolwork, rules clarity during classes, exams and written tests and focus on tasks. Students in this classroom see the student-to-student relations and teacher's support and guidance as satisfactory and do not wish to improve them.

Table 9: CES – P, 3.A – Secondary vocation school (SOŠ) Podyjí

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	9,45	2,71	6,74 – 12,16	10
Student-to-student relations	11,09	1,31	9,78 – 12,4	12
Teacher's support	9,45	1,56	7,89 – 11,01	10
Focus on tasks	8	1,91	6,09 – 9,91	8
Order and organization	10,36	1,43	8,93 – 11,79	10
Rules clarity	9,81	1,99	7,82 – 11,8	10

Table 10: CES – A, 3.A – Secondary vocation school (SOŠ) Podyjí

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	6,09	2,19	3,9 – 8,28	6
Student-to-student relations	10,09	1,38	8,71 – 11,47	10
Teacher’s support	6,18	1,40	4,78 – 7,58	6
Focus on tasks	7,63	2,38	5,25 – 10,01	8
Order and organization	6,18	1,80	4,38 – 7,98	6
Rules clarity	9,45	2,10	7,35 – 11,55	8

From tables 9 and 10 we conclude that 3.A students at Secondary vocation school (SOŠ) Podyjí, Field of study: Structural engineering find absorption in schoolwork, teacher’s support an guidance and order and organization well below average. As average they rated rules clarity during classes, exams and written tests and focus on tasks. Student-to-student relations were the only field rated as above average. Students want teacher’s support an guidance, absorption in schoolwork, order and organization, student-to-student relations and rules clarity during classes, exams and written tests to be improved. **Difference was found between reality and wishes in the following fields: teacher’s support and guidance, absorption in schoolwork, order and organization, student-to-student and rules clarity during classes, exams and written tests.** Students in this classroom see focus on task as satisfactory and do not wish to improve it, even though they rated this field only as average.

Table 11: CES – P, 3.A – Catholic secondary school

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	10,25	2,18	8,07 – 12,43	11
Student-to-student relations	9,5	2,02	7,48 – 11,52	10
Teacher’s support	9,33	1,88	7,45 – 11,21	10
Focus on tasks	9,25	2,07	7,18 – 11,32	8
Order and organization	9,83	2,13	7,7 – 11,96	10
Rules clarity	10,21	2,31	7,9 – 12,52	11,5

Table 12: CES – A, 3.A – Catholic secondary school

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	5,58	1,41	4,17 – 6,99	6
Student-to-student relations	8,33	2,30	6,03 – 10,63	8
Teacher’s support	8,92	1,96	6,96 – 10,88	9
Focus on tasks	7,87	1,90	5,97 – 9,77	8
Order and organization	5,38	1,58	3,8 – 6,96	5
Rules clarity	8,38	2,14	6,24 – 10,52	8

From tables 11 and 12 we conclude that 3.A students at Catholic secondary school in Třebíč find order and organization and absorption in schoolwork well below average. As average they rated rules clarity during classes, exams and written tests, focus on tasks and student-to-student relations. Only teacher's support and guidance was above average (9 points) and it actually was the highest mark in Actual class climate. Students want absorption in schoolwork, order and organization and rules clarity during classes, exams and written tests to be improved. **Difference was found between reality and wishes in the following fields: absorption in schoolwork, order and organization, rules clarity during classes, exams and written tests, student-to-student relations and teacher's support and guidance.** Students in this classroom see focus on task as satisfactory and do not wish to improve it, even though they rated this field only as average.

Table 13: CES – P, 1.B – Secondary vocation school (SOŠ) Podyjí – teachers

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	11,2	0,98	10,22 – 12,18	12
Student-to-student relations	10	1,26	8,74 – 11,26	10
Teacher's support	8,8	1,6	7,2 – 10,4	10
Focus on tasks	10,6	1,2	9,4 – 11,8	10
Order and organization	10,4	0,8	9,6 – 11,2	10
Rules clarity	11,6	0,8	10,8 – 12,4	12

Table 13: CES – A, 1.B – Secondary vocation school (SOŠ) Podyjí – teachers

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	8,4	1,50	6,9 – 9,9	8
Student-to-student relations	10	2,53	7,47 – 12,53	12
Teacher's support	10,2	1,33	8,87 – 11,53	10
Focus on tasks	10,4	1,50	8,9 – 11,9	10
Order and organization	8,4	1,50	6,9 – 9,9	8
Rules clarity	11,8	0,4	11,4 – 12,2	12

From tables 13 and 14 we conclude that 1.B teachers at Secondary vocation school (SOŠ) Podyjí, Field of study: Structural engineering find absorption in schoolwork and order and organization average. As above average they rated student-to-student relations, teacher's support and guidance, focus on tasks and rules clarity during classes, exams and written tests. Teachers want absorption in schoolwork, order and organization and student-to-student relations to be improved. **Difference was found between reality and wishes in the following fields: absorption in schoolwork, order and organization and student-to-student relations.** Teachers see rules clarity during

classes, exams and written tests, focus on tasks and teacher’s support as satisfactory and do not wish to improve them.

Table 15: CES – P, 3.A – Secondary vocation school (SOŠ) Podyjí – teachers

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	10,8	2,4	8,4 – 13,2	12
Student-to-student relations	9,6	1,50	8,1 – 11,1	10
Teacher’s support	8,8	2,04	6,76 – 10,84	8
Focus on tasks	9,2	1,6	7,6 – 10,8	8
Order and organization	11,6	0,8	10,8 – 12,4	12
Rules clarity	11,2	1,6	9,6 – 12,8	12

Table 16: CES – A, 3.A – Secondary vocation school (SOŠ) Podyjí – teachers

	Arithmetic Mean	Standard Deviation	Zone of Regularly Value	Median
Absorption in schoolwork	6	1,26	4,74 – 7,26	6
Student-to-student relations	9,8	2,04	7,76 – 11,84	10
Teacher’s support	9,2	2,04	7,16 – 11,24	10
Focus on tasks	10,4	1,50	8,9 – 11,9	10
Order and organization	6,8	0,98	5,82 – 7,78	6
Rules clarity	12	0	12 - 12	12

From tables 15 and 16 we conclude that 3.A teachers at Secondary vocation school (SOŠ) Podyjí, Field of study: Structural engineering find absorption in schoolwork and order and organization below average. As above average they rated rules clarity during classes, exams and written tests, student-to-student relations and teacher’s support and guidance. Teachers want absorption in schoolwork and order and organization to be improved. **Teacher’s support and guidance and focus on tasks** were rated as above average and they wish to lower their level. **Difference was found between reality and wishes in the following fields: absorption in schoolwork and order and organization.** Teachers see student-to-student relations and rules clarity during classes, exams and written tests as satisfactory and do not wish to improve them

Examination of set hypotheses

Due to the goal of this baccalaureate work, three hypotheses were set and were to be confirmed or disproved by described above inquiry.

H 1: We assume that differences between actual and preferred form will be found in each classroom.

Inquiry results, noted in tables 3 to 14 show that **there is a difference** between actual and preferred form in each classroom of the mentioned above schools. Students of all classrooms wish **absorption in schoolwork and order and organization** to be improved. Classrooms HT3, OB3, 3.A at Secondary vocation school (SOŠ) Podyjí and classroom 3.A at Catholic secondary school also wish **student-to-student relations**. Classrooms OB3, 3.A at Secondary vocation school (SOŠ) Podyjí and classroom 3.A at Catholic secondary school also wish **teacher's support and guidance** to be improved. In light of these results, we can state that students wish at least two of the six climate fields to be improved.

Hypothesis 1 was confirmed.

H 2: There will not be significant differences in classroom climate evaluation between teachers and students in 1.B, neither in teachers' and students' preferred and actual forms in 3.A at Secondary vocation school (SOŠ) Podyjí in Znojmo.

Classroom 1.B climate evaluation showed the following differences: **students** find **focus on tasks below average**; **teachers** on the other hand marked it as **above average**. **Students** wish **rules clarity and focus on tasks to be improved**; however **teachers** find these **sufficient and do not wish to improve them**. **Teachers** wish **student-to-student relations to be improved**, but **students** themselves **see these as sufficient and do not wish to improve them**. For actual and preferred classroom climate see tables 7, 8, 13 and 14.

Classroom 3.A climate evaluation showed the following differences: **students** find **teacher's guidance and support below average and rules clarity and focus on task average**. However, **teachers** rated these fields as **above average**. **Students** wish **teacher's guidance ad support, student-to-student relations and rules clarity to be improved**, but **teachers** find **student-to-student relations and rules clarity sufficient and do not wish to improve them**. **Teachers** think that their **guidance and support is above average and wish to lower it**. For actual and preferred classroom climate see tables 9, 10, 15 and 16.

Hypothesis 2 was not confirmed.

H 3: We believe there will be differences in preferred and actual form of classroom climate evaluation between state, private and church school.

Students at Hotel school found **actual form of rules clarity above average**; HT3 students rated as **above average also teacher's support and guidance**. OB3 students saw as **above average also student-to-student relations**. Students in both classes find **focus on tasks and order and organization below average**. OB3 students rated **teacher's support and guidance well below average**. For results see tables 4 and 6.

Students at Secondary vocation school (SOŠ) Podyjí found **actual form of student-to-student relations above average**, 1.B students rated as above average also **teacher's support and guidance and rules clarity**. As **below average** students in both classes rated **absorption in schoolwork**; 1.B students saw so also **focus on tasks** and 3.B students found so **teacher's support and guidance and order and organization**. For results see tables 8 and 10.

3.A students at Catholic secondary school found **actual form of teacher's support and guidance above average**; as **below average** they rated **order and organization, absorption in schoolwork, student-to-student relations, focus on tasks and rules clarity**. For results see table 12.

Students at Hotel school wish **preferred form of absorption in schoolwork, student-to-student relations and order and organization to be improved**. OB3 students also wish to improve **teacher's support and guidance**. See tables 3 and 5.

Students at Secondary vocation school (SOŠ) Podyjí wish **preferred form of absorption in schoolwork, order and organization and rules clarity to be improved**. 1.B students also wish to improve **focus on tasks** and 3.A students wish to improve **student-to-student relations and teacher's support and guidance**. See tables 7 and 9.

3. A students at Catholic secondary school wish **preferred form of absorption in schoolwork, student-to-student relations, teacher's support and guidance order and organization and rules clarity to be improved**. See table 11.

Hypothesis 3 was confirmed.

Conclusion

Aim of this work was to learn and evaluate classroom climate at randomly chosen schools. Compare actual and preferred climate in each classroom, compare students' and teachers' opinions and compare differences between schools.

Even though classroom climate is believed to be critical parameter in classical and alternative school comparison, only few such studies exist. One of the reasons is the fact, that many alternative schools are not open to scientific observations and refuse to be compared to classical school. (Průcha, 1996).

We faced both willingness and unwillingness to cooperate during my study. Claim, that alternative schools are not willing to be compared to other schools proved wrong in the case of private school in Znojmo, where we experienced warm approach and willingness to cooperate. This school returned all questionnaires filled and the school management showed interest in the results. Due to the teachers' and students' cooperation we were able to confirm their opinions of the classroom climate.

Catholic secondary school was unwilling to cooperate; only one classroom (out of two) filled in the questionnaires. Management of Hotel school's in Třebíč was interested in cooperation; however, teachers refused to fill in the questionnaires, claiming that these were not addressed to them. Only students filled them in.

Comparing approach to classroom climate survey, we found Secondary vocation school (SOŠ) Podyjí to be the best, followed by Hotel school in Třebíč. Catholic secondary school was not open to any kind of survey, which proved the facts stated in professional literature.

Statements of alternative school promoters, saying that classroom climate in these schools is more propitious for students than the one in state schools (Průcha, 2000) did not prove right. CES questionnaire authors claim, that the best climate is in classrooms, where there is the smallest difference in actual and preferred forms (Lašek, 2001). We found the smallest difference in Hotel school's classroom HT3 (3 climate fields), then in OH3 classroom at the same school (4 climate fields). Four fields difference was found also in 1.B at private school in Znojmo; five fields difference was found in 3.A classroom of this school as well as in 3.A classroom at Catholic secondary school. **The smallest difference between actual and preferred classroom climate was found in classroom HT3 at Hotel school, the biggest difference was found in classrooms 3.A at Secondary vocation school (SOŠ) Podyjí and 3.A at Catholic secondary school.** Claim, that alternative schools climate is more favorable than state ones' did not prove totally. In general, students are not completely satisfied with their classroom climate at all three types of schools. They wish to work in better climate than in the one they experience every day.

Aim of this study was also to compare students' and teachers' opinions of classroom climate. We could do so only at Secondary vocation school (SOŠ) Podyjí because the teachers there were the only ones who filled in the questionnaires. There were differences between students' and teachers' evaluation in many fields of the classroom climate as well as in its preferred form. Generally speaking, we can say, that the fields, which students saw as under average and would like to improve them, teachers rated as sufficient and vice versa. Both students and teachers wish to improve only absorption in schoolwork and order and organization. (Hypothesis 2).

We also wanted to compare actual climate in each classroom and find out what climate students wish to study in.

From **actual climate** comparison at **Hotel school** we can conclude that students see **student-to-student relations and rules clarity as best**. HT3 students consider **teacher's support and guidance to be good**; however, OB3 students rated **teacher's support as well below average**. **Students from both classes rated absorption in schoolwork and order and organization below average.**

Students at Secondary vocation school (SOŠ) Podyjí gave the best grade to student-to-student relations. 1.B students consider rules clarity and teacher's support and guidance very good; however, 3.A students rated teacher's support and guidance below average and rules clarity average. They all find absorption in schoolwork deficient.

Students at **Catholic secondary school** consider **teacher's support to be the best**. As **very not satisfactory they rated order and organization**.

As far as **preferred** climate, HT3 students at **Hotel school** wish to **improve order and organization**, OB3 would like **teacher's support to be better**. Students from **both classes wish absorption in schoolwork and student-to-student relations to be improved**, even though they rated these fields quite well.

1.B and 3.A students at **Secondary vocation school (SOŠ) Podyjí** want to improve **absorption in schoolwork and order and organization**. 1.B students **would like rules clarity and focus on tasks to be better**, 3.A students **would like to improve teacher's support and guidance, rules clarity and student-to-student relations**, even though they rated these fields quite well.

Students at **Catholic secondary school** would like to **improve all fields of classroom climate, except of focus on tasks**.

Generally, students at **Hotel school** rated **rules clarity the best, and absorption in schoolwork and order and organization below average**. Students at **Secondary vocation school (SOŠ) Podyjí** rated **student-to-student relations the best and absorption in schoolwork below average**. Students at **Catholic secondary school** rated **teacher's support and guidance the best and order and organization very deficient**.

As far as preferred climate, students at **Hotel school** want **order and organization, absorption in schoolwork and student-to-student relations to be improved**. **Secondary vocation school (SOŠ) Podyjí** students **would like to improve absorption in schoolwork, order and organization and rules clarity**. Students at **Catholic secondary school** want **absorption in schoolwork, student-to-student relations, teacher's support and guidance, order and organization and rules clarity to be improved**.

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EVALUACE KLIMATU TŘÍDY V SEKUNDÁRNÍM ŠKOLSTVÍ

Souhrn: Evaluace klimatu třídy v sekundárním školství má význam pro studium problematiky zdravého životního stylu který škola může ovlivnit, jelikož hodnotí školní třídu jako prostředí pro učení žáky dané třídy a vyučující, kteří zde působí. Podstatou evaluace klimatu školní třídy je skutečnost, že určité prostředí se hodnotí na základě výpovědi samotných účastníků daného prostředí. Tyto výpovědi, získávané hlavně pomocí speciálních dotazníků a hodnotících škál, mají odrážet, jak účastníci (např. žáci) prožívají, vnímají a posuzují prostředí, v němž se vzdělávají.

Klíčová slova: sociální klima třídy, preferované klima, reálné klima

BULLYING IN SCHOOLS

Marie BLAHUTKOVÁ, Michal CHARVÁT

Abstract: The Article deals with problems of bullying in schools at children of older school age. Via questionnaire survey we ascertained the occurrence of bullying in selected schools of Brno-Province region. We found out bullying methods are really implemented among pupils of the selected schools.

Keywords: *aggressivity, bullying, hostility*

Introduction

Bullying in schools is as old as the existence of schools. Nevertheless, contemporary bullying increases by means of increased amount of cases of bullying, lowered age limit of aggressors and increased brutality and its refinement (Bendl, 2003).

Failure, pain, loss and other negative features in life of children may lead to transcendence. However, the transcendence may achieve large dimensions so that negative action is invoked (Hogenová, 2001).

Human beings are dynamic personalities that develop and change gradually. Their dynamics is demonstrated via the function of ego (self), which is a theoretical construct explaining the organization of personality, functioning as a relatively complex unit. Motifs of human activity are of great importance. Maintenance of a specific inner psychic balance, defined by feeling of self-value, represents the meaning of human behaviour.

Mechanisms of defence against anxiety and of self-delusion appear gradually (Nakonečný, 1995). Human beings are multifarious creatures and the plurality consists both from positive and negative features. In contemporary post-modern society the maximal performance is emphasised. At the same time the performance in contemporary society represents texturizing the area of possible behaviour of other people, i.e. organizing their own freedom (Hogenová, 2002). Nevertheless, not everyone is able to focus just on the performance and therefore significant differences among approaches to problem solving appear already at individuals of children age.

Kolář (2000) states bullying in schools is like an epidemic that has already been substantiated by results of various researches, conducted by specialists in different types of schools in more localities of the Czech Republic. For all that most teachers do not consider bullying a problem. And if they do, they usually concede it as a problem of

other school than their own, which is a deep mistake. Bullying is a problem of most schools. That means bullying comes up sooner or later everywhere. Accurate charting of bullying is rather demanding as bullying may represent a covert problem for a long period of time.

We have no information about the majority of bullying cases in spite of the fact that mild forms of bullying touch a significant part of school population. High percentage of such mild form cases proceeds into the advanced stage of bullying.

As long as these questions start emerging already in children age period, they may be a starter of negative behaviour of children which is often labelled “aggressivity” and included into behaviour disorders of children age. Withal, a child suffering from behaviour disorders in school may prove characteristics of a calm, communicative and sociable person. Negative impact on an individual during a longer time period may cause consequential behaviour disorders that often lead to a socially-pathologic behaviour of a child. Inner negative feelings of a child may display as features of hostility.

According to the Ministry of Education, Youth and Sports of the Czech Republic bullying is any kind of behaviour the intention of which is to harm other individual, to threaten or terrorize other pupil or even a group of pupils. It is a goal-directed and usually repeated usage of violence by an individual or a group against other individuals or groups of pupils who are not able to defend themselves (or they cannot defend for various reasons). It includes both physical attacks, having form of beating, blackmailing, burglaries, destroying other person’s belongings and verbal attacks such as expletives, gossiping, threatening and humiliating. It may also have form of sexual harassment or abuse. Bullying may appear indirectly as a conspicuous marginalization and ignoring a pupil or pupils by classmates or other group of pupils. The danger of bullying resides in its seriousness, long-term character and often in whole-life consequences in the area of both physical and mental health.

Kolář (2000) divides bullying into five groups:

First stage (birth of ostracism)

The circumstances of birth of bullying may be quite common and furtive. On the contrary to the common opinion of population there are no special conditions needed as well as no necessary presence of a pathological sadist or absence of discipline. In each school group individuals who are less influential and favoured are to be found. All pupils who find themselves at the edge of the group suffer from so called “ostracism”. It is a mild, mostly psychical form of violence, when man does not feel well, is not favoured, is not reputable, the others refuse him and gossip about him, etc. Such a child starts receiving a role of the oppressed and brushed off and he cannot defend himself effectively. The first stage of bullying is hardly observable.

And such a situation is a rudiment of bullying that may easily grow into the next stage.

Second stage (physical aggression and tightening up the manipulation)

During this stage the psychical pressure grows into the physical aggression. The aggressor starts feeling the taste of power and what delight it brings him to beat, torture

or humiliate somebody else. Attitude of classmates towards bullying may significantly influence the following development of bullying. In case of non-existing friendships, negative attitude to violence, and positive moral characteristics, the very last moral scruple is conquered and bullying is applied to a greater extent.

Third stage (the key moment + creation of the core)

Practically, this stage is crucial. There exists still a possibility of forming a strong positive influence of a group that would weaken the influence of the attacking core which is slowly being created. Provided that no positive influence comes, the aggressors begin to cooperate and bully the most suitable victim systematically. Those who have displayed as a suitable target of ostracism happen to be victims of the third stage of bullying as well.

Fourth stage (majority of the pupils accept the norms of aggressors)

The activity of the core of aggressors continues. Their impact is very strong, so that the whole group accepts their norms and rules. Usually there are not many individuals to oppose such a pressure. The group seems homogenous outwardly, but discomposes inwardly. Even calm and well behaved pupils start behaving in a cruel way and take part in torturing the victim, feeling gratification. They do so not to become the tortured ones.

Fifth stage (totality, so called complete bullying)

The fifth stage of bullying may be found in prisons, military institutions and educational institutions for youth. Norms of aggressors are generally accepted and respected by all. Totalitarian ideology of bullying is established. Aggressors are considered and respected as leaders, supermen, etc., which is the characteristic feature of this stage. Victims are considered coppers, servants, slaves, etc. Aggressors lose the remainders of scruple and sense of reality. Members who have originally not agreed look on with interest now or even take part actively.

Sometimes a pupil with excellent school results who helps willingly the teacher and has the teacher's support becomes the initiator of bullying. The teacher trusts him and supports him. At this stage the victim runs into illness, is often absent (without excusing himself), avoids the school area and in the worst possible case he ends up with a psychical collapse or suicidal attempt.

Objective, hypotheses and tasks of the research

The objective of our research was to ascertain the up-to-date situation of bullying at a selected group of pupils of older school age in schools of Brno-Province region. The research included ascertaining the attitudes of adolescent towards the features of bullying in school.

The following hypotheses to fulfil the objectives of the research have been established:

1. Contemporary globalization brings also negative features such as bullying.
We supposed that among pupils of older school age bullying will be proved.

2. Bullying is more often attributed to men. Therefore, we supposed that bullying in school will be detected particularly in boys.
3. School area is often connected with bullying. We supposed bullying in adolescents will appear rather in school area than in out-of-school area.

The following tasks to fulfil the objectives and hypotheses have been established:

- to address a selected group of adolescents in school area and ascertain the situation of bullying via questionnaire survey,
- to compare the differences of bullying in girls and boys,
- to ascertain the stage of bullying in school and out-of-school area and to compare these stages.

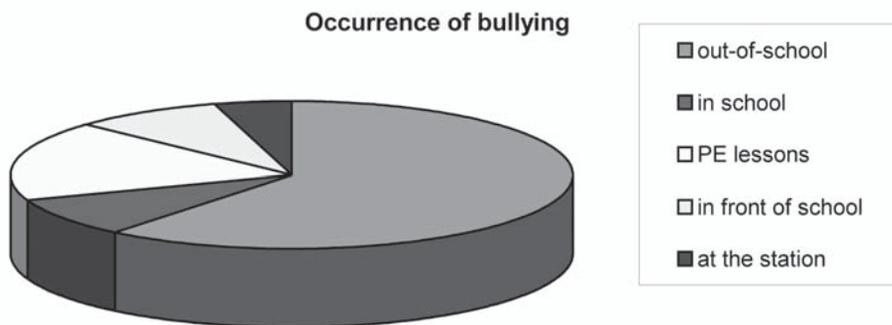
Methodology

Seven classes of pupils of primary schools and students of lower grades of grammar schools of Brno-Province region, aged 12–15 years, have been selected. Altogether, 151 respondents (81 boys, 70 girls) have been interviewed via the questionnaire. Anonymous non-standardised questionnaire of bullying (Blahutková, 2006), containing 31 questions, has been applied. The first area of questions focused on basic information about the tested person, climate of the class and friendships. The second group of questions focused on bullying in general (knowledge of the terminology, experience with bullying and aggressors, ability to announce ascertained facts). The research has been conducted by one person who gave the interviewees the same instructions in all tested schools.

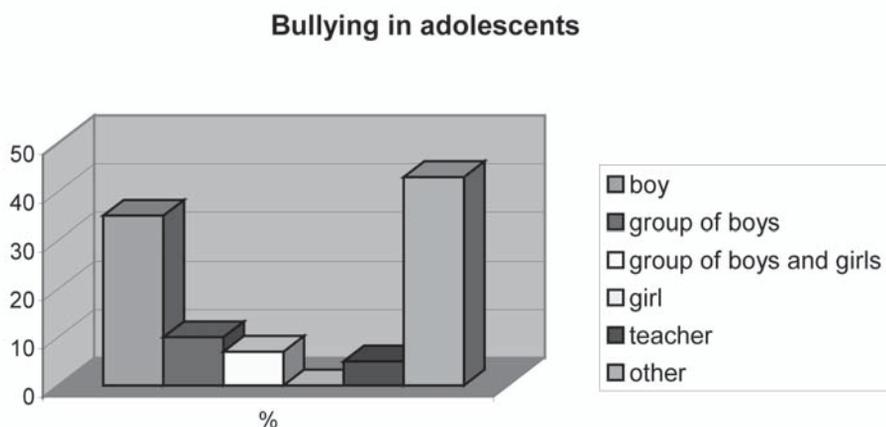
Results and discussion

While ascertaining the general characteristics of school and class climate, 95 % of the addressed students admitted contentedness, concerning the question whether they attend the right class. While asking about a good class team, only 65 % of pupils have been contented. More than two thirds of pupils think bullying appears in school area and the same amount of the addressed think the teachers would reveal it. One third of the addressed have never witnessed bullying in school. 17 % of the addressed have encountered bullying more often. Boys have been harmed more often (51 %) than girls (17 %). In most cases, bullying appears in out-of-school area but also in school area, PE lessons and during the school breaks (see pict.1).

Aggressor who harmed other pupils was usually represented by a boy (35 %), less often by a group of boys (22 %) and sometimes by a mixed group of boys and girls. In exceptional case the teacher has been included in bullying (5 %) as well as an unknown adolescent (see pict.2).



Picture 1: Occurrence of bullying in selected groups of adolescents



Picture 2: Indicated aggressor

Frequently, school bullying takes place in a dressing room, in the area of toilets, on the way to or from school. In the out-of-school area bullying is implemented at stations (while waiting for means of transport as marginal part of the addressed have to travel to school daily), further on in pubs and leisure time centres. One third of the addressed have admitted that some of the classmates attempted to help the victim. One third admitted no-one helped the victim. The rest of the interviewees have not answered the question.

While ascertaining the regularity of bullying one third of adolescents admitted they had been harmed for several months regularly, though minimally twice a week. In three cases the answer was “very often” and even “whenever we met”!

Majority of the addressed did not announce the bullying case, mostly because of having fear of punishment implemented by the aggressor. In last questions area we ascertained whether the interviewees have ever harmed anyone or at least felt about harming. Surprisingly, 22 % admitted having harmed somebody. 8 % keep harming somebody and more than one half of respondents would like to do so. Three pupils have admitted that repeated harming their classmates brings them feeling of gratification.

After the questionnaire research we discussed with the pupils the features of bullying in public and in school. In many cases the respondents encounter bullying but they avoid a direct contact with it.

Conclusions

After implementation of our research we may state it is more than necessary to solve problems of bullying and aggressive behaviour in schools and especially in such cases where bullying and violence applied on individuals or group of children appears. We assume bullying shall be reduced via the following recommended methods:

For parents:

1. Take in your children and their behaviour.
2. Speak to your children regularly (also about his/her activities throughout the day)
3. After ascertaining violent behaviour, find out what exactly had happened.
4. Never lighten the situation.
5. Ask for redress in school.
6. In case the school is not willing to perform the redress, ask a specialist for help.

For teachers:

1. Take in your pupils and their unconcern and reclusive behaviour.
2. Ascertain gradually the situation of aggressive behaviour of children in class (during breaks, in lunch break, while moving to other classrooms, dressing rooms, etc.).
3. Solve features of aggressive behaviour immediately, with a clear conclusion.
4. Social climate of a class is a means of regulation of hostility features.
5. Common emotional air (positive).
6. Support of family and the closest persons (friends, teachers, trainers).
7. Education towards fair play.
8. Do not overtax your pupils.
9. Educate towards regarding authorities and positive strengthening the self-consciousness.
10. Praise unsuccessful pupils whenever possible.

We assume the increasing problems with behaviour disorders of school pupils partially reflect the modern society. Many children perceive different social levels. Media influence the youth at a great extent as well – especially films and PC games and so do the attitudes of parents. The lack of time at parents leads to increasing self-promotion of children, which often develops into bullying.

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ŠIKANA VE ŠKOLE

Souhrn: Článek se zabývá problematikou šikanování na školách u dětí staršího školního věku. Pomocí dotazníkového šetření jsme zjišťovali výskyt šikany na vybraných školách. Bylo zjištěno, že šikana se skutečně mezi žáky staršího školního věku vyskytuje.

Klíčová slova: agresivita, šikana, hostilita

EATING HABITS OF PRIMARY SCHOOL PUPILS

Jana Veselá, Hana STAŇKOVÁ

Abstract: *The probe is in the field of primary schools catering for pupils, deals with the eating habits of pupils in second level primary school in Brno. It is based on a history of school meals, which monitors to the present. Using a questionnaire and interviews with pupils compares eating in the family and at school. It deals with the influence of family eating habits on the choice of meals in the school canteen. In a contribution to analyse the specific data obtained from 150 pupils Brno schools and theories are compared with a healthy diet. The authors of the attempt to find a relationship between the satisfaction of pupils with school board and school climate.*

Keywords: *diet, eating habits, nutrition, satisfaction, school climate, school meals, family*

Eating Habits in the School Environment

Beginning of school attendance is a very important dividing line in physical as well as mental development of children. The child gains the role of a pupil and learns new behaviour patterns. Schools put cognitive and social demands on pupils. In the social sphere, these demands can be understood as a child's ability to cope with evaluation of its results and comparison with peers. A number of pupils encounter eating in school environment for the first time in their life.

Healthy food and appropriate drinking regime facilitate good school results. A primary school means a great change in pupils eating habits – encountering a new eating situation can influence the school results, relationship to school, teacher and classmates in a positive or negative way.

A well prepared and organized school eating leads pupils to acquiring good eating habits and keeping hygienic and social norms. Another important point is that pupils learn to eat regularly. In the school dining-room, the child encounters more diverse food than it was used to at home. This fact facilitates its ability to change one's eating habits in adulthood and accept new meals.

However, school dining-room might become a place that makes the child feel

anxious. Negative experience connected to eating might influence learning process, relationship with pupils and teachers and sometimes even lead to development of neurotic disorders. At some schools teachers control whether pupils ate the whole meal and check whether they do not return too much food. And teachers do not take into account that the child feels full. This situation is stressful to pupils, they are afraid of being punished for leaving food.

The influence of peer group on eating is of great importance as well. If a dominant classmate expresses negatively about smell or taste of the offered meal, it usually leads to a chain reaction to the meal among all classmates.

Fraňková (Fraňková, 2000) mentions that results of researches in the field of school meal plan show that the structure of meals is improving. The use of fat and butter decreases. These provisions are replaced by vegetable oil. On the other hand, the consumption of fish and poultry increases. If the school meal plan is quality, it helps to remove some bad eating habits from home.

School meal plan, as well as one's nutrition in general, has to fulfil nutrition demands and have to reflect the consumption basket.

Consumption Basket

It is a continually up-dated file of nutrition norms or limits that have to be respected when preparing a school dining-room menu. Consumption Basket is based on nutrition recommendation in the Czech Republic and sets a monthly consumption of certain types of food per person and day in grams.

The Ministry of Education and Sport in the Czech Republic prepares a new version of ordinance about school meal plan. The reason is new findings in the field of nutrition. First of all, the new version has to be discussed with the Ministry of Health of the Czech Republic. A problematic area is quality of food provided in school dining-rooms. Nowadays, the quality of food is evaluated according to the consumption basket, which is created by a computer method based on valid nutrition amounts. The new version of the ordinance will bring along adaptations of the current consumption basket or development of a new method observing fulfilment of the recommended day amounts of nutrients in education institutions. The Ministry of Health of the Czech Republic proposed to manage the nutrition quality of food in school dining-rooms with the help of recommended variety of food in monthly menu.

The menu is prepared by a certain eating facility itself. The fulfilment of consumption basket is based on contracts with food suppliers. The manager of an eating facility is responsible for the content of the menu. Parents can also express their opinion about the menu through School Board. However, their conception of the menu has to be in accordance with consumption basket. In case there is a disagreement about the menu between parents and school, it is the eating facility (which quite often means the school) to decide. School meal plan is not compulsory and, therefore, the use of this service is up to the parents.

The Cult of Body

“If an identification with one’s body does not take place, there is a danger of creation of a negative attitude, hatred and refusal of one’s body. Children can consider the body they do not like as a culprit of all their problems and might punish it. Failure in social relationships and profession, etc. is connected to this problem as well. The incidence of these problems is usually independent of one’s look, however, a number of girls have the opinion that they would do better, if they have been more attractive, e.g. thinner.” (Vágnerová, 2004)

Social norms put bigger emphasis on eye-appeal of women than men (therefore, a larger number of women than men suffer from eating disorders). The desired shape of an ideal men’s body is different from women’s. The men’s ideal shape is manly and muscular. Fitness and weight lifting in men can be as addictive as anorexia in women.

Media present a clear ideal of women’s beauty. A presentation of extremely thin girls, for example in beauty contests, advertisements, etc. influences the perception of young women and girls – they become their models and for majority of women also unachievable ideals. The more the real life differs from the ideal, the bigger is the risk of feeling of inferiority, underestimation, complex and in worse cases also depression.

The fact that the “cult of body” influences younger and younger children is alarming. It is common that 11-year old girls copy their parents with various reduction diets, refusal of food, observation of oneself in a mirror or, on the other hand, refusal of such an observation. They feel ashamed for their look and do not like themselves.

“We have to teach the ways to face media since childhood. Therefore, it is necessary to explain to children the mechanisms of influencing and teach them values that are left out in advertisements.” (Konečná, 2005).

Eating Disorders

“Eating disorders are one of the most common illnesses. Furthermore, they belong among chronic illnesses with serious somatic, social and psychological consequences. Therefore, they are one of the most serious illnesses of adolescent girls and young women. It causes long-term problems not only to ill persons but to their social environment as well.” (Krch, 1999)

Among the most common forms belong mental anorexia and mental bulimia. There is a visual difference between extremely thin anorectic girls and bulimic girls with average weight, however, the two illnesses are very similar. Both syndromes contain fear from being fat, extreme interest in one’s look, observation

of one's body shape – this image is often deformed. Both syndromes also exhibit pathological attitude to food. Under pretence of healthy nutrition, eating habits are very often changed. Vegetarianism or macrobiotics becomes very popular in this period

Eating disorders are a typical illness of young girls and women. However, men are not excluded. The most common rate of boys and girls is 1 : 10. The prognosis of the illness is not straightforward. Problems even after termination of a treatment are observable in 30 to 40 %. Suicide occurs in 1 % of cases and 6 % of ill persons die because of the illness.

Aim of Research

The main aim of this research is determination of nutrition and eating habits of higher primary school pupils.

Setting of Hypothesis

After having finished the data analysis from all questionnaires (n=143), we focused on two groups of respondents that we found the most interesting. Therefore, they were submitted to further research. The first group contained boys and girls who were on diet and in a risk of incidence of eating disorders.

The second group had one common feature – appropriate meal plan containing 5 meals per day prepared according to principles healthy nutrition. This criterion was the starting point for setting of hypothesis for this group of students. Both groups were divided into boys and girls and research was conducted in the two groups separately.

Characteristics of the sample

The focus of the empirical part is put on pupils of higher primary school – more precisely seventh to ninth-grade pupils with age ranging from 12 to 16 years. The total number of respondents was 143, out of which 59 were girls and 84 boys. The age distribution was as follows: age 12 – 5,59 %; age 13 – 42,66 %; age 14 – 34,97 %; age 15 – 15,39 %; age 16 – 1,39 %.

Research Methods and Techniques

A quantitative research technique of questionnaire was chosen. Closed as well as open questions were used in the questionnaire. The questionnaire was divided into three areas – 1st area dealt with school boarding, 2nd area focused on eating habits in family and free time of respondents, 3rd area is a small exploration of pathologies in eating habits.

Realization of research and data analysis

The research was conducted in the time period May to June 2007 at primary school Křídlovická 30b in Brno. We were allowed to realize the research as a part of lessons of practical education.

Selective classes with extended Math, Science and IT Education were established for pupils of sixth to ninth grade. Their schedule is extended with extra math, physics, chemistry and IT lessons.

Primary school Křídlovická is a faculty school of the faculty of Education, Masaryk University, Brno. Therefore, it offers possibilities for teaching practice of students of the faculty and takes part in research projects of the faculty.

Results

Questions 1 to 4 (Do you eat in the school dining-room? If you had the choice, would you prefer eating at home or at school? Why have you chosen this type of boarding?) showed that almost 80 % of girls and 84,5 % of boys eat in the school dining-room. Out of the total number of students using the school boarding, 83 % of girls and 71,8 % of boys are satisfied with it. Only for illustration, we present the percentage distribution of choices of meals in the observed period. The 1st meal was chosen by majority of pupils (50-80 %), it means traditional Czech cuisine (least favourite were meals minced meat with leek and rice, the most favourite was baked chicken with sesame and potatoes). The second meal was chosen by 12-47 % of pupils; this meal is less traditional meat meal (least favourite were liver on thyme with almonds and the most numerous choice was potatoes dumplings filled with smoked meat and cabbage). The third meal was chosen by 2-16 % of pupils; these are vegetarian meals (the lowest number of pupils chose celery salad with apples and blue cheese, the most popular was fruit salad with cream).

The question no. 3 tries to find out about preferred place for eating and contains full number of respondents again. 54,2 % of girls would prefer eating at home and 44,1 % eating at school. A higher percentage of boys prefer eating at home (77,4 %) to eating at school (20,2 %). Answers to this questionnaire are not straightforward. Even respondents not using school boarding answered this question. It is worth mentioning that 4 girls and 2 boys eating at home would prefer eating at school. Answers of girls show that 67,8 % of them have better conditions for eating at home and 32,2 % at school. Boys mentioned better conditions at home in 85,7 % , only 9,5 % of boys like school dining-room better and 4,8 % could not decide.

Questions 5 and 6 (Do you have a snack at school? If you have a snack, who prepares it for you?) found out that 89,8 % of girls eat a snack at school. Out of this number, parents prepare a snack for 58,5 % of them, 26,4 % prepare the food themselves and 15,1 % receive money to buy it. 10,2 % of girls do not have a snack at school.

Boys have a snack at school in 88,1 %. Parents prepare it to 59,5 %, 18,9 % prepare a snack themselves and 21,6 % get money to buy some food. 11,9 % of boys do not have a snack at school.

The question 12 dealt with the influence of parents on children's eating habits.

The results show that 50,8 % of girls feel that their eating habits are influenced by parents, 35,6 % do not feel any influence and 13,6 % feel partially influenced. Boys feel influenced in 59,5 %, not influenced in 27,4 % and partially influenced in 13,1 %.

The same eating habits as their parents have 52,5 % of girls. Different eating habits can be found in 32,2 % and partially different in 15,3 % of girls. 60,7 % of boys have the same eating habits as parents, 26,2 % have different habits and 15,3 % consider their eating habits as partially different.

Questions 15 and 16 (Are there any restrictions in boarding in your family? What are the reasons for restrictions in meals?) revealed that only 3,4 % of girls and 2,4 % of boys experience some restrictions. In two cases of girls the restrictions are given by vegetarianism and with boys, we speak about macrobiotics and vegans.

Question 17 (How often do you eat sweets (chips, chocolate, etc.)) that the most frequent choice is 2 – 3 times a week (in 27,1 %) and once a fortnight (also 27,1 %). 57,9 % of girls prefer and buy sweets. 61,9 % of boys buy sweets 2–3 times a week and half of it consists of sweets. The question asking for frequency of meals per day was answered in the following manner: the majority of girls eat 3-4 times a day and 33,3 % of boys eat 6 and more times a day.

There are reduction diets in the families of girls in 45,8 % and in the families of boys in 51,2 %. Even though the number of girl and boys who have never been on a diet is not higher than number of children being on a diet, these numbers are alarming – 28,8 % of girls and 10,7 % of boys are on diet. The question asking about satisfaction with ones figure (Are you satisfied with your figure?) received a majority of positive answers from girls. However, we have to point out that the percentage of highly negative or negative answers is considerable.

Negative perception of one's body is closely connected to eating disorders and the cult of body. Literature shows the danger connected with this phenomenon and its influence on one's self-esteem, etc. Furthermore, children should receive enough nutrients to ensure healthy growth and that, in our opinion, is not achievable with reduction diets.

The scientific literature also points to the fact, that parents are models for their children (not only in the field of eating habits, of course). This is reflected in answers to question asking about the extent of parents' influence on children's eating habits. The majority of girls being on a diet have a member of the family who is also on a diet. Interestingly, a majority of girls supplied information on which family member it is. The most frequent were mothers, followed by older sisters.

When creating this hypothesis (H III.) we assumed that girls/boys on a diet do not eat in the school dining-room. Furthermore, we expected that girls/boys on diet try to reduce their meal plan as much as possible by not only refusing boarding at school but by not having lunch at all. The answers of girls show that their eating in the school

dining-room is not given by their preference of the place but facts such as living far from school, busy parents, etc. On the other hand, we can find very positive answers in the questionnaires praising the food, conditions in the dining-room and also the possibility to eat together with friends. It is not rare to find an answer that nobody controls the child and the amount of food it consumes at school.

In our opinion, signs of pathological behaviour can be found in answers of some respondents – girls. For one girl a reason for eating home alone is that “nobody can see me at home, nobody watches the way I eat and what kind and how much food I consume. Among the other reasons was the possibility to prepare the food themselves and check the amount of calories.

Concerning the importance of parents’ model in eating habits (Is any member of your family on a diet with the aim to reduce weight?) we found out that two boys mentioned family members being on a diet – in one case it was father and in the other, the respondent was on a diet together with his older sister.

Both boys and girls mention the fact that parents are too busy to prepare lunches for them.

In these answers, we have not found any traces of pathological behaviour (in contrast to girls). Boys prefer eating at home because they are used to it and the offer of meals is wider and better. One boy mentioned noisiness of the school dining-room. Preference of the school dining-room can be found as well, the reason is a possibility to eat together with friends. Reasons from which girls do not eat in the school dining room are as follows: one respondent mentions the fact, that there are no vegetarian meals in the menu (she is a vegetarian); two respondents have meals prepared by parents; one respondent prepares meals herself. Preference of school dining-room is prevalent in this group (13 respondents preferring the school dining-room to 5 preferring eating at home). Reasons for preference of the school dining room are: “a possibility to eat with friends”; tastiness of food and a choice from three meals are mentioned often. One respondent answered: “If it were possible, I would not eat at all.”

A majority of boys is satisfied with the school dining-room; however, if they had the choice, they would choose eating at home. The most common reason is “home is home”.

Boys, as well as girls, understand that parents do not have time to prepare lunches during week. Girls often mentioned the possibility to eat with friends as important, in contrast to boys. Furthermore, they express their opinion about neither quality nor choice of meals.

Summary

The empirical part used a questionnaire method to find out about eating habits of seventh to ninth-grade pupils of one primary school in Brno. Furthermore, it attempted to identify a group of pupils endangered by incidence of an eating disorder. There were 143 respondents in the research, out of which 59 were girls and 84 were boys. Respondents were intentionally divided according to their sex as we wanted to identify sex-related differences.

The topic of nutrition should not be left out as wrong acquisition of eating habits in children is a growing problem nowadays. Nutrition has to be perceived in the context of social life, family and a personality of a developing child.

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STRAVOVACÍ NÁVYKY ŽÁKŮ ZÁKLADNÍ ŠKOLY

Souhrn: Příspěvek je sondou do oblasti stravování žáků základní školy, zabývá se stravovacími návyky žáků druhého stupně ZŠ v Brně. Vychází z historie školního stravování, které sleduje do současnosti. Pomocí dotazníku a rozhovorů s žáky porovnává stravování v rodině a ve škole. Zabývá se vlivem rodinných stravovacích návyků na výběr jídla ve školní jídelně. V příspěvku se analyzují konkrétní údaje získané od 150

žáků brněnských škol a jsou porovnávány s teoriemi zdravé výživy. Autoři příspěvku se pokouší najít vztah mezi spokojeností žáků se školním stravováním a školním klimatem.

Klíčová slova: strava, stravovací návyky, výživa, spokojenost, školní klima, školní stravování, rodina

EVALUATING THE EATING HABITS FROM THE CHOSEN SAMPLE OF PRIMARY AND SECONDARY SCHOOL STUDENTS IN SLOVAKIA

Viera PETERKOVÁ, Ivona PAVELEKOVÁ

Abstract: *In this article we discuss the evaluation of eating habits from the chosen sample of primary and secondary school students (respondents) in Slovakia. The needed data was gained with the help of a questionnaire which was disposed within the project „Healthy nourishment“ by the State educational institute in Bratislava during the years 2006 – 2007. The questionnaire was filled out by 2534 respondents. The questions were divided to four regions, personal data, information about the family type, place of residence, employment of the parents, property ratio, education of the parents, nourishment and eating habits. Based on statistical analysis we can claim, that the age and education of the parents influence the eating habits of the respondents.*

Key words: *eating habits, nourishment, students*

Theoretical resources

At present time we face difficult life circumstances. Most of us live in extreme stress and busyness. We suffer under the influence of polluted air, full of dust and toxic rod, with lowered content of oxygen. Excessive noise increases our jitterbugs. More of our work is replaced by machines. The work puts only minimal physic requirements on us, therefore e do not have enough exercise. The ruthless social and professional competition, dealing with unsolvable conflicts, which grow from day to day, and a lot of other different influences cause, that we are more sick, physical and also psychical. If we include our own congenital faults and dispositions, it is obvious why the number of organic faults, neurosis and psycho-somatical disease increases (Diehl, 2002).

The present estate of population rings alarm and forces the man to do something for his own health and not to stay inactive. The last years brought big changes in the populations lifestyle, but the praxis and prognosis are alarming. For many an excessive taking of calories and unbalanced nutrients nourishment is characteristic. The consumption of foods from animals with the content of saturated fats and cholesterol increases. The intake of vitamins, minerals, pulp and other healthy materials which some

foods content in natural stadium is seriously threatened by the trend of eating artful or processed products. The world around us is overchemicalised and this concerns the air, work and life environment, food we eat, but also the excessive consumption of chemical preparatives in the form of drugs, which has a increasing tendency and which leads to higher the already high life costs. To change this unnatural life style, getting to know the power of natural mediums, to have enough of exercise, positive life style and the feeling that a lot of us can do more for our health than any physician or medical discovery, this all are a few of the possibilities for organizing ones life the way to have the highest possible amount of health and well being (Foster, 1994).

Health is the most precious thing that man has. Everyone should protect it and direct his regime, so he can hold the health till the possible highest age of life. An essential part of the regime is nourishment, which is one of the most important physiological expectations trough which we can prevent various civilization illnesses, mostly the hearth-vascular system, diabetes, cancer, but also exanguinity, osteoporosis, we can improve the immunity etc. This is also confirmed by scientific surveys, which state, that the men's health is among other factors contingent on 40-60 % trough nourishment.

The first physicians prescribed against illnesses mostly food. From a lot of preserved documents flows that for example Plinius claimed, that cabbage will cure eighty percent of illnesses and onion twenty-eight. Garlic was considered as a holy plant. And we could go like this further. Modern researches prove that the old age physicians even not knowing anything about microbes, hormones, vitamins and cholesterol, and being able to rely only on their own experiences, experiences of their predecessors and cousins, were not wrong in their knowledge. The most important foods, which supply the body with main substances which insure health and well-being, include most of all vegetables, fruit, cereals, pulses and stimulants (Bodlák, 2002).

Every parent wants his child to be healthy. Therefore if we want the child to carry off to his future life the most important gift – the health, it is necessary to begin with the healthy nutrition in the family changing the usual approach to the creation of the menu and kitchen preparation of dishes. That means, get over the stereotype and head to new, often unusual types of meals, their kitchen preparation and their implementation to family eating. It is important also because during the long term consultancy praxis we often meet inheritable illnesses, which are often influenced by dishes and foods preparation which are inherited from generation to generation along with the same illnesses (Ostertágová, 2005).

The parents usually, even if subconsciously, relate to the attitudes and habits after which they were raised. Whereas everyone of them originates from another environment, so they opinions can often differ. One of the basic conditions of influencing the child is the upbringing unity of the parents. They have to come along and try to find same methods and goals (Gregora, 2004).

The nourishment of children and youths has to ensure an all-round evolution of the organism. The habit to vegetable side-dish, salads, enough fruits etc. should be established (Halačka a kol., 1988).

For the colourfulness and quality of the nourishment, its distribution to separate daily portions us, the parents are responsible. How much the child will eat, we leave

on him. The taste depends also from the period of evolution. In the first year, when the child grows, every healthy child eats with taste. In the second year, the tempo of growth is slowing down and therefore also the desire to eat is shorter. The beginning of school attendance is often characterized with the fact that the child eats and sleeps worse. The aversion sometimes leads to morning vomit and to refusing of the morning meal. The cause is jitterbug, a lot of adventures in school, and a lack of time before leaving home for school. Sometimes the cause for a temporary aversion can be an increased environment temperature, or tidiness. Of course behind the aversion, various different illnesses can hide, which cannot be underestimated (Gregora, 2004).

For keeping the health, the organism needs not only energetic suitable, sufficiently colorful nourishment, but great impact has an optimal consuming regime, that means a number of daily meals, periodical time of their preparation, by keeping appropriate intervals between the meals and their mutual proportionality, balance, and quality. From the view of optimal evolution and performance, this is not something to be neglected, and has a special impact particular in childhood (Béderová, 1993).

The goal of the research

The goal of the research was with the help of a questionnaire, which was elaborated within the scope of the project „Healthy nourishment“ trough the State pedagogic institute in Bratislava during the years 2006–2007, to discover the eating habits of the students of chosen primary and secondary schools, and also the information allowing social – economic analysis of obtained data.

Research hypothesis

- Hypothesis 1: We assume, that younger students will have better eating habits.
- Hypothesis 2: We assume, that students from economic better situated families will have better eating habits.
- Hypothesis 3: We assume, that the education of the parents will influence the eating habits.
- Hypothesis 4: We assume, that gender will influence the eating habits.

Characteristics of the research sample

The group of respondents was built by students of various classes of the second grade of primary schools and students of secondary schools, whereas we included schools from cities and villages. Primary schools were represented by ZŠ Gorkého in Trnava, ZŠ A. Kubinu in Trnava, ZŠ Špartakovská in Trnava, ZŠ Atómová in Trnava, ZŠ Hrnčiarovce nad Parnou and ZŠ in Cífer, ZŠ Podzámska in Hlohovec, ZŠ Červeník. Secondary schools were represented by students of Secondary sanitary school in Považská Bystrica (SZŠ), Secondary technical training centre in Považská Bystrica (SOU), Secondary school of hotel services and trade in Púchov (ZSShso), Secondary school of hotel services and trade in Trenčín, Secondary industry school of E. Belluš

in Trenčín, Pedagogic and social academy of bl.Laura in Trnava, Privat secondary training centre of gastronomy, services and trade in Trnava, Secondary grammar school in Považská Bystrica, Secondary school in Nové Mesto nad Váhom, Secondary grammar school of M.R. Štefánik in Nové Mesto nad

Váhom, Secondary grammar school of Pierra de Coubertin in Piešťany, Hotel academy of Ľudovít Winter in Piešťany. Overall number of respondents of the research sample was 2534 students. The percentual representation of boys was 50,8 % and girls 40,2 %. The age group of the sample was from 10 to 20 years.

Methods and process of the research

Information about nourishment and eating habits of the students were obtained with a questionnaire. The questionnaire was elaborated through State pedagogic institute in Bratislava for the needs of the project „Healthy nourishment“ and we did not intervene into its content. The questionnaire was the same for all age groups and all schools, it contained 21 entries and was divided into four sections:

- personal data of the student – gender, age, heights, weight,
- information of the family type and their members, living place, employment of the parents and economical status,
- education of the parents,
- nourishment and eating habits.

To the particular answers in the questionnaire we assigned numerical values according to their accuracy, so it would be possible to statistically analyze and compare individual fields and also particular year-classes.

The data obtained by the questionnaire and knowledge test was elaborated into a table which was evaluated through multiple dispersion analysis in the program Statistica.

The outcomes of the research and discussion

In this research we were following eating habits of a chosen group of respondents in various primary and secondary schools in Slovakia. The evaluation of eating habits was based on the age of respondents, social situation of their family, reached education level of their parents and their gender. Statistical calculations and values of particular followed influences are shown in table 1.

Followed factor	SS	St. voľnosti	MS	F	p
Age	16,79	1	16,793	0,8374	0,360390
Social situation	213,71	1	213,712	10,6575	0,001138**
Education of parents	227,74	1	227,740	11,3570	0,000784**
Gender	340,19	1	340,189	16,9646	0,000041**

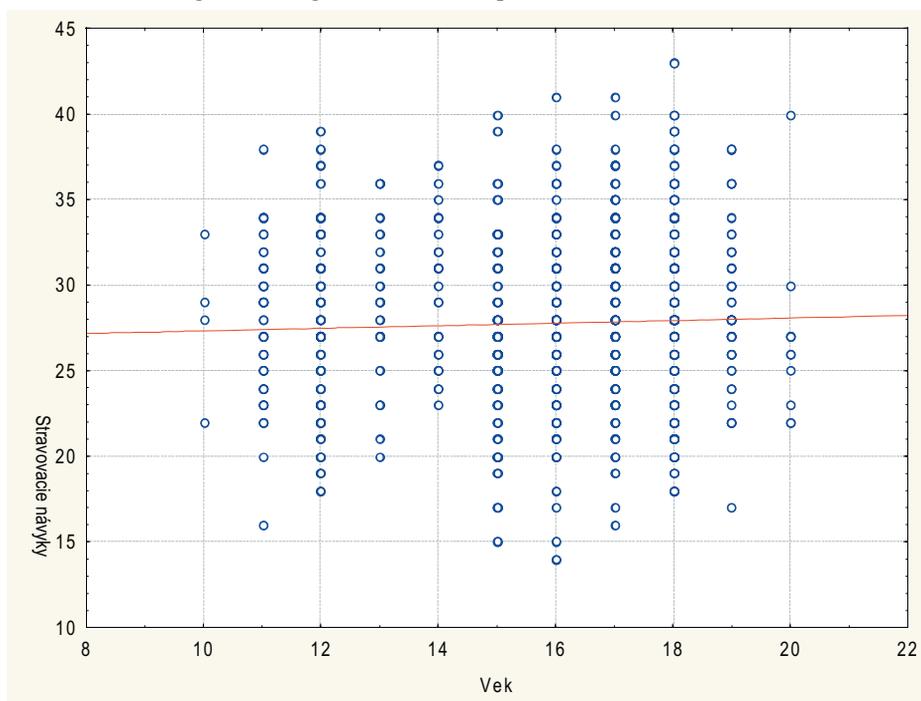
Based on this table we can say that it proved the high influence of social situation of the respondent's family, achieved level of parental education and gender on the respondent's eating habits.

Hypothesis evaluation

Hypothesis 1, where we assumed that younger students will have better eating habits than the older ones was not proven ($P = 0,360390$). We resulted from the fact, that younger students, where we include 10 till 12 years old, have better eating habits than the students of higher grades of primary and secondary schools, because their eating habits are still controlled and controllable by their parents and are not influenced by eating in scholar dining rooms. At the older students usually a trend to avoid periodical eating in scholar dining rooms appear, and they prefer the nowadays very popular „fast-food“. Girls, mostly in the higher grades, in connection to the trend of thin model look, avoid any eating in fear of gaining weight. Graphic illustration of this influence is shown in graph 1, based on which it is obvious, that the age in our observed sample did not influence the eating habits.

Graph 1

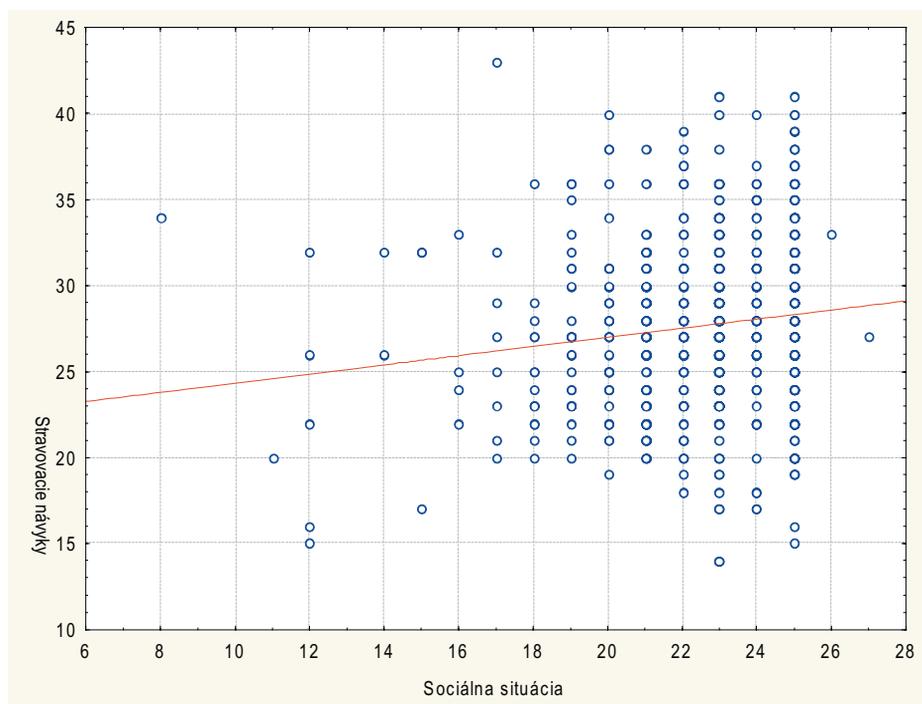
Influence of the age on eating habits of the respondents



In hypothesis 2 we assumed that the students from economic better situated families will have better eating habits. This hypothesis was proven ($P = 0,001138^{**}$). When we laid down the hypothesis we assumed that students who live in economic better situated families will have better eating habits because better economic situation of the family will make it possible for them to consume energetic and nourishing valuable foods, mostly out of season fruits and vegetables and it broadens the possibilities of physical various activities. It can also reflect in present time as an often discussed problem, that the parents may provide their children with enough material goods but can not provide them with enough of their attention, care and passion. An advantage can this way become a disadvantage, because plentitude of material goods and equipment of households and children rooms can attach kids to the chair at the computer or TV, which is often connected with an uncontrolled energetic supply in form of sweets or salty delicatesses and on the other side a lack of sport physical activities and healthy living in the open. In our sample we found out, as pictured in graph 2, that the respondents who's social situation was better had also better eating habits, it can be connected also with the results of the next hypothesis, in which we investigated the influence of parental education on eating habits.

Graph 2

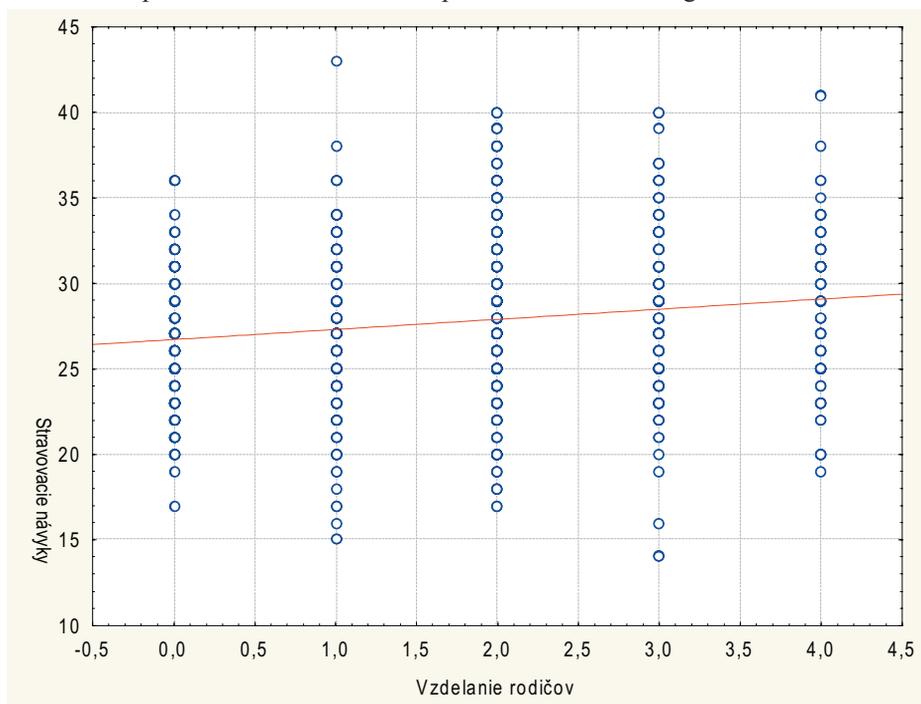
Influence of social situation of respondent's families on their eating habits



In hypothesis 3 we assumed, that higher education of the parents will positively influence eating habits of their children, this hypothesis was proven ($P = 0,000784^{**}$). Like in the previous hypothesis, also here we assumed stronger influence of parents on eating habits of the respondents – students, regarding to their education. We assumed, that the parents who graduated, are interested and have enough information in the field of healthy nourishment and have some principles of rational nourishment and eating, because they know and realize the impact of nourishment and healthy lifestyle for the life their family members, in the first place as a prevention of various illnesses, and this assumption was proven as seen in graph 3. In this hypothesis, it is again important to underline the importance of the family when creating eating habits of the children, because this knowledge and the connected habits strongly influence the eating habits of their children

Graph 3

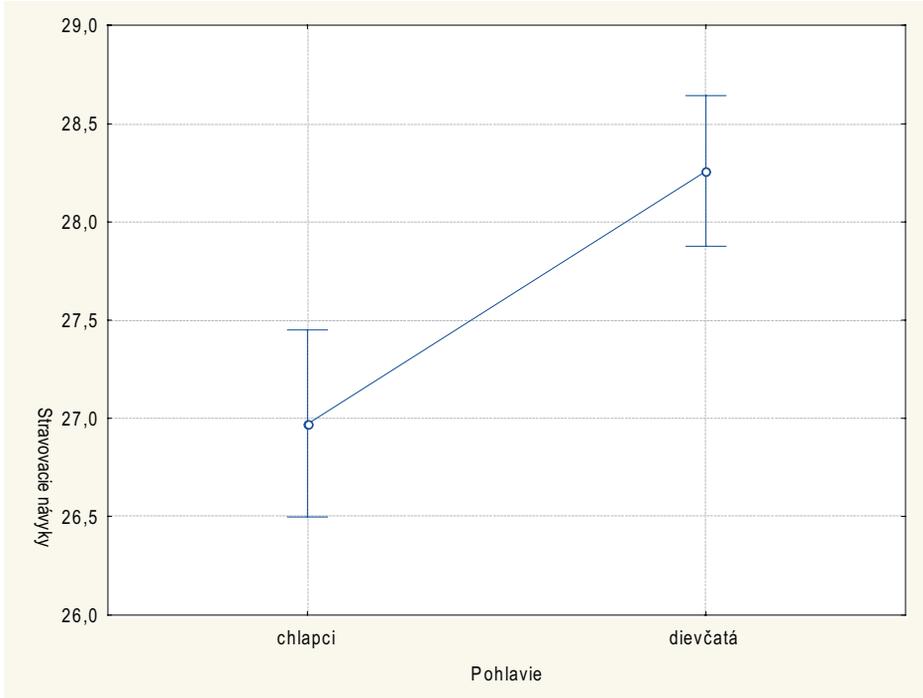
Influence of parental education of the respondents on their eating habits



In hypothesis 4 we assumed, that the respondents gender will influence their eating habits, after a detailed statistical analysis it was proven, that our assumption was right, that means our hypothesis was proven ($P = 0,000041^{**}$). When laying down this hypothesis, we resulted from the assumption, that girls as future mothers, are more aware about the importance of healthy nourishment for their lives and health, which can later influence the health of their future children and therefore they will have better knowledge about healthy nourishment, which will positively influence their eating

habits. In the graph nr. 4 we can see, that the eating habits of the girls were really on a much higher level than the eating habits of the boys.

Graph 4
Influence of gender on eating habits of the respondents



Conclusion

Information and recommendations about how to live and eat healthy are easy to find in current literature. Some keep on repeating, some generalize, some contradict, and a lot of them change with increasing scientific knowledge, on the other hand, those which result from traditions and ideologies are straight dogmatic and do not take into account the newest medical pieces of knowledge.

In our study, we did not want to bring any recommendations how to eat healthy, but we wanted to find out what the eating habits of the students of primary and secondary schools in Slovakia are. We judged these from the view of the age of the respondents, their gender, social possibilities of the family, and education of the parents. Based on statistical evaluation we can say, that the eating habits of our sample of respondents were influenced by gender, social situation of the family and parental education.

Based on the discovered results we would like to recommend, that in schools but also in families should be more attention given to healthy nourishment and the questions of healthy lifestyle. The youth should be aware of the risks, which obesity brings as the

result of excessive intake of food with high energetic value and lack of exercise, on the other hand what negative results can starvation and minimal intake of energetically valued food for keeping a slim body bring.

It is important, that especially teenagers realize, that in every young man, but especially healthy young man is the future of our next generations.

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HODNOTENIE STRAVOVACÍCH NÁVYKOV VYBRANEJ VZORKY ŠTUDENTOV ZÁKLADNÝCH A STREDNÝCH ŠKÔL NA SLOVENSKU

Súhrn: V uvedenom príspevku predkladáme hodnotenie stravovacích návykov vybranej vzorky respondentov slovenských základných a stredných škôl. Potrebné zdrojové údaje sme získali pomocou dotazníka, ktorý bol vypracovaný v rámci projektu „Zdravá výživa“ Štátnym pedagogickým ústavom v Bratislave v rokoch 2006 - 2007. Dotazník vyplnilo 2534 respondentov. Otázky v dotazníku boli rozdelené na štyri oblasti osobné údaje informácie o type rodiny, bydlisku, zamestnanosti rodičov a majetkové pomery, vzdelanie rodičov, výživa a stravovacie návyky. Na základe štatistického vyhodnotenia výsledkov môžeme skonštatovať, že vek a vzdelanie rodičov ovplyvňujú stravovacie návyky respondentov.

Kľúčové slová: stravovacie návyky, výživa, žiaci

DO SLOVAK TEENAGERS HAVE OVERWEIGHT?

Ivona PAVELEKOVÁ, Viera PETERKOVÁ

Abstract: *In the year 2006 we investigated through direct measurement of height, weight and the content of fat in the body of respondents the extent of overweight on chosen primary schools in Slovakia. From the collected data we calculated the Body mass index, which directly measures the extent of overweight on the chosen sample of respondents. After the comparison of our realized BMI with the recommended values for the particular age categories we can state, that in the age category of 12 – 15 years is the number of respondents with underweight higher than the number of respondents with overweight, what indicates that a bigger problem of this category are several forms of losing weight and diets, rather than over eating. In the category of respondents with underweight dominate the girls, which are much vulnerable by „mode“ trends, than boys. On the other hand the highest extent of overweight became evident at 10 years old children, in this category the occurrence of overweight dominated under boys.*

Key words : *overweight, students, body mass index, level of fat*

Theoretical resources

Overweight, the problem of today. From the biological view it is a metabolic illness, the overflow of fat fibre in organism, judged by age, height and gender of a child, in which result many complications occur. The growing trend of overweight occurrence at children forces us to think about possible solutions and to start solving this problem. Numerous scientific studies in this field show, that from the children who have overweight almost 80 % of overweight adults will grow. (Johnson, Birch, 1994; Patrick, Nicklas, 2005; Cullen et al, 2002; Wardle et al, 2001; Davidson, Birch, 2001).

Only at a little percentage of children is the cause for overweight a hormonal illness or a genetic fault. More likely is the overweight of children caused by wrong eating habits and lack of exercise. Even a correlation between overweight of children and overweight of their parents is discovered, whereas, if one of the parents has overweight, it is three times more likely that the child will have overweight too, if both, it is almost ten times. It is obvious that parents determinate the eating and exercise habits of their children and so define their overall lifestyle. (Lori et al, 2007).

What are the most common complications which occur as a result of children overweight? Occurrence of malfunction in material transformation of fats and sugars, invasion of the natural loaf structure and, depending on the fat level in blood the redundant accumulation of fats in the loaf. Children with overweight suffer more frequently under deformations of motion system and chronic illnesses of breath system. Already at a young age, changes in the vessels are created, which at a adult age lead to the loss of their springing. Adolescents with serious overweight have often also high blood pressure. A specification of this problem is a possible malfunction of natural sexual growing if the obesity evolves in the childhood. Worldwide more than 22 millions of children under 5 years a 155 millions of school aged children suffer under serious overweight and obesity. (www.modernaskola.sk).

From reasons mentioned above, level of children obesity is discussed by many studies, in which several authors try trough questionnaires or direct measures to discover the overweight or obesity of a specific sample of children from chosen geographic location, state or city.

Georgias and Nassis (2007) investigated trough a direct measure the level of overweight and obesity under 6–17 years old children from Greece, their sample consisted of 6448 students, and they found out, that the % of overweight is 16,9 % under boys and 17,6 % under girls and the % obesity is 3,8 % under boys and 3,3 % under girls. This values have varied according to age of the respondents, the level of overweight and obesity was higher in the younger age category. (6–9 years old).

A similar study was done by Julliusson et al (2007), who confronted the level of overweight and obesity in the years 2003 till 2006 with the data from 1971 till 1974 found out in Bergene Norway. The age structure of their study sample was 4–15 years. Based on the evaluation of the inclination of the recommended average BMI values and judging the levels of fat we found out that the occurrence of overweight and obesity in Norway increases.

Jakimaviciene - Tutkuviene (2007) judged the evolution of BMI at the pre-scholar youth in Vilnius, Latvia, for the last 20 years. They found out, that the BMI of the observed age category (3–6 years) does not change, except the 6 years old girls, where an increasing character was registered.

Studies of the effect of the one child policy on the level of obesity of chinese children in the nineties were done by Yang (2007). He discovered a direct dependence of increasing overweight and obesity with the decreasing number of children in families.

Probably the biggest expansion of the appearance of overweight and obesity is in the USA, according to the statistics, this data tripled in the comparison of the years 1980 and 2000, the level of overweight and obesity in USA and Great Britain is studied by Ikeda et al (2006), who besides studying the simple occurrence of obesity, studied also the risk factors for its creation and the precaution in schools and family.

Research goal

The aim of this study was to discuss the level of obesity of the chosen sample of primary school students based on the body mass index identified by the calculation from the measured height and weight of the respondents and the level of fat in their organism.

Research hypothesis

H1 We assume that the younger students will have better eating habits than the older ones, and also the level of fat and BMI values will be more stabilized.

H2 We assume that a bigger percentage of the girls will reach optimal level of fat and BMI values.

The research sample characteristics

The research was done on eight primary schools, four city schools – ZŠ Poprad, ZŠ Kežmarok, ZŠ Trnava, ZŠ Hlohovec and four primary schools on the countryside - ZŠ Štrba, ZŠ Spišská Teplica, ZŠ Červeník, ZŠ Trakovice. The research sample consisted of the students of the second grade, year-class 5.–9., while from each year-class one class was investigated. The whole number of respondents was 755. The numbers of students in chosen schools are indicated in table nr. 1.

Tab. 1 The number of students in particular schools

	ZŠ Poprad	ZŠ Kežmarok	ZŠ Štrba	ZŠ Sp.Teplica	ZŠ Hlohovec	ZŠ Trnava	ZŠ Červeník	ZŠ Trakovice
Boys (1)	56	52	41	41	48	46	31	54
Girls (2)	55	67	40	45	63	44	34	38
Together	111	119	81	86	111	90	65	92

The research method and process

The research on the mentioned primary schools was realized in the beginning of 2006. After the filling of the questionnaire, we measured the height of the students and with the help of special digital wages their height and level of fat in percent. To find out the level of fat it was necessary to put in the weights, heights and age and gender data. The measured values were written into the questionnaire.

The questionnaire that we used in our research was quantitative analyzed. It was the same for all age groups and all schools. Its content consisted of personal data of the student, (sex, age, height, weight) and a table, where the respondents indicated a preference to chosen foods based on the frequency of consummation.

From the data in the questionnaire we counted individual BMI for every student, using the following formula : $BMI = \text{current weight in kilograms} / (\text{height in meters})^2$. The formula for the BMI and the table with recommended BMI values for individual age categories was obtained on the web page <http://romana.webzdarma.cz/> (table nr. 2).

Tab. 2 BMI values for boys and girls

Age	Boys	Girls
11	16-19	16 - 19
12	16,5 -19,5	17 - 20,4
13	17 - 20	18 - 21
14	18 - 21	18,5 - 22
15	19 - 21,5	19 - 23
16	19,5 - 22	19,5 - 23
17	20 - 23	20 - 23

When evaluating the eating habits, we assigned to every answer in the table a numeral value according to their accuracy. Then we statistically evaluated all our obtained values. This evaluation was realized with the computer program Statistica, using the Wilks test, which states the influence of individual factors on obtained BMI, level of fat and eating habits.

The results of the research and discussion

In our research we wanted to realize how the eating habits of the respondents of the chosen primary schools with the levels of fat in their bodies and the BMI values. Based on the obtained outcomes we calculated the correlations between them, whereas we did not consider the age, gender, and place of living. The correlation values between the content of fat, BMI value and eating habits can be seen in table nr. 3.

Tab. 3 Correlation between content of fat, BMI and eating habits

Correlation	BMI	FAT	HABITS
BMI		0,9458	0,0849
		P=0,00013**	P=0,091
FAT	0,9458		0,1022
	P=0,00013**		P=0,042*
HABITS	0,0849	0,1022	
	P=0,091	P=0,042*	

Like we expected the correlations between the BMI values and level of fat are highly provable, which is indicated by the value $P = 0,00013$ as shown in tab. nr. 3. Simultaneously we assumed that the eating habits will markedly influence the level of fat and BMI values, meaning that due to wrong eating habits, the level of fat in the body of respondents and BMI values will increase. We found out, that the relationship between eating habits and level of fat is proven ($P = 0,042$), so this proves the importance of influencing the correct eating habits. The correlation between eating habits and BMI values reached the value of $P = 0,091$, what we consider as the border of proving of this

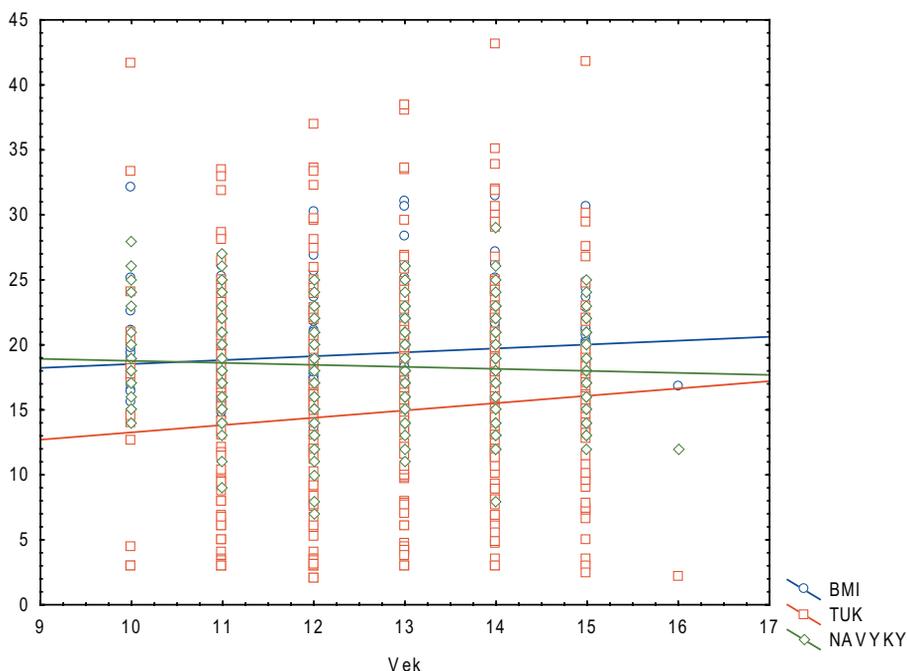
relationship, but we assume, that if we had a larger sample or by keeping the preferences of nourishments in some questionnaires the value could be demonstrated even more.

Evaluation of hypothesis

Based on statistical analysis we evaluated the given hypothesis, herewith we compared the influence of age and gender on eating habits, level of fat and BMI.

In hypothesis 1 we assumed that younger students will have better eating habits than the older ones and also that the level of fat and BMI values will be well-balanced. Our supposal was based on the fact that older students prefer fast food more then the younger ones, who are in terms of eating influenced more by their parents.

Graph 1 The influence of age on the level of fat, BMI and eating habits

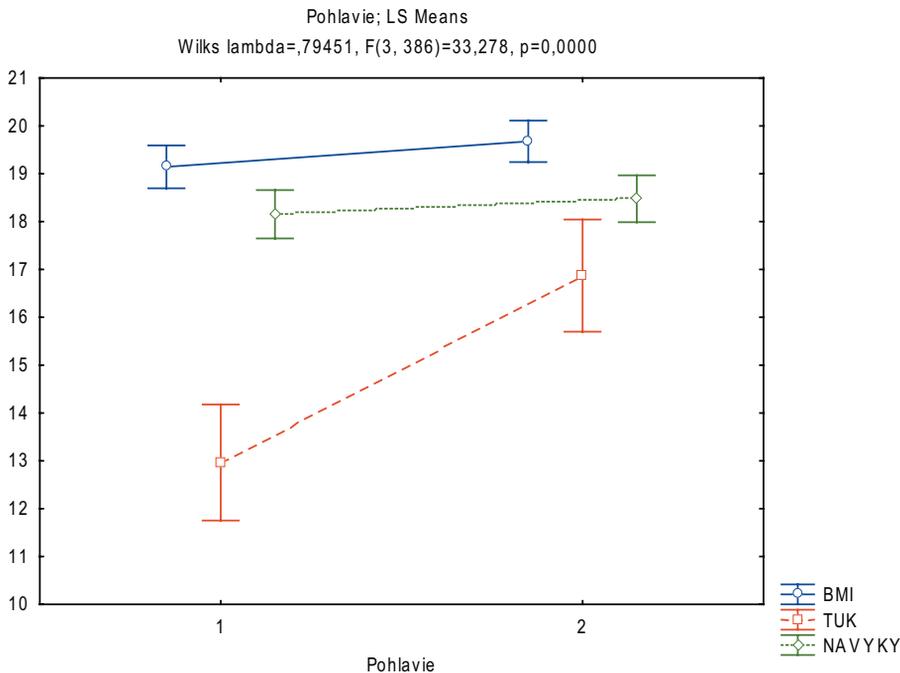


Hypothesis 1 was proven. We found out that the age had a statistical influence on eating habits, level of fat and BMI, which can be seen on graph 1. Eating habits got worse with age, that means the younger students were eating better, what is also indicated by lower BMI values and level of fat, which can also hang together with more influence of eating habits by the parents at younger age.

In the hypothesis nr. 2 we assumed, that the girls will have better eating habits than the boys, what will be indicated by the level of fat and BMI values. Our supposal was based on the fact that women in general care more about their health then men. This fact is proven by several foreign researches for example a research realized in Turkey, which focused on the consumption of fruit and vegetables by students. The research

sample consisted of accidental chosen students of both genders from seven universities. It was found out that women consumed much more fruit and vegetables than men (Unusan, 2004).

Graph 2 The influence of gender on the level of fat, BMI and eating habits



This hypothesis was proven only partly. The girls had better eating habits than boys, even if not so markedly as we expected, but their level of fat was visible higher compared to the boys, what can also be based on physiological development in this age group. Also the BMI values were higher at girls than boys which can be seen in graph nr. 2.

To avoid the influence of age on the definition of influence on gender, we calculated the influence of age on eating habits, level of fat and BMI values for individual age groups of girls and boys. Their results can be seen in graph nr. 3.

Graph 3 Influence of age and gender on level of fat, BMI and eating habits

We were also interested in particular occurrence of malnutrition and obesity of individual respondents, we decided to evaluate individual age groups based on gender from the BMI values point of view. We calculated average, also minimal and maximal BMI values, which we compared with recommended values for individual age groups as seen in tab. 2. We did not find out the recommended BMI values for 10 years old, we used the ratings of 11 years old, because we did not assume any difference in these values.

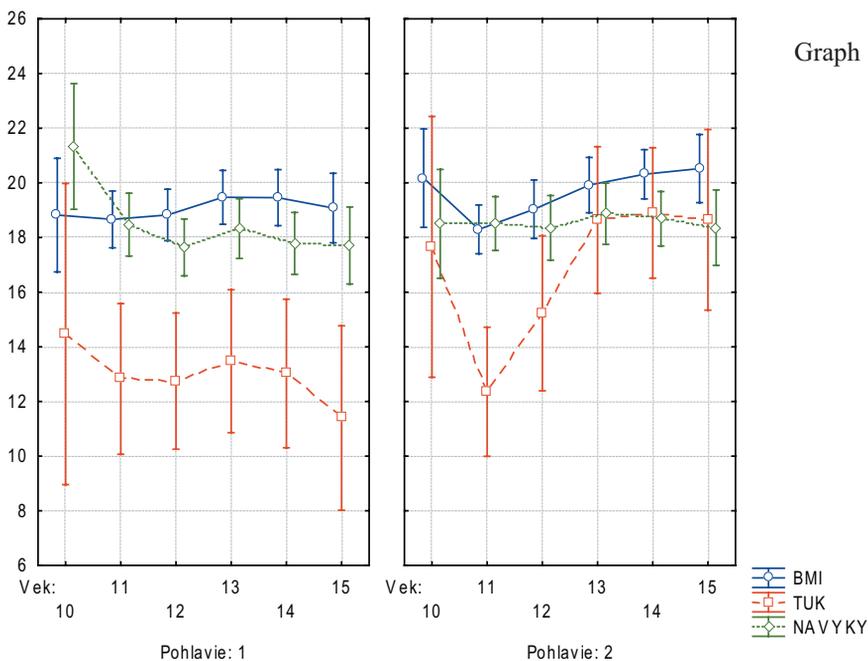


Table 4 Calculated BMI values of students

Age	Gender	BMI Average	BMI min.	BMI max.	Recommended BMI	Number of students
10	1	18,82074	16,74112	20,90037	16 – 19	18
10	2	20,17459	18,37358	21,97560	16 – 19	30
11	1	18,66240	17,62259	19,70221	16 – 19	63
11	2	18,29805	17,40679	19,18932	16 – 19	74
12	1	18,82558	17,88503	19,76612	16,5 – 19,5	82
12	2	19,03447	17,96451	20,10442	17 – 20,4	66
13	1	19,47066	18,48420	20,45711	17 – 20	72
13	2	19,91973	18,90766	20,93181	18 – 21	74
14	1	19,45946	18,43379	20,48512	18 – 21	80
14	2	20,31391	19,41340	21,21441	18,5 – 22	89
15	1	19,07850	17,80499	20,35200	19 – 21,5	52
15	2	20,52414	19,27636	21,77191	19 – 23	55

Comparing the average BMI values of both genders at all age groups with the recommended BMI values we found out, that only the average BMI value of 10 year old girls was higher (BMI = 20,17459), than the designated value range for this age group (BMI 16–19). This means that some of the girls from this age group had overweight.

All other average BMI values corresponded with the designated value ranges for correspondent age groups.

The same way we compared minimal and maximal BMI values. We found out that malnutrition occurred only at 15 year old boys. Their minimal BMI value was lower than BMI = 19. In comparison a light overweight was spotted at more age groups particular 11 year old boys and girls, 12 year old and 13 year old boys. Obesity occurred surprisingly at the lowest age group, the 10 years old boys and girls.

Conclusion

If we want our children to grow up as healthy adults, we should teach them how to live healthy and eat correctly. An important role is hereby played by systematic upbringing to healthy nourishment and eating. Particular emphasis is concentrated on the person and work of the teacher. Every teacher should eat healthy, follow the rules of a healthy lifestyle and be a positive example for the students. He should support positive attitudes of the students to healthy nourishment and be a very good source of information in this field.

The school authorities also have an important role in the influencing of healthy nourishment of the children. They can influence the structure of food in the dining hall and it can influence what sort of food and drinks will be sold to the children in the school cafeteria (if the school has one) and so on. Another possibility is the cooperation with parents. Here the school has some possibilities. It can provide the parents with lectures and discussions from experts on the topic “healthy nourishment”.

The goal of this study was to find out through direct measuring of the respondents their BMI values and levels of fat in their bodies and with the help of an questionnaire to discover their eating habits. Based on our measures, calculations and responses from the questionnaire we came to the conclusion that the eating habits of students got worse with the increasing age. The older students ate worse than the younger ones, which was indicated by higher level of fat and BMI values. Considering the gender, girls had better eating habits than the boys, but the level of fat was visible higher in their bodies compared to the boys. The biggest level of fat was spotted at the 10 year old boys, the girls had the highest level of fat at age 14. The girls in this age are in the pubescence, which is characterized by a rapid growth and laying on bigger fat reserves in the organism. Physiogenic factors can be therefore considered as one of the reasons why the girls had higher level of fat than boys. Another reason can be the overpassing of the nourishment norms, which leads to fatness.

In the end we would like to underline the importance of teaching children to healthy nourishment from the youngest age. If we will support the correct nourishment habits, lead our children to consummation of fruits and vegetables and care about their regular exercise, we will create conditions for healthier life in adulthood. It would be effective, if the cooperation of school and family would spread and expand also in this way. We want to emphasize, how important the activity of teachers and parents on the youth is, on their healthy physical and psychical development. Therefore the teachers should, with the active help from parents, prepare the most possible activities focused on healthy nourishment. This could be trips, sporting days, or discussions about healthy

nourishment. For realization of such activities there should always be financial resources and a willingness to cooperate should not be missing.

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www.modernaskola.sk

JE ŠKOLSKÁ MLÁDEŽ NA SLOVENSKU OBÉZNA?

Súhrn: V roku 2006 sme priamym meraním výšky, hmotnosti a obsahu tuku v tele respondentov zisťovali mieru obezity na vybraných základných školách na Slo-

vensku. Zo zistených údajov sme vypočítavali Body mass index (BMI), ktorý priamo určuje mieru obezity vybranej vzorky respondentov. Po porovnaní nami zistených BMI s odporúčanými hodnotami pre jednotlivé vekové kategórie môžeme skonštatovať, že u vekovej skupiny 12 – 15 rokov je počet respondentov s podváhou je vyšší ako počet respondentov s nadváhou, čo naznačuje, že väčším problémom pre túto vekovú skupinu sú rôzne formy chudnutia a diét než prejedanie sa. V kategórii respondentov s podváhou dominujú dievčatá, ktoré sú oveľa zraniteľnejšie „módnymi“ trendami než chlapci. Naopak najväčšia miera obezity sa prejavila u 10 ročných detí, v tejto kategórii dominoval výskyt obezity u chlapcov.

Kľúčové slová: obezita, žiaci, body mass index, obsah tuku

GENDER AND EATING DISORDERS

Lucie ZORMANOVÁ

Abstract: 3 % of girls and women have the Eating disorders, especially in the age of from 13 to 25 years old. But every women no depends on age and also men may suffer on it.

The social and cultural causes of beginning of the Eating disorders are culture with her ideal of very slim women which is mean as a very beautiful, a negative influence of advertisement and medias.

Key words: *eating disorders, anorexia, bulimia, myth of beauty, girls' magazines*

The Eating disorders (anorexia nervosa, bulimia) are psychiatric diagnosis.

From the Eating disorders suffers in 95 % girls in the age of from 13 to 25 years old. But every women no depends on age and also men may suffer on it (www.stripky.cz/nemoci/vyziva/anorexie). Because the Eating disorders are psychiatric diagnosis, the behaviour which has connection with the illness a man can not regulate and he can not cure of himself.

A valetudinarian is only interested in his figure and food (especially in case of anorexia). He is also moody and unconcentrated (www.anabell.cz_Mentální anorexie, Krch, 2005).

No eating is always a way of „solving some problems“, mainly a psychical problems, distress, anxiety, stress and depression.

A lot of various type of eating disorders exists but they have a common feature, it is a strange attitude to eating.

Anorexia nervosa is a psychiatric diagnosis that describes an Eating disorder characterized by low body weight and body image distortion with an obsessive fear of gaining weight. 3 % of girls and women have the illness. Individuals with anorexia often control body weight by voluntary starvation, purging, vomiting, excessive exercise, or other weight control measures, such as diet pills or diuretic drugs. Valetudinarians are very active or workoholic and have some psychical problems as a hysteria, a neurosis, a falsehood, a dysmaturity of personality and a sexual dysmaturity. In a later stadium they have also problem which has connection with the illness and no eating for a very long time. A treatment is very difficult, doctors use a psychotherapy and drug treatments (Vokurka, Hugo, 2000; Krch, 2002).

Bulimia, also called bulimia nervosa, is a psychological eating disorder. Bulimia is characterized by episodes of binge-eating followed by inadequate methods of weight control. Inadequate methods of weight control include vomiting, fasting cure, frequent use of laxatives and diuretics. Excessive shape and weight concerns are also characteristics of bulimia. Binge eating is not a response to intense hunger. It is usually a response to depression, stress, or self-esteem issues. During the binge episode, a person loses control over himself. However, the sense of a loss of control is also followed by a short-lived calmness. The calmness is often followed by self-loathing. The cycle of overeating and purging usually becomes an obsession and is repeated few times a week. Sufferers consume huge quantities of food. Sometimes up to 20,000 calories at a time. The foods on which they binge tend to be foods labeled as „comfort foods“ -- sweet foods, high in calories (Vokurka, Hugo, 2000; www.osel.cz/index.php?clanek=1398; Kocourková, 1998)

Causes

There is no single cause for anorexia and that it stems from a mixture of social, psychological and biological factors.

People with anorexia have been found to have certain personality predispositions to develop the Eating disorders : high levels of obsessiveness, strong self-control and clinical levels of perfectionism.

Among social and cultural factors, which may evoke the Eating disorders, adherent to negative influence of advertisement, a pressure on women in connection with her profession (modeling) or sports career (ballet, gymnastics, dance)

Among biological factors, which may evoke the Eating disorders, adherent to sex, because women is often predisposed with this disorder, puberty (moods, anxiety, low self-confidence).

The others starters are problems in a family, a sexual violation and an inclination to depression and anxiety (www.anorexieabulimie.estranky.cz/stranka/mentalni-anorexie-v-kontextu-rodinneho-systemu, Maloney, 1998)

Myth of beauty is defined like a standard of beauty, which is shown to women and man female by a media, a fashion and a cosmetics industry (www.feminismus.cz)

Women magazines

Women magazines is a very successful in distributing of myth of beauty. Their message is simple: beauty does not depend on nature, on genetic equipment. Every woman can be pretty if she does everything what magazines advise. (zenskaprava.ecn.cz/cz/krasa)

Girl's magazines and myth of beauty

In girl's magazines there are a lot of gender stereotypes. Magazines show them that being beautiful, slender (Wolf, 2000; McRobbie, 1991) and having a boyfriend is very important for girls. Girl who has a boyfriend is better than girl who has not a boyfriend. For gaining the aim they are able to do everything, including

changing themselves and hiding their individuality (McRobbie, 1991; Herrmann, 2000).

I recognized 20 volumes of girl's magazines from 2002-2007, 10 of them are Cosmogirls and other 10 are *Dívka*. I focused on their sense.

The aim of research was gain the answer of this ask: Are women and girl in these magazines described in mostly articles as an object of beauty and love between boy and girl?

Hypothesis

H1: In the magazines is the main theme a theme of beauty and care of beauty (Wolf, 2000; McRobbie, 1991)

H2: In the magazines is the second most frequent theme a theme of love between boy and girl (McRobbie, 1991; Herrmann, 2000).

Method: I used the method of content analysis. Thanks to it I can change the text and photos to measurable variable quantity. I compared the place on which is described the theme with the place of whole magazine. I counted it in cm².

Results

H1: prove true: Cosmogirl magazine has 100 pages (28600cm²), on 9274-10868 cm² of them it focus on a theme of beauty and care of beauty. *Dívka* magazine has 90 pages (48600cm²), on 11880-15120 cm² of them it focus on a theme of beauty and care of beauty. It is 1/3 of a magazines.

H2: prove true: Cosmogirl magazine has 100 pages (28600cm²), on 5148-5720 cm² of them it focus on a theme of love between boy and girl. *Dívka* magazine has 90 pages (48600 cm²), on 7020-8100 cm² of them it focus on a theme of love between boy and girl.

The volume of *Dívka* from March 2004 in article *Diet for slender figure* warn agains diet, bulimia and anorexia and advise to girls a well-balanced diet and sport, but the whole magazines are full of photo of very slim models, actrice and singer.

In the volume of *Dívka* from April 2004 is article about plastic operation of bust in seventeen years old. In the article there is not described any negations of operation, plastic operation there is described like a normal thing of our everyday life which helps girls with their aim being beautiful. There is written: „I am very happy. I am interested in buying my underwear for the first time in my life. Thanks to the plastic operation I have beautiful bust.“

Magazines advise to girls hiding thier individuality a changing to look like an „ideal women“, which is described in the magazines.

Magazines also advise that you must changing your identity for having a boyf-riend. In one article in the volume of Cosmogirl magazines from July 2007 is written:

„You must know that you can have every boy but you must have the same interests as he“.

Conclusion

The Eating disorders is serious and frequent illness. 10 % of people, who suffer from the Eating disorders, die which is the biggest death rate of all psychiatric diagnosis.

The media may be a starter of evoking of eating disorders, because the media show us picture of pretty women as slender and young and people mean that is only one way of being pretty which can cause the Eating disorders.

For this reason is a very important function of school brief pupils about anorexia and bulimia and their end and encourage them.

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GENDER A PORUCHY PŘÍJMU POTRAVY

Abstrakt: Poruchy příjmu potravy postihují až 3 % dívek a žen, nejčastěji ve věku od 13 do 25 let, může se však vyskytovat u žen v jakémkoliv věku a také u mužů.

Mezi sociální a kulturní faktory podmiňující vznik PPP patří rychle měnící se kultura, která přináší módní ideál, negativní vliv reklamy a medií, ukazující vyhublé modelky jako ideál krásy.

Klíčová slova: poruchy příjmu potravy, anorexie, bulimie, mýtus krásy, dívčí časopisy

BIO-FOOD IS OUR FUTURE

Drahomíra HOLUBOVÁ

Abstract: *A healthy life of us also depends on the quality of food we are eating. This contribution looks into the problems of project teaching, outlines the task of ecological projects and as an illustration points out a theme of mathematical environmental projects, in which teachers and pupils can verify and demonstrate ecological knowledge in real life – in examples set for realisation during the school year (on excursions, trips, in schools in nature, etc.).*

Key words: *bio-food, ecological agriculture, healthy life style, projects on ecological themes*

1. Introduction

Have you eve tried to test bio-food? Not yet? Don't you know where to buy it? In many stores there are departments with bio-products. In some places there are even specialised bio-shops. Bio-food is our future.

Some people do not know what bio-food really is. They think of, e.g., soya beans, tofu cheese and also all kinds of müsli. Sometime the *bio-* is even connected with a saying: 'what is healthy is not too tasty' and in the case of bio-products it is really like that.

The bio prefix, however, has its own meaning. Under the label bio-products are found raw materials from so-called controlled ecological agriculture. It is a kind of farming with a very considerate relationship to soil, plants and animal. It is obvious that plant growing is without any chemical spraying, artificial fertilisers so there is no damage in the life environment. Animals feed on grass that is not fertilised by artificial chemicals. The feeding is done without growth stimulators and hormone preparations. In meat processing no artificial dyestuffs, aromatic or conservation substances, flavouring or other inorganic additives are used.

Every bio-product must be labelled by an identification code of a controlling body. It includes vegetables, fruits, cereals, legumes, oils, meat, raw milk, eggs or products from live animals. Even the Economic Agriculture Law and the Regulations of the committee of the European Economic Union include bio-food. The Czech bio-food is marked by the CZ-KEZ code. A green zebra as a symbol of bio-food is there too.

Bio-food, e.g. milk products, bread, or meat, is more expensive than common products. They reflect the costs of the production of high-quality foodstuffs and the producers reflect the higher costs in the price. If we are willing to pay more for the healthy food, then we must have in mind that we will pay some more crowns or Euros as for the same product, which has no bio label.

Most of those who tested the bio-food come back to it and some came to it permanently. They declare that the meat from ecological breeding has better taste than the common meat. Most bio-products contain less water, more dry mass, nutritive substances and vitamins than corresponding conventional products. It is the quality of the feedstuff, free movement of the animal on pastures, and stressless slaughtering that positively influence the flavour. The bio-products will penetrate in the Czech market more and more because many people want to pass over to a healthy life style and to reduce chemicals that we receive in the meals as much as possible.

If the development of the healthy life environment is realised, then it may lead to an additional, relatively substantial lengthening of life.

2. Projects with ecological themes

Newly formulated tasks for education in the 21st century emphasise the development of all personality features so that the pupils would better understand the world they live in and would acquire knowledge and skills important for life in the quickly changing world. They enable introducing various new forms in teaching mathematics, particularly a project teaching.

An important requirement of the environmental education in mathematics is an interconnection of scattered knowledge and a formation of an integrated view at the given issue. Mathematics should give the pupils simple and illustrative means for the description of quantitative phenomena of the world, as the pupils meet and recognise in common life and in other school subjects. They learn how to observe and describe the surrounding environment, the relation of people to the environment, how to acquire and classify information concerning the ecological issues, how to critically evaluate the acquired knowledge in their mutual relationships, how to consider possible impacts of various human activities (both positive and negative) and how to stimulate the interest on solution of ecological problems by imagination and creativity. Mathematics, thus, leads pupils to an active share in the protection of life environment.

For illustration we present an example of a mathematical project with an ecological theme.

3. Project: A healthy garden

Task: revision of mathematics teaching matter of grade 2 – 3 of basic schools

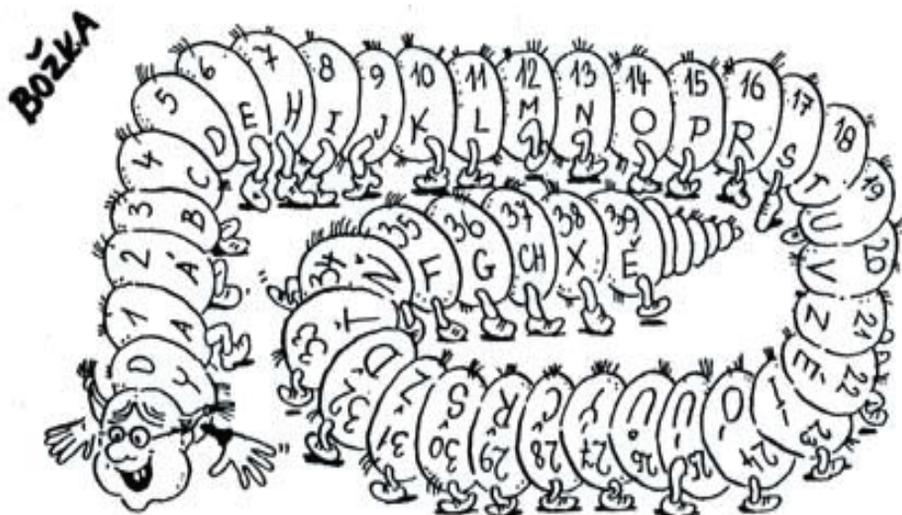
Time: 1–2 lessons

Age group: 3rd class

Motivation: “Do you know, children, that in the garden we will need to know how to count?”

In our ECO garden we grow plants without chemical fertilisers and biological wastes are composted. We also have a centipede there, its name is Božka. She loves mathematics and all the time it is counting and preparing various interesting projects. For you it prepared several interesting and tricky tasks. Will we master to calculate them?

1. The centipede Božka prepared a tablet for us with some arithmetic. In the tablet we will write a result and then we will find the result in the picture with the centipede and to each result we will allocate one letter. Who counted correctly will get a nice solution!



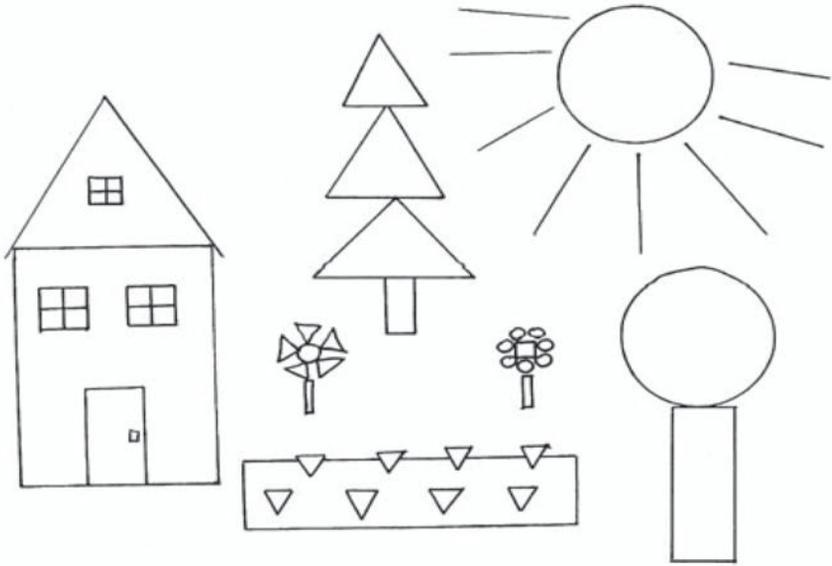
$9 + 7 =$	16	R
$81 - 80 =$		
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$9 + 9 =$		
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$30 - 2 =$		
$36 - 30 =$		

$11 - 6 =$		
$52 - 50 =$		
$8 + 3 =$		
$13 - 8 =$		
$20 - 6 =$		
$67 - 50 =$		
$90 - 80 =$		
$11 - 9 =$		
$98 - 70 =$		
$11 - 5 =$		

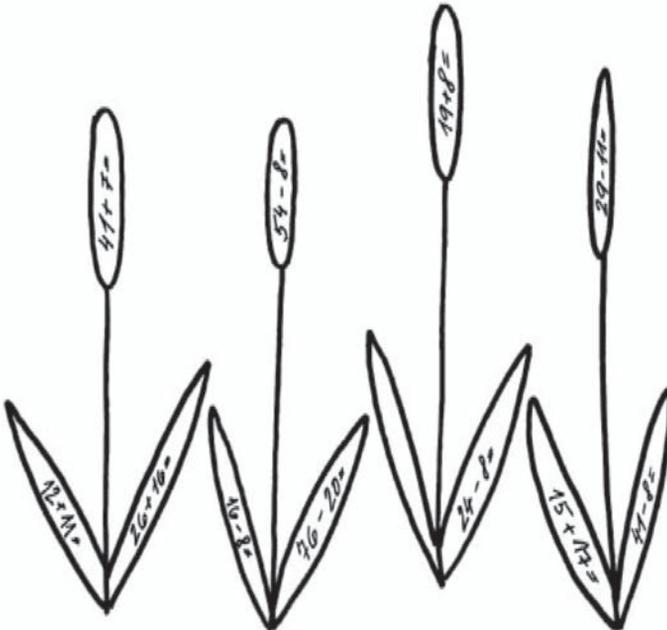
[RANNÍ PTÁČE DÁL DOSKÁČE – EARLY BIRD CATCHES THE WORM]

2. The centipede Božka made up interesting word tasks. Father has 90 kohlrabi plants. The neighbour nine times more of them. How many kohlrabi plants does the neighbour have? Father waters the plants intensively. The canful can take 4 litres water and father needed 6 cans for watering the plants. How many litres of water did father need for the plants?
3. In the picture there is our garden consisting of geometrical formations. The centipede Božka asks: “Can you distinguish these geometrical formations?”

- Colour in:
- ...green
 - ...yellow
 - ..blue
 - ..brown

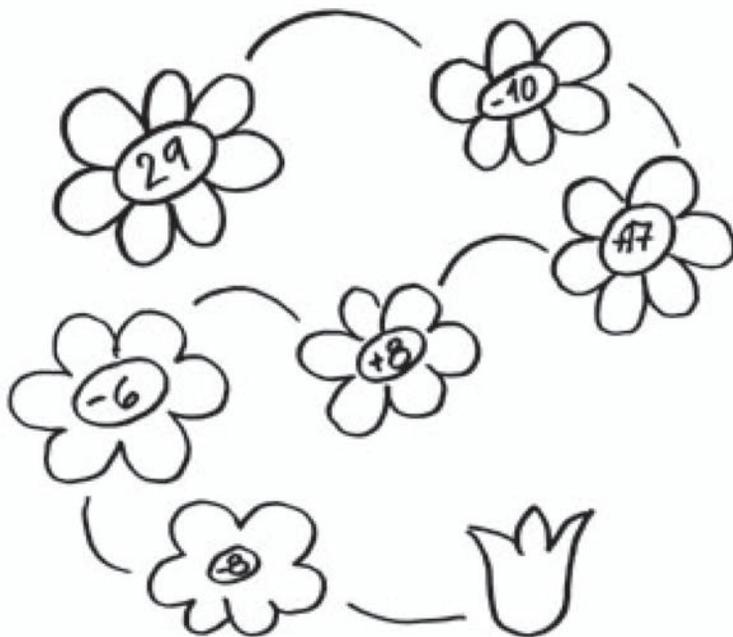


Granny has a small pool in the garden round which reeds grow. Božka hid exercises there. Calculate the exercises hidden in the reeds.



4. There are other tricky word tasks from Božka. Will you master them? Grandmother picks up herbs and dries them for tea. The first day she collected 4 scuttles, the second day she collected 6 times more than the first day and the third day she collected 2 times less than the second day. How many scuttles did she collect in three days? Mum grows ornamental flowers. At home she has 17 empty flowerpots and in a shop she bought other 15 flowerpots. How many flowerpots are there at home now?
5. Granny planted beautiful flowers in the garden and the centipede Božka drills multiplication on their leaves. Try it, too.

Last week the centipede Božka was observing a little bee pollinating flowers. Among the flowers Božka traced the path where the bee was flying. Can you calculate the whole trace that the bee had to fly in order to pollinate all flowers? Put down the result into the bell.



6. A word task from Božka:

Grandpa likes fruits and that is why he planted 9 apple trees, 2 times more plum trees than apple trees and 3 times less peach trees than plum trees. How many fruit trees did the grandfather plant.

7. Granny confined the flowerbed by a string so that we could not trample on the seedlings. The bed is in the shape of a rectangle. The centipede asks, "Can you calculate from the drawing how long string the granny needs for protecting the flowerbed?"

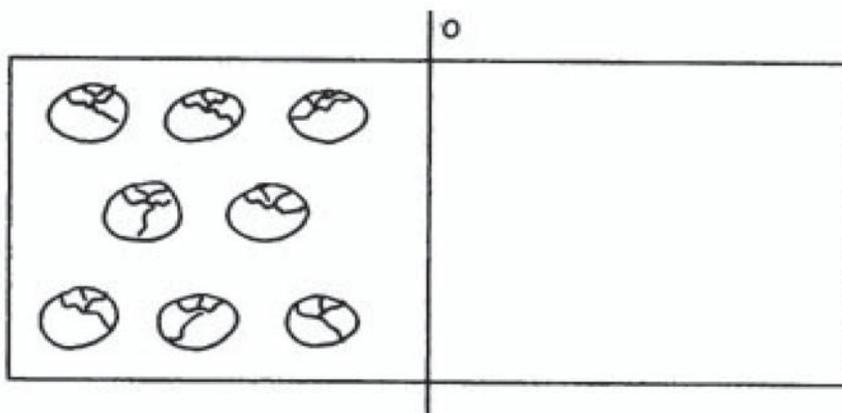
1cm = 1m



8. A word task from Božka:

A mullein has grown in granny's garden. The first day the mullein was 4cm tall, the second day 6cm more than the first day and the third day it was 6times taller than the first day. How tall was the mullein the second and third days?

9. Granny planted lettuce in the bed. The centipede Božka asks: "Can you draw up the second half of the bed in line of the axial symmetry with axis?"



4. Conclusion

The goal of the project method is to solve a concrete task that is reasonable, is real, comes from life and after processing comes back to the life again. The work on the project provides the pupils a possibility to assert themselves according their abilities, to co-operate with others and to be beneficial to them, to experience a feeling of success and also of the importance of education. Children are learning not only for the future life but they are learning how to live just now, at this moment. They learn to know themselves and others, to know their own value and to assert themselves.

By utilisation of project teaching it is possible to overcome the rigidity of used form and methods of teaching, isolation from the life reality, pedantry of professional explanations and memorising without connectivity and, resulting from it, a low interest of children in learning.

The project teaching is a demanding form of teaching, it takes long time for preparation and a lot of professional knowledge and organisational abilities in the work the teacher.

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BIOPOTRAVINÁM PATŘÍ BUDOUCNOST

Souhrn: Náš zdravý život také záleží na kvalitě potravin, které jíme. Příspěvek pohlédne do problematiky projektového vyučování, nastíní úkol ekologických projektů a pro ilustraci naznačí námět matematických environmentálních projektů, ve kterých učitelé s žáky mohou na ukázkách určených k realizaci během školního roku (na vycházkách, výletech, ve škole v přírodě aj.) ověřovat i demonstrovat ekologické poznatky v praxi.

Klíčová slova: biopotraviny, ekologické zemědělství, zdravý životní styl, projekty s ekologickou tematikou

SOMATIC DEVELOPMENT IN RELATIONSHIP TO LIFE STYLE AT GIRLS IN ADOLESCENCE

Barbora MATEJOVIČOVÁ, Alexandra BEZÁKOVÁ, Lenka KOPRDOVÁ

Abstracts: *Adolescence is transition between puberty and timely adulthood, on age 15 to 20 years, when sexual development and maturation are finished. It belongs to important period of lifetime from view on bodily, functional, neuropsychical and social forming (Buchanec et al., 2001). Definition of life style by social dictionary as: „choose some way of satisfy need and way which human arranges own lifetime“.*

Nowadays low physical activity is negative factor of adolescent. Most of all technical amenities we use – cars, television, computer and other remove motion effort and motion from everyday life (Koldeová et al., 2002). By Beleja (1996) negative influence in bodily and psychical development have influence to increase weight which is probably related with no rational nutrition and decrease of physical activity, principally at girls.

Research by Fenwick and Smith (1994) confirm people don't start smoking to 20 years they usually never start. As much as 85 % smokers acquire behavior in adolescence.

During the transition from childhood to adulthood, adolescents establish patterns of behavior and make lifestyle choices that affect current and future health. Adolescent could decrease their risk of developing chronic diseases in adulthood, for example behaviors such as eating nutritiously, not using tobacco and physical activity.

Key words: *adolescence, life style, somatic parameters*

Sample and Methods

We analyzed somatic development by these parameters: weight, high, perimeter abdomen and perimeter edge (Fetter, 1967). We designated BMI (Body Mass index) and index WHR (waist-that-hip ratio) by Beňa (2003). Appropriate psychical parameters and from they computed indexes showing nourishment at girls. A questionnaire consisted questions about psychical activity, leisure time and member of smoking girls.

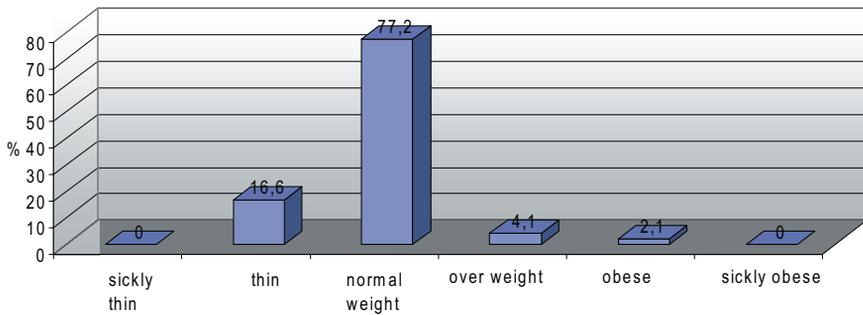
Results and discussion

For quantitative determination obese is today world-wide accepts measure BMI which is using to valuation nourishment of individual. Processing attributes BMI at our

sample 145 girls and their arrangement to individual rank on base partitions according to Beňa (2003) show graph 1.

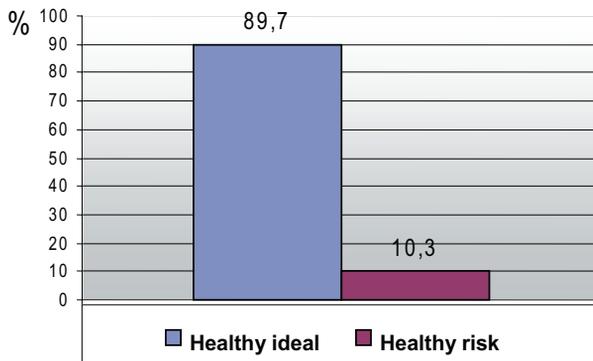
From results we can see that the biggest member (that is 77,2 %) is in rank normal weight, obese at 2,1 % girls. New examinations indicate, that decomposition fat in body could be mote important than its quantity. Abnormal fat in top or in abdomen part of body is for health more dangerous than fat in low part of body concentrated in hip and thigh. Relationship perimeter abdomen to perimeter hip, WHR index is good index of decomposition fat in body. By is this relationship higher (at woman more than 0, 85) it expects more risk cardio-vascular diseases (Kaplan, Sallis and Petterson, 1996). Hainer (1996) and Svačina (2000) introduce that health ideal value is to 0,85 and health risk introduce relationship greater than 0,85.

Graph 1 Categories BMI



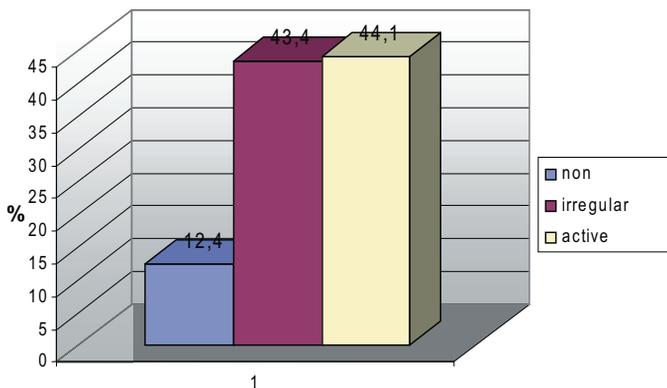
On base of these criterions we make distribution at our sample. We found that 130 girls (89,7 %) from total number have by index WHR healthy ideal distribution of fat and only 15 girls that is 10,3 % are device by index WHR to group with healthy (graph 2).

Graph 2 Categories WHR

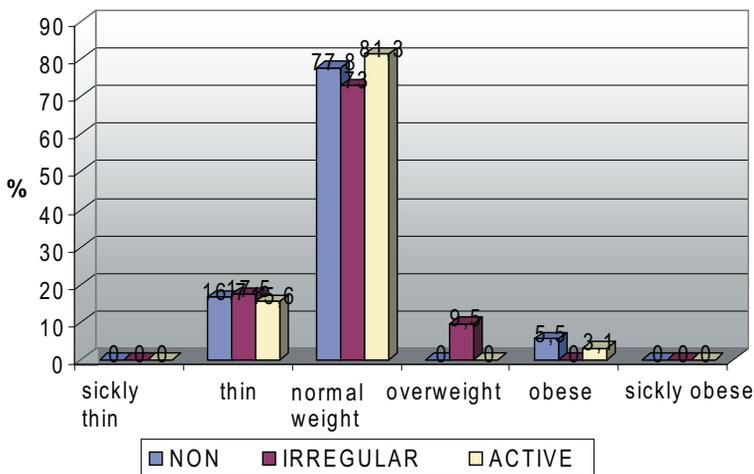


By physical activity and indexes BMI and WHR it weren't higher at students whose don't have any physical activity or irregular. Next we found that only 44,1 % girls active sport and 12,4 % don't have any physical activity and 43,4 % girls sport irregular (graph 3,4,5).

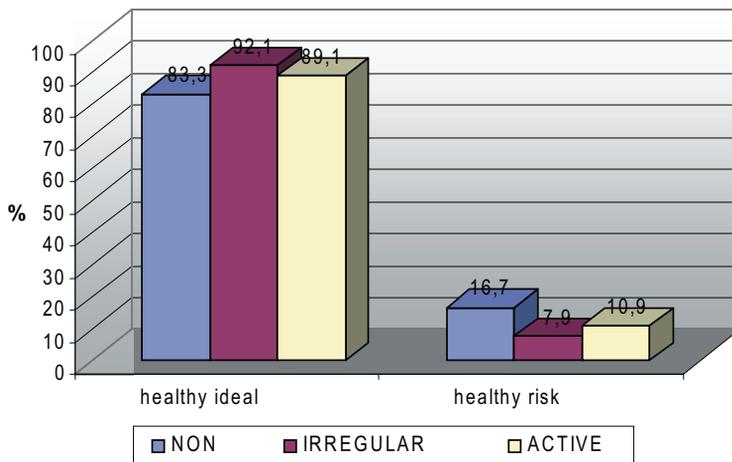
Graph 3 Physical activity



Graph 4 Categories BMI in group by physical activity

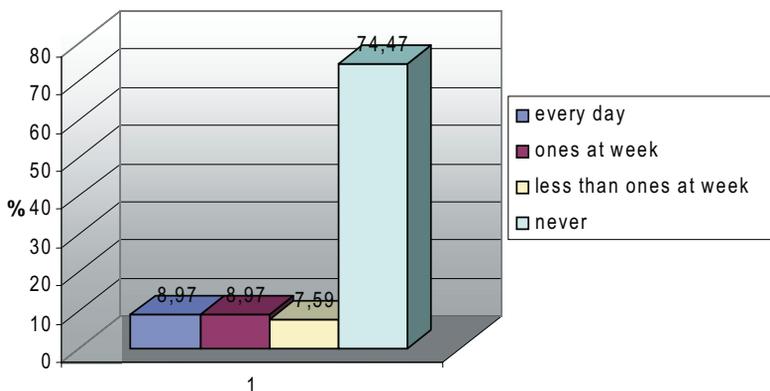


Graph 5 Categories WHR in group by psychical activity



We have observed that from total number of girls never smoke every day 74,47 % girls, we suggest it is very positive (graph 6).

Graph 6 Frequency of smoking



Conclusion

Measurement bodily parameters use to us especially on valuation development children and adolescent, on identification nourishment. Stage of growth and nourishment are from born to ending growth very sensitive index salute and prosperity of everybody individual. Important period adolescence must have attention from their life style – psychical activity, leisure time and consummation of addicting substances.

We found:

- Average high following sample adolescent girls is 167,8cm, average perimeter abdomen is 75,43cm and average perimeter hip is 96,96 cm.
- The biggest abundance is in rank normal weight (77,2 %), thin are 16,6 % girls and sickly thin is nobody.
- Overweight are 4,1 %, thin are 2,1 % and sickly thin is nobody.
- 89,7 % girls have by index WHR healthy ideal distribution fat and 10,3 % girls have healthy risk.
- 44,1 % girls do active sport and 12,4 % girls have no psychical activity.
- Students with no psychical activity have not higher BMI.
- In group with healthy ideal are 92,1 % girls with irregular psychical activity, with psychical activity 89,1 % girls and 83,3 % girls with no psychical activity.
- In group with healthy risk is by 7,9 % girls with irregular psychical activity, with psychical activity 10,9 % girls and 16,7 % girls with no psychical activity.
- Spending leisure time by watching television, videos and computer do girls rarely, most of them listen to music and at the weekend go to disco.
- 74,47 % of all girls don't smoke, only 13 girls that is 8,97 % smoke every day.

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SOMATICKÝ VÝVIN VO VZŤAHU K ŽIVOTNÉMU ŠTÝLU DIEVČAT V OBDOBÍ ADOLESCENCIE

Súhrn: Adolescencia je vývinové obdobie medzi pubertou a ranou dospelosťou, spravidla 15 až 20 rokov veku, v ktorom sa končí pohlavný vývin a dozrievanie organizmu. Patrí medzi rozhodujúce obdobia z hľadiska formovania jedinca zo stránky telesnej, funkčnej, neuropsychickej i sociálnej (Buchanec a kol., 2001).

Definíciu životného štýlu uvádza slovník spoločenských vied ako: „výber určitého spôsobu uspokojovania potrieb človeka a spôsob, akým si človek usporiadal svoj každodenný život.“

Negatívnym faktorom dnešnej doby je nízka pohybová aktivita adolescentov. Väčšina technických vymožeností, ktoré používame – autá, televízia, počítač, diaľkové ovládanie prístrojov a mnoho ďalších odstraňuje telesnú námahu a pohyb z každodenného života (Koldeová a kol., 2002). Podľa Beleja (1996) negatívne vplyvy v telesnom a pohybovom rozvoji dávame do súvislosti s narastajúcou hmotnosťou, ktorá pravdepodobne súvisí s neracionálnou výživou a postupným úbytkom pohybovej aktivity, najmä u dievčat.

Ľudia, ktorí nezačnú fajčiť do 20. roku svojho života obvykle už nezačnú vôbec. Až 85 % fajčiarov získa návyk už v adolescencii (Fenwicková, Smith, 1994).

Počas prechodu z detstva do dospelosti si adolescent upevňuje vzory správania a tvorí si životný štýl, ktorý ovplyvňuje súčasné i budúce zdravie. Adolescent môže znížiť riziko rozvoja chronických chorôb v dospelosti napríklad zdravou stravou, nefajčením a pohybovou aktivitou.

Kľúčové slová: adolescencia, životný štýl, somatické parametre

ATTITUDE TO AND KNOWLEDGE OF ORAL HYGIENE OF SECONDARY SCHOOL STUDENTS

Magda TALIÁNOVÁ

***Abstract:** Oral hygiene is a concern of every individual and consists, first of all, in the home care of dentition and of the oral cavity. This care is an integral part of the personal hygiene of a civilised man and its importance is the same in both primary and secondary, or tertiary, prevention of teeth diseases of parodontium. To find out the knowledge of and the attitude of the youth to the oral hygiene investigation has been performed among secondary school students in East Bohemia.*

Interrogated were students of three school types: of a grammar school, medical college, and of an integrated business school.

***Keywords:** oral health, oral hygiene, utilities for dental hygiene, prevention*

Theoretic background

Every man is obliged to take care of his/her oral health. Two forms of dental care may positively influence the oral health status: The medical care and the preventive care. It is only the efficient preventive measures in the field of the primary prevention that may prevent the occurrence of diseases in the oral cavity. Among the basic measures, by which the oral health may be reached, is first of all the reaching of a convenient oral hygiene level, which is possible only by means of establishing suitable and well-tried habits that are trained from the very early man's age and have been professionally checked. It is first of all necessary to instruct parents on the danger of tooth decay origin and on the methods how to prevent it. The parents also have to know they are responsible for the hygiene and dentition status of their children. It is, however, also the school that may participate in the education towards the oral hygiene. There are kindergartens that actively participate in the education towards the oral health, both due to their own initiative and within preventive projects as is, for example, the "Zdravý zoubek / Healthy Tooth" scheme in the Liberec Region. In basic and secondary schools the National Health Institute's "Dětský úsměv / Childrens Smile" scheme may feature a positive contribution. This scheme is particularly focused to the selection of suitable utilities for the dental hygiene, methods of cleaning teeth, and to the practical training of such methods. Students are also acquainted with the main reasons for the tooth decay origin

and with preventive measures that prevent its origination. The oral hygiene is defined as the personal maintaining of cleanness and hygiene of teeth and oral structures, including prosthetic replacements and orthodontic apparatus by cleaning of teeth and stimulation of tissues, gingival massages through hydrotherapy and also through other procedures as recommended by a doctor or by a hygienist to maintain dental and oral health.

The oral hygiene is a concern of every individual and consists in particular in the home care of the dentition and oral cavity. This care is the integral part of individual hygiene of a civilised man and its importance is the same in both primary and secondary, or tertiary, prevention of diseases, in particular of teeth and parodontium.

The objective of the oral hygiene is to:

- 1) Prevent the damage of hard dental tissues by tooth decay,
- 2) Prevent origin of inflammation in the parodontium tissues, i.e. of parodontitis,
- 3) Maintain the sanative result after the healing of soft and hard tissues.

The main objective of the oral hygiene is to contribute to the maintaining of oral health, which may be characterised as the status of full normality and functional power of the teeth and their supporting structures as well as of the surrounding parts of the oral cavity, but also of structures related to mastication and with the maxillofacial complex.

The oral hygiene may be divided to the:

- Individual oral hygiene, which is performed by every man him/herself;
- Professional oral hygiene, which is performed by a stomatologist or dental hygienist in their surgeries/offices.

To reach an unobjectionable level of the oral hygiene is possible only by means of obtaining suitable and well-learned habits that are trained, by a man, from his/her childhood and are professionally checked.

Objectives of the research

The objective of the work was to assess the level of the oral hygiene with the young people in the fields of oral cavity care, cleaning of teeth, and knowledge in the field of dental hygiene. The dental hygiene level has been assessed on the basis of comparison of students either as per schools or gender, as compared to the latest views of stomatologists and dental hygienists.

Hypotheses

- The knowledge of the oral cavity care is better with the medical college students than with the grammar school students.
- The teeth cleaning accessory utilities are used more often by girls than by boys.
- The horizontal teeth cleaning method is used more often by boys than by girls.

- The knowledge of the dentition somatology is better with the medical college students than those of grammar schools and secondary business schools.
- Preventive medical examinations are more often followed by girls than by boys.

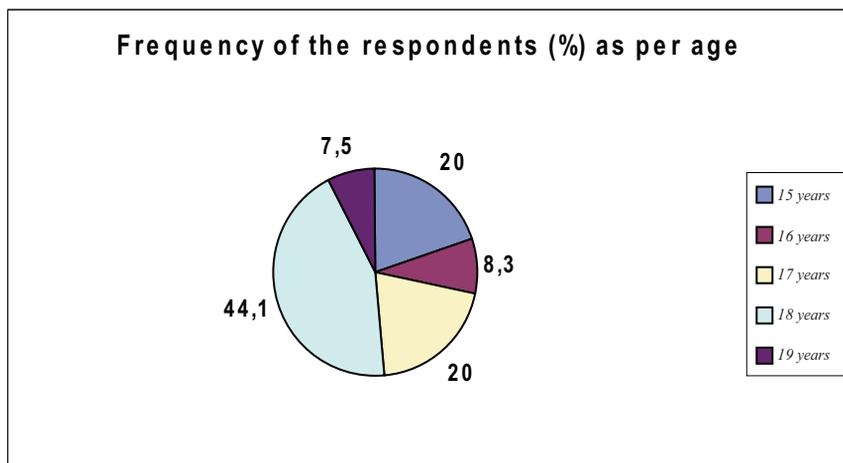
Methodology, procedure

In the research part I tried to perform a qualitative probe into the dental hygiene field. To acquire data to work with I used the questionnaire method. The questionnaire is divided into three sections. The first one contains questions related to the dental cavity care as a whole; the second one contains questions focused to the teeth cleaning, and the third one then questions focused to the knowledge in the field of the dentition somatology. In total 240 questionnaires were handed out. All of them returned to me duly filled. The acquired data have been recorded in diagrams, in which relative values (%) have also been recorded of the followed phenomena for individual schools and per gender.

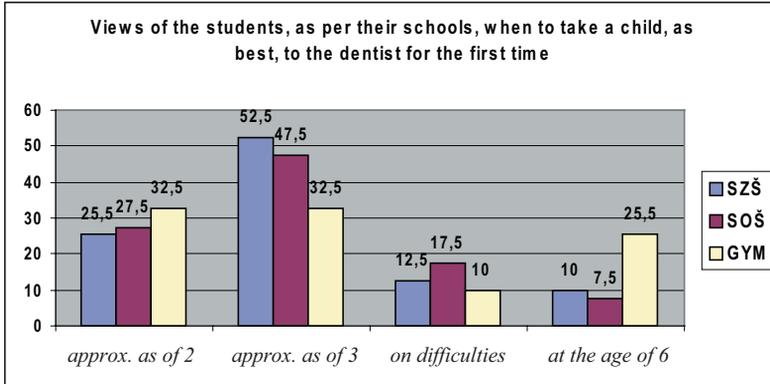
Though differences have been distinguished between the schools and between genders, they seem to be insignificant from the statistical point of view.

In the tables and diagrams the following abbreviations have been used: SZŠ – Medical College; SOŠ – Secondary Business School; GYM – Grammar School.

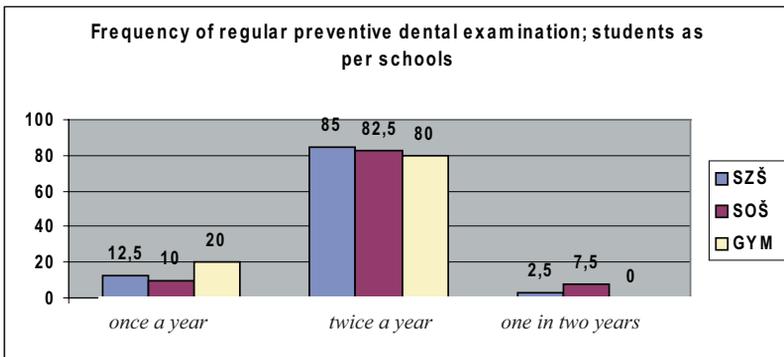
Characteristics of the investigated sample: In the research investigation took part 240 respondents from three schools - grammar school, medical college (branch: general nurse; dental laboratory technician), integrated secondary business school (branch: sports management). From every school a random selection of 80 students was made, out of which were 40 girls and 40 boys aged 15 to 19. Having handed out the questionnaire I acquainted the students with the purpose of my work and provided them with basic instructions for filling. The students were provided 25 minutes for the filling of the questionnaire.



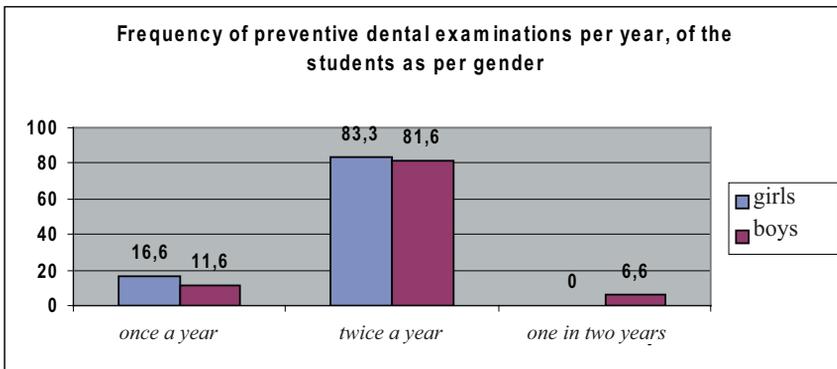
Interpretation of results



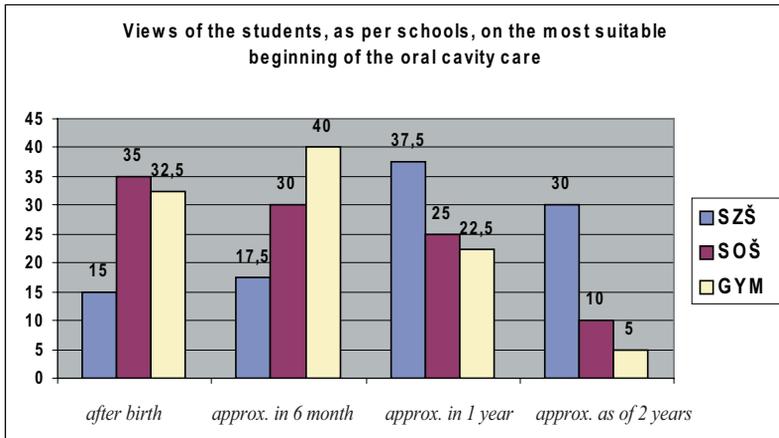
The stomatologists recommend to perform the first visit at the dentist's approximately at the age of 2. This variant was selected by 32.5 % of the grammar school students, 27.5 % of the business school, and by 25.5 % of the medical college students.



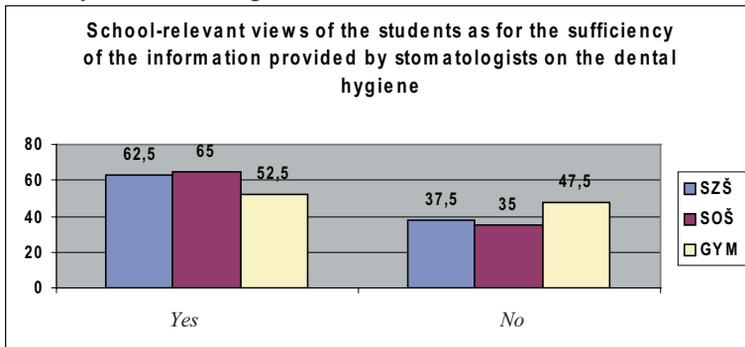
Regular dental examination twice per year undergo 85 % of the medical college students, 82.5 % of the business school students, and 80 % of the grammar school students.



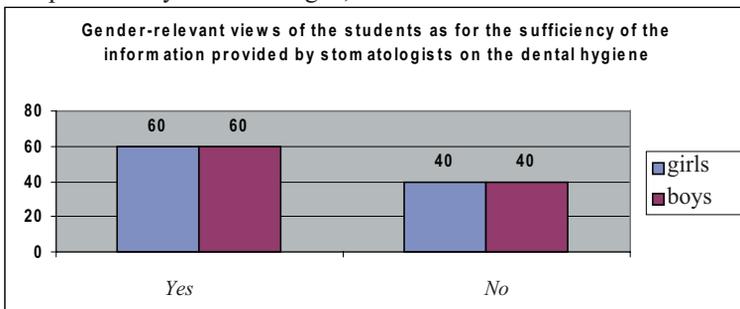
From the interrogated, the regular dental examinations twice a year are followed by 83.3 % of girls and by 81.6 % of boys.



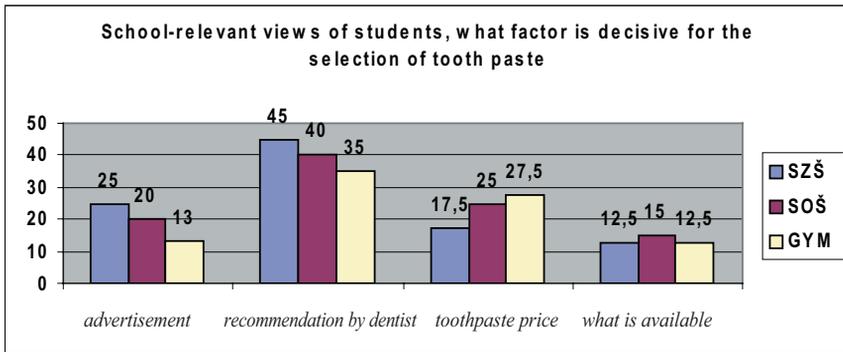
It is recommended to start the oral cavity care immediately after birth. This variant was selected by 15 % of the medical college students, 35 % of the business school students, and by 32.5 % of the grammar school students.



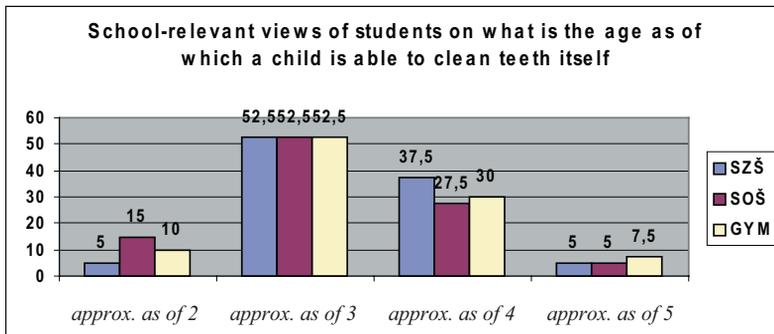
The knowledgeability in the field of the dental hygiene seems to be sufficient: 62.5 % of the medical college students, 65 % of the business school students, and 52.5 % of the grammar school students. 60 % of all the interrogated students replied that the information provided by a stomatologist, is sufficient.



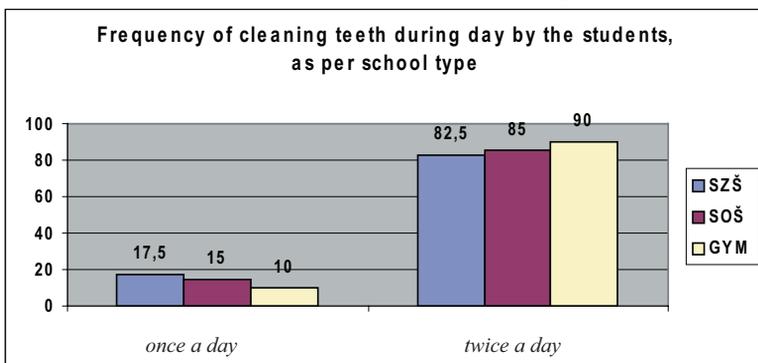
60 % of the boys and girls equally replied that the information provided by dentists, about the dental hygiene, seems to them sufficient.



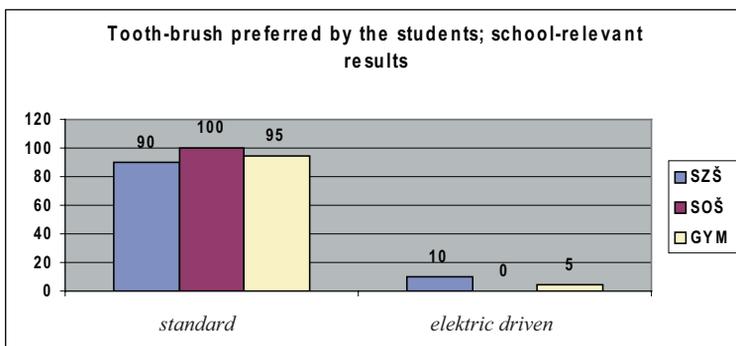
For the most of the interrogated, the decisive criterion is the recommendation by a dentist. This variant was selected by 45 % of the medical college students, 40 % of the business school students, and by 35 % of the grammar school students.



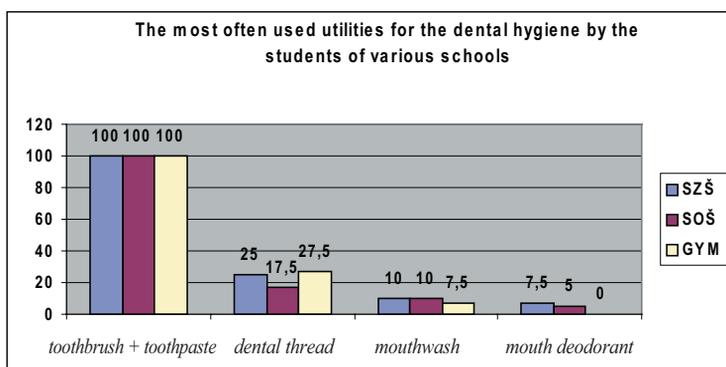
The dentists agree that a child should clean its teeth approximately as of the age of three. Agreeable with this view are 52.5 % of students of all the three schools. The variant approximately as of four was selected by 37.5 % of the medical college students, 27.5 % of the business school students, and by 30 % of the grammar school students.



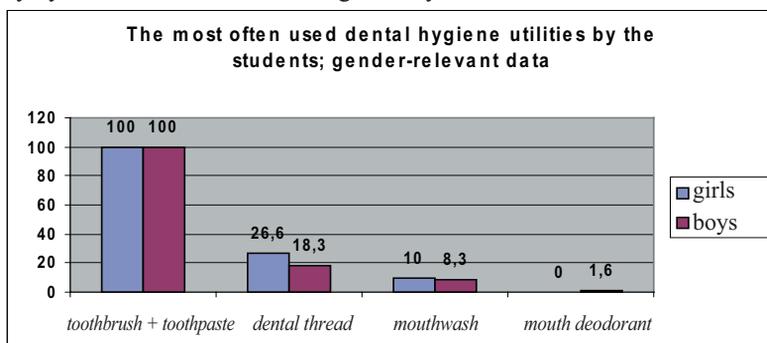
Though the most optimum variant would be to clean teeth after every meal, due to practical reasons it is nearly impossible, so the stomatologists recommend to clean teeth at least twice a day. Most of the students (82.5 % of the medical college students, 85 % of the business school students, 90 % of the grammar school students) replied they cleaned their teeth twice a day.



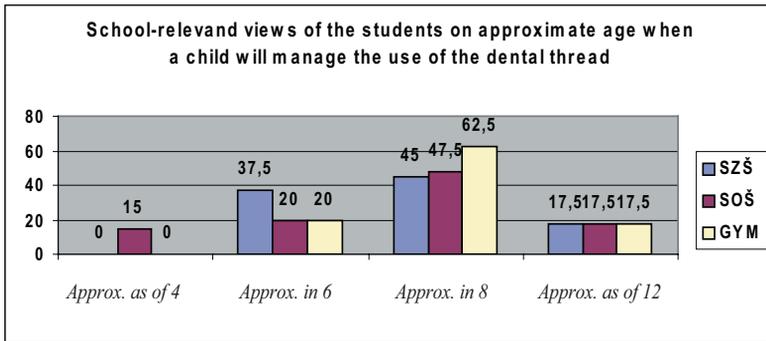
Most of the interrogated students (90 % of the medical college students, 100 % of the business school students, and 95 % of the grammar school students) replied they used standard toothbrushes for the cleaning of teeth.



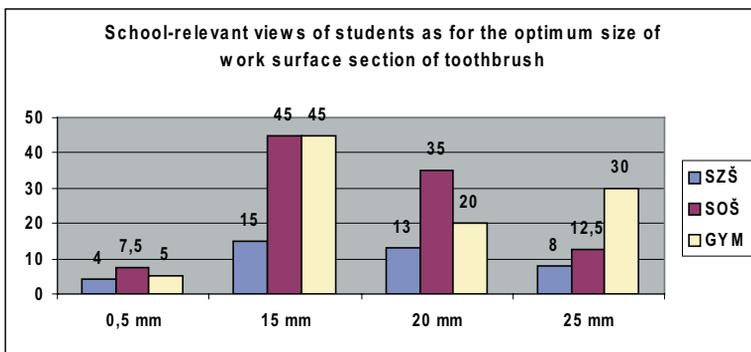
Toothbrush and toothpaste are used by all the interrogated. Dental thread is used by 25 % of the medical college students, 17.5 % of the business school students, and by 27.5 % of grammar school students. Mouth deodorant is used by 10 % of the medical college and business school students, and by 7.5 % of the grammar school students. Mouthwash is used only by 7.5 % of the medical college and by 5 % of the business school.



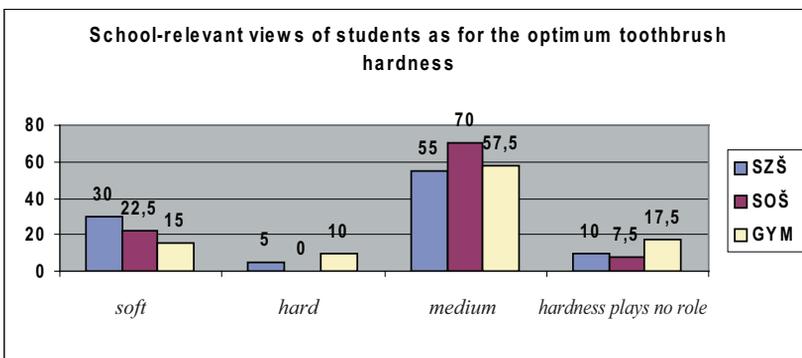
The toothbrush and toothpaste are used by all the boys and girls. The dental thread is used by 26.6 % of the girls and 18.3 % of the boys, the mouthwash is used by 10 % of the girls and by 8.3 % of the boys, and the mouth deodorant only by 1.6 % of the boys.



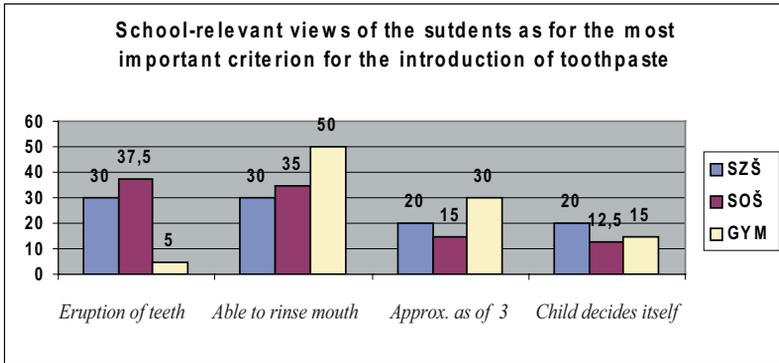
The stomatologists declare that the approximate age in which a child is able to use the dental thread without any problems is 12. This variant was selected by 17.5 % of the students, being in accord in all the school types.



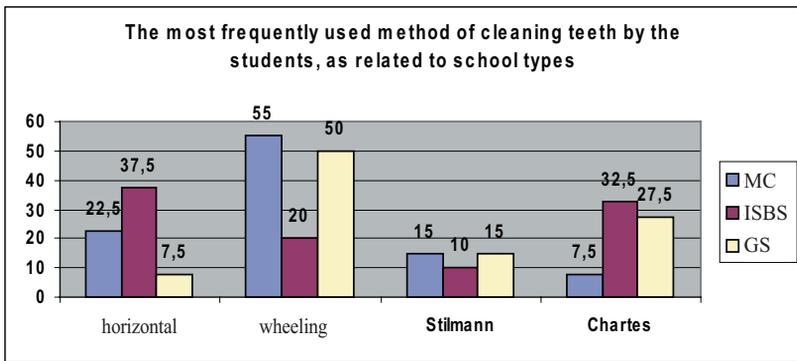
The optimum size of the toothbrush work surface should be 25 mm for adults. This variant was selected by 8 % of the medical college students, 12.5 % of the business school students, and 30 % of the grammar school students.



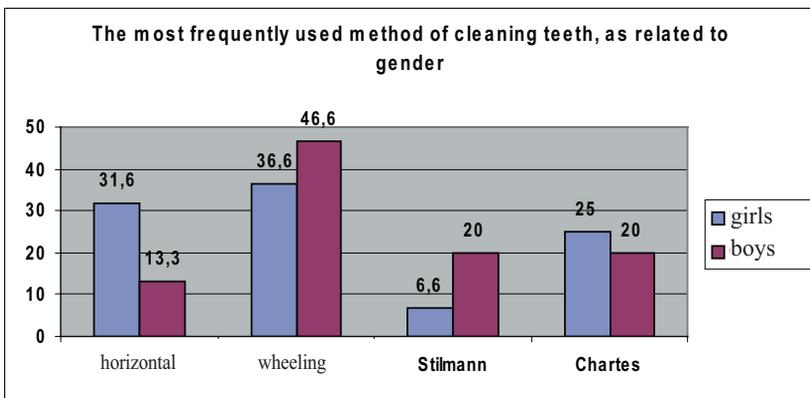
For adults, the stomatologists recommend to use medium hard toothbrushes. With this variant were agreeable 55 % of the medical college students, 70 % of the business school students, and 57.5 % of the grammar school students.



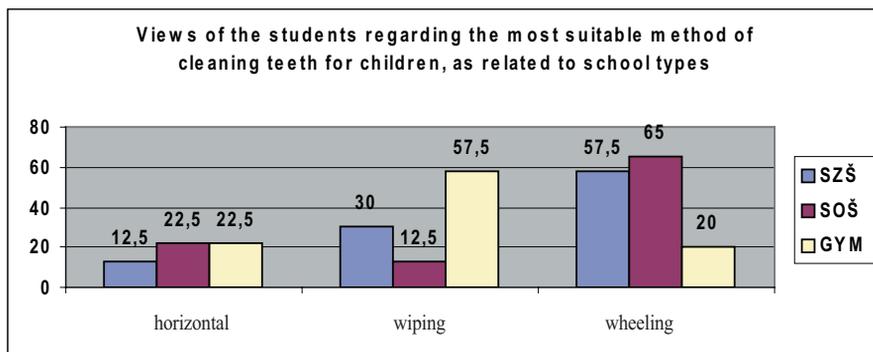
The most important criterion of the introduction of toothpaste is the ability of a child to rinse mouth. This variant was selected by 30 % of the medical college students, 35 % of the business school students, and 50 % of the grammar school students.



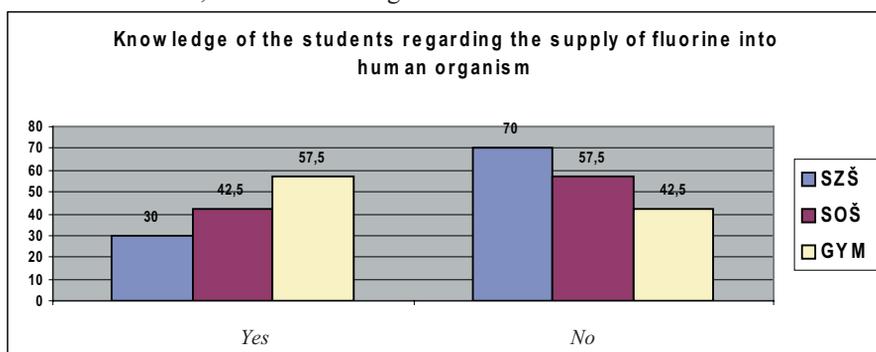
The wheeling method is most often used by the medical college students (55 %) and by the grammar school students (50 %). The business school students (37.5 %) most often use the horizontal method.



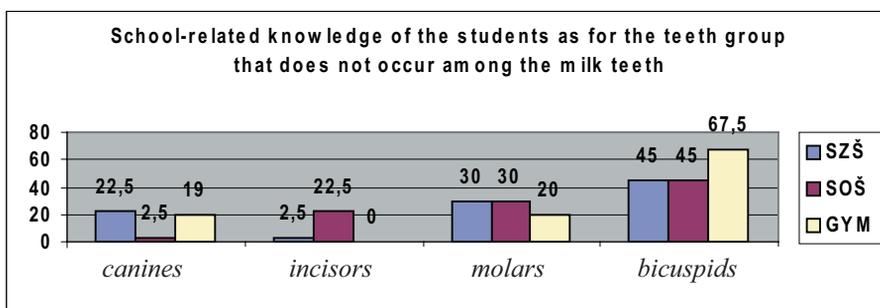
The wheeling method is used by 36.6 % of girls and 46.6 % of boys. While the horizontal method ranks second for the girls (31.6 %), for the boys the Stilmann and Chartes methods are equal (20 %).



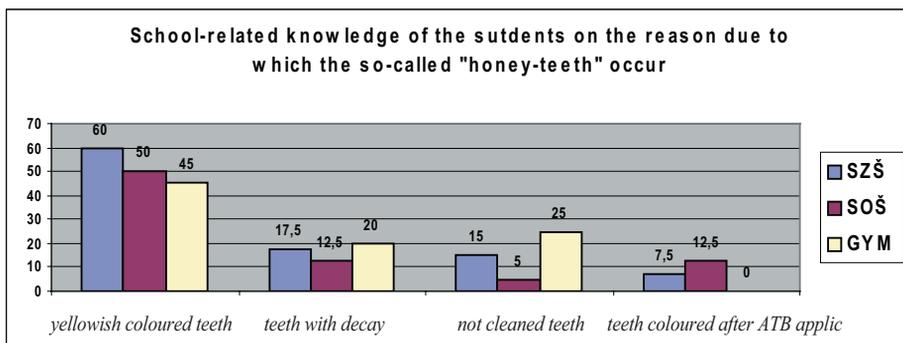
For the children the stomatologists recommend the use of the wheeling method. This variant was selected by 57.5 % of the medical college students, 65 % of the business school students, and 20 % of the grammar school students.



The knowledge on the supply of fluorine into human organism have only 30 % of the medical college students, 42.5 % of the business school students, and 57.5 % of the grammar school students.



Among the milk teeth do not occur the bicuspid. This reply was selected by 45 % of the medical college and business school students, and 67.5 % of the grammar school students.



The so-called “honey-teeth” are those afflicted with the tooth decay. This variant was correctly selected by 17.5 % of the medical college students, 12.5 % of the business school students, and 20 % of the grammar school students.

Discussion

The performed examination has proven the fact the knowledge of student in respect of the oral hygiene have not been fully sufficient and the need has been identified of their higher awareness. Differences between individual types of schools are evident. The knowledge of the medical college and grammar school students has been comparable. The secondary business school students showed more adverse results than the students of the former two schools. Should the situation improve, it is important that the stomatologists or dental hygienists improve the information provision in their surgeries or offices. Parents should more carefully check the oral hygiene status of their children and, at the same time, they should actively search for information on new oral hygiene trends. Also teachers should play an important role in the oral health education. Unfortunately, it has followed from the practise that this topic has been neglected. That is to say, the teachers are convinced they have got no space for such topic in their lessons and that only parents and stomatologists should perform the oral health education. However, most teachers have admitted that this problem could at least partly be removed by the introduction of the “health education” subject in the curriculum. At present hand-outs focused to the dental hygiene of second-grade pupils have been provided to schools that teachers may use in the subject “natural/social science primer”. In this direction education should be vectored even in higher grades.

Conclusion

At the conclusion I would like to note that it is the perfect oral hygiene, together with the fluoridation and sound subsistence, that results in retaining sound and complete dentition. This should be the objective of every student as nice and sound teeth are the visit-card of every individual. Where the care of teeth is insufficient, there is a high risk of a dental disease, which may result even in the total dentition damage. In view of the increase of dental service charges a significant financial load is also in question.

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PŘÍSTUP A VĚDOMOSTI STUDENTŮ STŘEDNÍCH ŠKOL K ÚSTNÍ HYGIENĚ

Souhrn: Ústní hygiena je záležitostí každého jednotlivce a spočívá především v domácí péči o chrup a dutinu ústní. Tato péče je integrální součástí osobní hygieny civilizovaného člověka a její význam je stejný jak v primární, tak sekundární i terciální prevenci onemocnění zubů a parodontu. Pro zjištění znalostí a přístupu mládeže k ústní hygieně bylo provedeno šetření u studentů středních škol ve Východních Čechách. Dotazováni byli studenti tří typů škol – gymnázia, střední zdravotnické školy a střední integrované školy obchodní.

Klíčová slova: ústní zdraví, ústní hygiena, pomůcky k dentální hygieně, prevence

RISK FACTORS OF OSTEOPOROSIS - KNOWLEDGE AND PRACTICES AMONG ADOLESCENT FEMALES

Kamila POSLUŠNÁ, Halina MATĚJOVÁ, Veronika BŘEZKOVÁ

Abstrakt: Osteoporosis is a serious metabolic disease, occurring at later age, most frequently through osteoporotic fractures – which are the main morbidities and invalidities at the old age. Mostly women are suffering from it but it isn't rare among men as well. The most effective prevention of this disease is founded during childhood and adolescence when the organism creates the greatest reserves of calcium. The work uses questionnaire method to find out about the knowledge, attitudes and practices of adolescent females (age of 14–19) regarding the risk factors of osteoporosis, specifically the physical activity, smoking and nutrition. It also records the differences in knowledge in correlation to age and school type. In the nutrition area it determines the average intake of those nutrients that relate to the bone health (calcium, phosphorus, vitamin D, proteins and sodium). The future goal of this work is an intervention programme aimed at support of such behaviour that would be consistent with the healthy lifestyle, supporting the osteogenesis and the maintenance of muscles.

Key words: adolescent females, osteoporosis, risk factors, knowledge, physical activity, calcium intake, smoking

Introduction

Osteoporosis is a serious metabolic bone disease, from which more and more people in the world are suffering. The prevention of this disease is often aimed only at women after menopause, at the age when they already show the proclivity to this disease or the first signs of bone mass decrease. The most important prevention is the primary prevention, i.e. during childhood and adolescence when the prevention is actually the easiest. The body creates the greatest reserves of calcium till the age of 25–30. After that the bone mass is slowly destructed.

Among the main risk factors that can be influenced belong: the low intake of calcium in the diet, low physical activity and smoking. The main factor that influences the bone density is the calcium intake during the childhood, adolescence and early

adulthood. People who created greater reserves of calcium during their youth have more bone mass to be destructed in the osteoporosis-endangered age (Sinkiewicz, 2003). The physical activity contributes greatly to the bone health. It works as the physiological stimulation of the osteoblastic activity and bone neo-production. The most suitable activities regarding osteoporosis prevention are rather weight-bearing activities or activities using some sports tools when there is created a burden upon the bones. They include especially the high impact activities, e.g. gymnastics, figure-skating, basketball, volleyball etc. They have a more favourable effect on bones than sports like swimming or biking which create only a minimal burden upon the bones (Geusens, 1998). More and more sedentary lifestyle of children and adolescents is also alarming. This trend is even more serious among adolescent females who live a sedentary lifestyle more often than boys (Vincent-Rodríguez, 2006).

One of the risk factors of osteoporosis and thus also easier occurrence of fractures is smoking. The explanation of the negative influence of smoking on the bones is not simple because the individual elements of the smoke interfere differently with the bone tissue metabolism (Kocián, 1998). Sinkiewicz (2003) mentions that the female smokers lose 5 to 10 % bone tissue more than female non-smokers by the time they reach menopause. Other lifestyle risk factors of osteoporosis are higher intake of alcohol, caffeine and cola beverages. Drinks like Coca Cola contain a lot of phosphorus which leads to hypocalcemia and osteoporosis (Kocián, 2002). The higher intake of these drinks is therefore undesirable, especially among children and adolescents. The lack of vitamin D also contributes to osteoporosis. That can occur especially in people who spend most of the day indoors. Another factor that affects the bone mineral is the lack of proteins. That can occur in the vegan and macrobiotic diet because it lacks enough building material for the bone tissue. On the other hand the high animal protein diet causes acceleration of bone resorption probably through the increased acidification of organism that is caused by the oxidation of sulfur amino acids (Kocián, 1997). The higher protein intake usually coincides with a higher calcium intake. The calciuric effect of high protein intake can thus be minimized. The adequate protection of bones is probably provided by the proportion calcium:proteins $\geq 20:1$ (mg:g). The high intake of proteins therefore doesn't have to have harmful effects on bones provided that there is an adequate calcium intake (Heaney, 1998).

The goal of the primary prevention of osteoporosis is to ensure the attainable peak bone mass during childhood and adolescence and maintenance of this bone mass in adulthood. That should be achieved through emphasising and ensuring of an appropriate intake of calcium and proteins in the diet, appropriate supply of vitamin C and D, reasonable physical activity and excluding of the toxic influence of the environment.

This work deals with the preventable risk factors, specifically the lifestyle factors, and investigates the level of adolescent females' knowledge in this area. The work focuses on adolescent females' attitudes and their real practices – i.e. the calcium intake in their diet, the level of physical activity and the occurrence of smoking.

Goals and hypotheses

The goal of this work was to evaluate the knowledge, attitudes and practices of adolescent females in relation to the risk factors of osteoporosis, specifically their physical activity, smoking and diet and to find out the differences in the knowledge in relation to age, sex and school type. In the nutrition area the goal was to set the average intake of nutrients that are in relation to the bone health – calcium, phosphorus, vitamin D, proteins and sodium.

Hypothesis 1: There is a dependence between the adolescent females' physical activity knowledge and their real physical activity.

Hypothesis 2: There is a dependence between the adolescent females' nutrition knowledge and their real nutrition behaviour.

Hypothesis 3: There is a dependence between the adolescent females' smoking knowledge and their smoking.

Sampling and methods

The sampling was represented by 323 adolescent females and 225 adolescent males (14–19 years old) from four southern Moravian schools. There was more attention focused on adolescent females sampling. 38 young females and 36 young males were from the primary school „Základní škola Pražská“ in Znojmo, 158 young females and 145 young males were from the secondary school „Gymnázium Vídeňská“ in Brno, 64 young females and 34 young males were from the secondary school „Gymnázium Křenová“ in Brno and 64 young females and 10 young males were from the vocational school „SOU and SOŠ Jánská“ in Chrlice.

A questionnaire was used as a tool to find about the knowledge, attitudes and practices of the respondents. A questionnaire used in a similar project in Canada in 2003 (Anderson, 2005) was used as a model. The model questionnaire was adjusted and updated. It includes 34 questions on basic data about the respondents, their knowledge, attitudes and practices regarding physical activity, smoking and calcium intake. In order to find out the nutrition habits we used a frequency questionnaire and a 24-hour recall, when the respondents recorded immediately what they ate and drank the day before.

Results

Knowledge

The table 1 shows percentages of correct responses to the questions concerning the knowledge of the adolescent females.

Tab. 1: Frequency of correct responses to knowledge questionnaire items

question	correct response	%
Knowledge (physical activity):		
Bones are living tissues that need physical activity to be healthy and strong.	Yes	45%
Regular physical activity helps your body use calcium more efficiently.	Yes	61%
Physical activity can help keep you from losing muscle when you're dieting to lose weight.	Yes	82%
Excessive physical activity combined with severe dieting can speed up bone growth.	No	81%
Irregular or complete loss of your periods due to excessive exercise can increase the risk of osteoporosis.	Yes	32%
Knowledge (nutrition):		
It is difficult to get the calcium you need from vegetables alone.	Yes	81%
Adolescents need more calcium than children age 6.	Yes	25%
Drinking too much cola beverages or coffee can be harmful to your bones.	Yes	39%
Knowledge (smoking):		
Cigarette smoking will not harm your health.	No	92%
Cigarette smoking increases bone growth.	No	93%
Cigarette smoking can lead to osteoporosis.	Yes	42%

The percentage of adolescent females that answered all the questions in the particular area correctly was determined in order to compare the knowledge of two groups of different age. The older adolescent females had better knowledge only in the area of physical activity. In the area of nutrition and smoking the level of knowledge was slightly higher among the younger adolescent females.

In order to compare the knowledge between adolescent females and males a group of adolescents from the primary school and a grammar school was used (215 males and 259 females). The percentage of respondents who answered correctly in the given area was found out. The adolescent females' level of knowledge was slightly higher only in the area of smoking. The adolescent males showed a slightly higher level of knowledge in the area of physical activity and nutrition.

The percentage of adolescent females that answered all the questions in the particular area correctly was also determined among the groups of 221 adolescent females from the grammar school and 64 adolescent females from the vocational school. The level of knowledge in all areas – physical activity, nutrition and smoking – is better among the adolescent females from the grammar school.

Attitudes

More than 50 % adolescent females showed the advisable attitude in the area of the physical activity and nutrition. In the area of smoking there are 32.7 % adolescent females who think that smoking of cigarettes can lead to osteoporosis, 24.3 % adolescent females don't think so and 43 % adolescent females are not sure.

Practices

96.3 % adolescent females declared that they walk at least 30 minutes a day most of the days in the week or at least 3 hours a week. 52 % adolescent females do sports regularly in their free time. The most often declared frequency of physical activity was twice a week – with 30.3 % adolescent females. 3.1 % adolescent females do sports less often than once a month. 40.3 % adolescent females declared that their usual physical activity usually lasts 30–60 minutes and 26.6 % declared the length of 60 - 90 minutes. The most frequently stated – 56 % – was the middle intensity of physical activity. 22 % adolescent females declared high intensity and 15 % moderate intensity.

27.9 % adolescent females smoke. The highest percentage of female smokers is at the vocational school – 53 %. There are 23.5 % smokers among female students of the grammar school and 10.5 % among female pupils of the primary school (Tab 2).

Tab 2: Response to the question „Do you smoke cigarettes?“

response		primary school	grammar school	vocational school	total
Yes	absolute frequency	4	52	34	90
	relative frequency	10.5%	23.5%	53.1%	27.9%
No	absolute frequency	34	169	30	233
	relative frequency	89.5%	76.5%	46.9%	72.1%

The average age of the first cigarette among the female smokers is 12.93 ± 2.45 (SD). The most frequent data value in the sample is the age of 14. The average number of cigarettes smoked by adolescent females per day is 7.44 ± 5.98 (SD). The highest average number of cigarettes smoked per day is at the vocational schools: 10.48 ± 7.1 (SD). 17 % adolescent females who smoke now started smoking before the age of 12.58 % adolescent females started smoking at the age of 12–14. 25 % adolescent females started smoking after the age of 14. 71.1 % female smokers answered that they have tried to stop. 52.8 % adolescent females want to stop smoking now.

Food frequency questionnaire:

In the table 3 there are the consummation frequencies of particular foodstuff.

Tab 3: Food frequency questionnaire

Foodstuff	almost never	1-3 times per month	1 times per week	2-3 times per week	1 times per day	2-3 times per day	4 and more times per day
Milk	9.00%	11.80%	17.10%	25.80%	25.20%	10.60%	0.60%
hard cheese	3.10%	11.50%	19.30%	43.80%	18.30%	3.70%	0.30%
Yoghurt	7.10%	8.10%	16.10%	35.10%	27.00%	5.60%	0.90%
Curd	28.30%	46.00%	16.80%	7.80%	0.90%	0.30%	0.00%
milk drinks	13.80%	25.40%	21.30%	19.40%	14.70%	4.70%	0.60%
sardines (with bones)	63.40%	30.60%	5.00%	0.90%	0%	0%	0%
Broccoli	44.70%	40.10%	10.90%	4.00%	0%	0.30%	0%
processed cheese	12.10%	12.70%	21.10%	35.10%	14.00%	3.40%	1.60%
cola beverage	27.30%	29.50%	18.60%	17.10%	4.00%	2.20%	1.20%
coffee (with caffeine)	38.50%	11.80%	11.50%	11.80%	14.00%	10.90%	1.60%

24-hour recall

Only 11.7 % adolescent females had a calcium intake higher than 1200 mg, which is the value recommended in the proposal VDD for the Czech republic (Blatná, 2005). 36.8 % adolescent females had their calcium intake lower than 600 mg. The average proportion calcium : phosphorus is 1 : 1.65. The intake of vitamin D was lower than the recommended dose in 97 % adolescent females. 74 % adolescent females exceed the recommended daily dose of sodium.

Hypotheses verification

Hypothesis 1 was not proven true, no dependency was found between the adolescent females' physical activity knowledge and their real physical activity.

Hypothesis 2 was not proven true, no dependency was found between the adolescent females' nutrition knowledge and their real nutrition behaviour, specifically their calcium intake.

Hypothesis 3 was proven true. A clear dependence was found between the adolescent females' smoking knowledge and their smoking. On the 5 per cent significance level we can say that in the group of adolescent females who knew that the smoking of cigarettes can lead to osteoporosis, there are less female smokers than among the adolescent females who did not know that.

Discussion

In order to prevent osteoporosis effectively it is necessary to have the knowledge about the lifestyle risk factors, the positive attitudes towards them and to practice in a corresponding, suitable way. However, the practices does not have to correspond to the knowledge and attitudes.

The knowledge about the physical activity is quite good among the adolescent females. They knew well that the physical activity can help keep them from losing muscle when they are dieting or losing weight. The knowledge in the area of nutrition is not very good. There is quite good knowledge in the area of smoking. Almost all the adolescent females knew that smoking of cigarettes harms the health and does not increase bone growth. But more than a half of all adolescent females did not know that smoking can lead to osteoporosis.

The knowledge results found out in this project were compared to the Canadian project (Anderson, 2005). It is a similar project and some of the results are therefore comparable. Anderson was investigating the knowledge, attitudes and practices of 227 Canadian adolescent females in the age of 12–16. In this project the sample of 323 adolescent females in the age of 14–19 was investigated. The success in different questions was sometimes significantly different but in both groups the knowledge in the area of physical activity was quite good. Regarding the nutrition, there were significantly more adolescent females in Canada who knew that drinking a lot of cola beverages can be harmful to bones. The knowledge in the area of smoking was in both groups balanced.

After comparing the knowledge of younger and older adolescent females it was found out that the older adolescent females had a much better knowledge regarding physical activity. The knowledge in the other two areas was slightly better among the younger adolescent females. It is possible that the pupils are better educated in the field of lifestyle at the primary school and therefore they master the relevant knowledge. The influence of the secondary school might not be that strong anymore.

The adolescent females from the vocational schools have significantly lower knowledge in all the areas in comparison to the adolescent females from the grammar school. The difference was statistically significant in the area of physical activity. It could be caused by the lower level of education, as well as by the family background, which could be neglecting and not that stimulating in this group. The adolescent females from the grammar school on the other hand could have a stimulating and supportive family background. However, this does not have to be always valid. The knowledge is of course learned not only at school but also in the out-of-school environment. The adolescent females at the grammar schools have extensive general knowledge, whereas the adolescent females at vocational school have knowledge limited by their vocation.

The physical activity is not on a very good level with respect to the age of the respondents. It is necessary to bear in mind that the low level of physical activity contributes also to other chronic diseases. But we have to take account of the fact that the level of physical activity was investigated only through the questionnaire method and it is therefore necessary to rely on the declared answers. The level of physical activity can be thus even lower in reality.

About one quarter of all questioned adolescent females are smokers. The highest occurrence of smoking at the vocational schools is probably caused by sometimes lower socioeconomic background of the families of the adolescent females from the vocational schools but another factor is probably also the social pressure of their peers. Vocational schools sample also has the lowest average age of the first cigarette and the highest number of cigarettes smoked per day.

The results of the frequency questionnaire are not the best. Although most of the adolescent females chose the milk consumption frequency 2–3 times a week (25.8 %), almost 38 % adolescent females declared the frequency equal or lower than once a week. On the opposite a very frequently eaten milk product is processed cheese. 35.1 % adolescent females consume them 2–3 times a week. This frequency has to be considered very high because of the high percentage of phosphorus in the processed cheese, which contributes to the inadvisable proportion of calcium:phosphorus. It would be advisable to reduce the intake of processed cheese and replace it with the hard cheese. The whole quarter of adolescent females consume cola beverages more than once a week, which is not insignificant. Quite a high percentage of adolescent females – 10.9 % – declared that they drink coffee mit caffeine 2–3 times a day. That is with respect to the age structure quite a lot. It can be caused by frequent placing of beverage vending machines in the school buildings.

The results of the 24-hour recall are not satisfactory. The average intake of calcium 757 ± 367 mg/day (SD) is low below the recommended dose. Almost 40 % adolescent females' intake was lower than 600 mg/day. The proportion calcium: phosphorus should be 1.3:1 for the optimal bone health and up to 2:1 in case of a bad calcium absorption (Dostálová, 2005). The real proportion found out is rather opposite, namely 1:1.65, which makes the situation even worse. The average intake of sodium was 3,556 mg a day which is about 3.5 g. The average intake of sodium should not exceed 2.4 g a day. The higher intake of sodium increases calciuria dramatically and thus restrains the calcium availability.

Adolescent females do not consider osteoporosis as a disease that threatens them currently, therefore their knowledge and attitudes do not correspond to their right behaviour. In this project as well as in the Canadian project there was found a dependency between the knowledge about smoking and smoking itself (Anderson, 2005). As a matter of fact, the adolescent females who know that smoking can damage their health and bones don't smoke more likely than adolescent females who do not know that. The improvement of their knowledge could therefore contribute to a reduction of the number of young smokers or to the stopping of the upward trend.

Conclusions

The knowledge about physical activity and smoking in relation to the bone health is quite good. The level of knowledge about nutrition is not very good.

The level of the knowledge about physical activity among older adolescent females (age 17–19) is statistically significantly higher than among the younger adolescent females (age 14–16). In the areas of nutrition and smoking the level of knowledge is slightly higher among younger adolescent females.

The level of knowledge about smoking is slightly higher among adolescent females than males. However, the level of knowledge about physical activity and nutrition is slightly higher among adolescent males.

Adolescent females from the grammar school have a higher level of knowledge than adolescent females from the vocational school, especially in the area of physical activity, but also in the area of nutrition and smoking.

Adolescent females' attitudes to risk factors of osteoporosis are favourable in the area of physical activity and nutrition. Attitudes in the area of smoking are rather adverse.

About a quarter of adolescent females smoke. More adolescent females smoke at the vocational school than at the grammar school and primary school.

The physical activity is not on a very good level with respect to the age of the respondents. However, it can be considered positive that over a half of the adolescent females do sports regularly, most of them twice a week.

The nutrition behaviour of adolescent females is unsatisfactory. Their vitamin D intake is low, they have a high intake of sodium and the proportions of calcium:phosphorus and calcium:proteins are unfavourable.

No dependency was found between the adolescent females' physical activity knowledge and their real physical activity.

No dependency was found between the adolescent females' nutrition knowledge and their real nutrition behaviour, specifically their calcium intake.

A clear dependence was found between the adolescent females' smoking knowledge and their smoking.

With regard to the conclusions mentioned above it is desirable to improve adolescent females' knowledge through a suitable intervention programme. The knowledge improvement is needed especially in the area of nutrition risk factors of osteoporosis, but also in the other areas. Adolescent females need to comprehend that osteoporosis is not just a problem of their mothers and grandmothers but that they should and can prevent it right at their age. It would be appropriate to instruct adolescent females about the importance of nutrition in the osteoporosis prevention, and inform them about other calcium sources than just milk products to contribute to food variety in their diet. However, it is desirable to increase the milk and milk products consumption as well. It is also necessary to focus on the instruction of adolescent females about the harmful effect of smoking to bone tissue. Adolescent females should be encouraged to do sports regularly and be instructed about the best kind of physical activity regarding osteoporosis prevention. These conclusions will be exploited in the intervention programme which will follow this project and whose goal it will be to promote the right practices for osteoporosis prevention.

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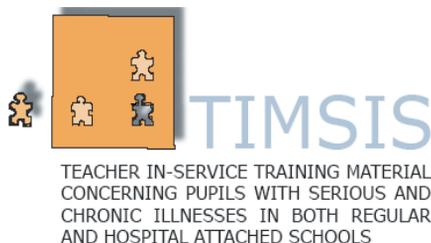
RIZIKOVÉ FAKTORY OSTEOPORÓZY – ZNALOSTI A CHOVÁNÍ DOSPÍVAJÍCÍCH DÍVEK

Souhrn: Osteoporóza je závažné metabolické onemocnění projevující se ve vyšším věku nejčastěji tzv. osteoporotickými zlomeninami, což jsou hlavní morbidity a invalidity starších lidí. Postihuje především ženy, ale není vzácné ani u mužů. Nejefektivnější je prevence tohoto onemocnění v dětském věku a v době dospívání, kdy si organismus vytváří největší zásoby vápníku. Práce zjišťuje dotazníkovou metodou znalosti, postoje a chování dospívajících dívek ve věku 14–19 let týkající se rizikových faktorů osteoporózy, konkrétně fyzické aktivity, kouření a výživy a zaznamenává rozdíly znalostí v závislosti na věku a typu školy. V oblasti výživy stanovuje průměrný příjem nutrientů, které mají vztah ke kostnímu zdraví (vápník, fosfor, vitamin D, bílkoviny a sodík). Budoucím cílem této práce je intervenční program na podporu takového chování, které bude v souladu se zdravým životním stylem podporujícím vývoj kostí a udržení svalové hmoty.

Klíčová slova: dospívající dívky, osteoporóza, rizikové faktory, znalosti, pohybová aktivita, příjem vápníku, kouření

QUESTIONS ABOUT EDUCATION OF PUPILS SUFFERING FROM CHRONIC DISEASE OR ANOTHER GRAVE ILLNESS FROM THE PARENTS' POINT OF VIEW– INTERNATIONAL PROJECT TIMSIS

Dana ZÁMEČNÍKOVÁ, Petr KACHLÍK, Ilka VAĎUROVÁ



Abstract: *A child suffering from grave illness or chronic disease presents not only a significant medical but also educational and pedagogical problem. International project TIMSIS maps parents' and teachers' opinions and needs in several European countries by means of a questionnaire survey. The results show that as far as parents are concerned, it is essential to be informed in a suitable and right way about the essence of their child's disease, about its complications, therapy, and resolving of critical stages. Parents should also communicate with the teacher; let him/her know about the nature of the disease, options of integration in the class, restrictions in the instruction. The parents have encountered the side effects of drugs, the impact on their child's psyche, and the influence on everyday life. From the parents' point of view, the most important person at school is the class-teacher, who should be provided with most information on the disease of the pupil, and should inform the other pupils to an adequate extent.*

Key words: *children, parents, teachers, school, hospital, disease, questionnaire, help, TIMSIS, project*

Introduction

Project TIMSIS (Teacher In-Service Training Material Concerning Pupils with Serious and Chronic Illnesses in Both Regular and Hospital-attached Schools)

The project is aimed at a creation of educational materials related to the issues of pupils with special educational needs, and especially at the group of children with chronic diseases. TIMSIS addresses teachers, who deal with the issues of re-integration of children and adolescents suffering from serious and/or chronic diseases (like tumours, epilepsy, diabetes, cystic fibrosis, ADHD, and food intake disorders) back to their regular schools.

Children with chronic or other serious illness have to face a number of difficulties – especially mental and physical strain. There are problems related to the oft-repeated absence of pupils from school, their living off from the normal school environment, difficulties related with their re-integration back to the regular school, problems in the family, and many others. This fact quite naturally means a substantial obstacle to their schooling.

Although many difficulties related to illness cannot be averted, the consequences of their impact on a child with a lingering disease can be mitigated. A number of negatives may be prevented, and it is possible to get prepared for the return of the pupil back to the educational process. After the completion of their therapy pupils return back to their regular schools; it is necessary to interface the components of pedagogical, psychological, and social working on the pupil. Last not least it is necessary to provide information on the issues of the chronic disease to all concerned.

The project is mainly focused on the following diseases:

- Tumoral diseases;
- Diabetes;
- Bronchial asthma;
- Cystic fibrosis;
- Food intake disorders;
- ADHD;
- Epilepsy.

Partners of the project

The TIMSIS project is implemented under the auspices of the EU, within the Socrates/Comenius programme. The partners include universities and hospital-attached schools of the participating countries:

- Czech Republic (MU, Faculty of Education, Department of Special Pedagogy, Basic School attached to the Faculty Hospital in Brno, 9 Černopolní Street);
- Finland (University of Helsinki, Department of Teacher Education);
- Norway (Oslo University College, Hospital School in Oslo);
- Germany (Ludwigsburg University of Education, Institute of Educational Science, Hospital school at the Olghospital);
- Hungary (Mosdós Hospital School);
- Russia (associate partner – State University of Education, Samara).

Main activities of the project

- Report on the situation in the participating countries, comparative analysis – contrasts and changes, exchange of experience;
- International survey of the needs of teachers and parents of children suffering from chronic diseases – what kind of information do they need, with what problems they struggle;
- Creation of supportive, counselling, and information materials in multimedia format (WWW, CD-ROM, DVD, video...);
- Testing, evaluation, and distribution of the developed materials.

The goal of the project

The main goal of the TIMSIS project is to develop information, educational, and other supportive materials for education and further education of teachers with an aim to support the re-integration process and the chronically ill children care. The created materials are primarily designed for the teachers of regular schools. Through their mediation advice as to how to help children/pupils to achieve the best possible falling in back to the collective of their peers is provided to other teachers.

Material and methodology

Target groups

The future materials and concepts are primarily designed for the teachers of regular schools. Another target group includes teachers at hospital-attached schools, especially because of improving the cooperation between their establishments and the regular schools. Subsidiary target groups are the ill children themselves and their parents.

Expected outputs

- Mapping out of the current situation in the sphere of education of chronically ill children;
- International research related to the needs of teachers and parents of the diseased children regarding the required information and advice;
- Development of modular courses in a multimedia form;
- Production of didactic materials and teaching materials (especially on CD-ROM and the Internet);
- Publication of the results.

The project is focused at a group of children/pupils suffering from chronic diseases. The care of this group necessitates cooperation of regular school teachers, hospital teachers, and last but not least also the parents. At present, however, there is a lack of materials and possibilities of a further education of the educational workers in this sphere.

re. The specificity of the project rests not only in enhancing of the competencies of the target groups, but also in upgrading of these issues by materials capable of a practical utilization. A part of the project also is an international research aimed at ascertaining of the real needs of the diseased children teachers and parents.

Questioning has been performed in all countries participating in the TIMSIS project (CR, Finland, Norway, Germany, Hungary, and Russia). This paper provides information on the results of questioning of parents with children suffering from chronic and/or grave illness.

Implementation of the questionnaire survey was carried out in several steps:

- Defining of goals;
- Creation of questionnaires (version for parents, version for teachers);
- A pilot study;
- Collection of data;
- Processing of the acquired details;
- Analysis of the outcomes and their completion;
- Publication of the ascertained information.

Implementation of the research survey has been divided into several stages; the first one was focused on the creation of the questionnaires. The main stumbling block was the lucidity of the questionnaires in all the original languages of the partners to the project. Consequently, after the creation of both versions, a pilot study has followed. After this the final versions of the questionnaire were created in English to be translated into national languages later on.

Creation of the questionnaires

Two different original questionnaires have been created, one designed for the parents of children suffering from chronic diseases, the other for the teachers of the diseased pupils. The goal has been to identify the real needs and problems both the teachers and the parents struggle with in the sphere of care, support, and education of pupils suffering from chronic or another grave illness, based on the implemented survey. Because of the scope of the research project and the problem, in this paper we have only presented the overview of the results acquired from questioning focused on ascertaining of the needs of the teachers of pupils suffering from chronic or another grave disease. The representative research survey itself was preceded by a pilot study. Table one provides an idea about the size of the questioned sample.

Each questionnaire has mapped out several specific fields. The parent questionnaire has observed the following:

- Who should be provided information on the disease of the child;
- From the point of view of the parent, which information is important for the class-teacher, and which for the classmates;
- Experience of the parents with the special needs of the diseased pupil.

The results of the research survey have played a key role in the implementation of the outputs of the project, especially in the creation of web materials for the teachers and parents of the diseased pupils/children.

Table 1: Numbers of the questioned teachers in the individual countries

Questionnaire for parents	All countries	Czech Republic	Finland	Germany	Hungary	Norway	Russia
N	243	50	56	30	51	32	24

Results of questioning of parents with children suffering from chronic or grave diseases

The results of international questioning of parents with children suffering from diseases are presented in tabular form with stated relative percent occurrences (%). The parents have reacted to each question by selecting a position ranging from 1 to 5, whilst 1 has represented the perception of the problem as the least substantial, 5 conversely as the most substantial.

Table 2: Answers to the question *From your point of view, how important it is to provide an information on the disease of your child to the class-teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	19.8	6.0	0.0	0.0	3.9	0.0	0.0
2	4.1	2.0	0.0	1.8	0.0	0.0	8.7
3	1.2	2.0	0.0	1.8	0.0	3.1	0.0
4	6.6	20.0	3.3	5.4	0.0	3.1	4.3
5 max	68.2	70.0	96.7	91.1	96.1	93.8	87.0

Table 3: Answers to the question *From your point of view, how important it is to provide an information on the disease of your child to the other teachers?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	18.6	15.2	0.0	1.8	23.5	0.0	13.0
2	12.2	10.9	6.7	0.0	0.0	3.1	13.0
3	12.7	26.1	23.3	7.3	0.0	18.8	4.3
4	16.5	19.6	43.3	10.9	0.0	21.9	17.4
5 max	40.1	28.3	26.7	80.0	76.2	56.3	52.2

Table 4: Answers to the question *From your point of view, how important it is to provide an information on the disease of your child to his/her classmates?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	22.5	16.3	3.3	5.5	27.5	3.1	47.8
2	17.1	20.4	3.3	7.3	0.0	0.0	21.7
3	16.7	30.6	23.3	16.4	0.0	9.4	26.1
4	11.7	18.4	16.7	12.7	0.0	21.9	0.0
5 max	32.1	14.3	53.3	58.2	72.5	65.6	4.3

Table 5: Answers to the question *From your point of view, how important it is to provide an information on the disease of your child to the other pupils at school?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	20.9	30.4	23.3	5.6	76.5	10.0	60.9
2	34.6	32.6	50.0	5.6	0.0	6.7	13.0
3	17.1	26.1	23.3	22.2	0.0	26.7	4.3
4	11.1	8.7	3.3	18.5	0.0	26.7	13.0
5 max	16.2	2.2	0.0	48.1	23.5	30.0	8.7

According to the parents the information on the disease of their child should be provided both to the class-teacher and to the other teachers (Tab. 2-5). The classmates and the other friends of the pupil should be informed as well, although the relative frequency of this answer was lower with this question (especially according to the opinion of the parents from the Czech Republic, Finland, and Russia). It may be assumed that also the form and the extent of the communicated information should be different. It ensues from the results that the “best informed” person at school should be the class-teacher of the pupil. It is exactly the information communicated by the parents and important for the class-teacher at which the further part of the questionnaire has focused.

Table 6: Answers to the question *From the parents’ point of view, how important are the basic information on the character of their child’s disease for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	3.3	2.0	0.0	0.0	11.8	0.0	4.3
2	1.7	6.0	0.0	0.0	0.0	0.0	4.3
3	5.0	10.0	0.0	7.1	0.0	3.2	8.7
4	9.5	14.0	10.0	14.3	0.0	9.7	8.7
5 max	80.5	68.0	90.0	78.6	88.2	87.1	73.9

Table 7: Answers to the question *From the parents' point of view, how important are the basic information on the medicines and the drug regimen of the child suffering from a disease for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	13.7	24.0	3.3	1.8	33.3	0.0	8.7
2	6.2	12.0	10.0	7.1	0.0	3.2	4.3
3	15.4	28.0	13.3	23.2	0.0	6.5	17.4
4	17.4	18.0	20.0	25.0	0.0	19.4	30.4
5 max	47.3	18.0	53.3	42.9	66.7	71.0	39.1

Table 8: Answers to the question *From the parents' point of view, how important are the basic information on the possible side effects of the medicines for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	18.8	14.3	0.0	3.6	66.7	0.0	8.7
2	2.5	4.1	6.7	1.8	0.0	0.0	4.3
3	15.1	24.5	10.0	20.0	0.0	9.7	30.4
4	16.7	22.4	26.7	21.8	0.0	16.1	17.4
5 max	46.9	34.7	56.7	52.7	33.3	74.2	39.1

Table 9: Answers to the question *From the parents' point of view, how important are the basic information on the psychic reaction of their child to his/her disease for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	14.6	8.2	0.0	0.0	60.8	0.0	0.0
2	2.1	6.1	0.0	1.8	0.0	3.2	0.0
3	9.2	10.2	20.0	12.5	0.0	6.5	8.7
4	17.9	24.5	26.7	25.0	0.0	12.9	21.7
5 max	56.3	51.0	53.3	60.7	39.2	77.4	69.6

Table 10: Answers to the question *From the parents' point of view, how important are the basic information on the influence of their child's disease on the structure of the day for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	19.9	12.2	0.0	1.8	72.5	3.1	13.0
2	1.2	2.0	0.0	1.8	0.0	0.0	4.3
3	8.3	16.3	0.0	8.9	0.0	3.1	26.1
4	19.1	24.5	23.3	26.8	0.0	21.9	21.7
5 max	51.5	44.9	76.7	60.7	27.5	71.9	34.8

Table 11: Answers to the question *From the parents' point of view, how important are the basic information on when/how often does their child go to see the physician/to the hospital for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	15.5	8.2	3.3	7.4	49.0	0.0	13.0
2	6.3	8.2	3.3	13.0	0.0	3.1	8.7
3	15.9	22.4	16.7	22.2	0.0	21.9	13.0
4	15.1	10.2	26.7	20.4	0.0	12.5	34.8
5 max	47.3	51.0	50.0	37.0	51.0	62.5	30.4

Table 12: Answers to the question *From the parents' point of view, how important are the basic information on the adaptation of the instruction/timetable of the child for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	20.1	12.5	0.0	3.6	72.5	6.3	4.3
2	2.5	0.0	0.0	10.9	0.0	0.0	0.0
3	15.1	18.8	6.7	21.8	0.0	21.9	26.1
4	18.4	16.7	26.7	29.1	0.0	15.6	30.4
5 max	43.9	52.1	66.7	34.5	27.5	56.3	39.1

Table 13: Answers to the question *From the parents' point of view, how important are the basic information on the recognition of the symptoms of the disease and the right reaction to them for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	6.3	10.0	0.0	0.0	17.6	0.0	4.3
2	1.7	2.0	0.0	3.7	0.0	0.0	4.3
3	5.4	12.0	3.3	3.7	0.0	12.9	0.0
4	12.6	10.0	16.7	18.5	0.0	16.1	21.7
5 max	73.6	66.0	80.0	72.2	82.4	71.0	69.6

Table 14: Answers to the question *From the parents' point of view, how important are the basic information on a reaction in the case of their child's sudden health complications for the teacher?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	8.0	8.2	0.0	0.0	27.5	0.0	4.3
2	1.7	2.0	0.0	1.9	0.0	3.3	4.3
3	3.8	8.2	0.0	5.6	0.0	3.3	4.3
4	8.0	10.2	6.7	11.1	0.0	13.3	8.7
5 max	78.1	71.4	93.3	79.6	72.5	80.0	78.3

All the above mentioned information (Tab. 6–14) are important for the teacher from the viewpoint of the parent of the pupil suffering from a disease. It ensues from this that the teacher should be properly informed about the pupil’s disease itself, his/her therapeutic regimen, possible side effects of medicines (lower frequency of answers by the parents from Hungary). From the point of view of the parents it is very important to inform the teacher about the impact of the disease on the psyche of the child, distinguishing of the symptoms of the disease, and the ways to react on emergency situations (occurrence of sudden health complications). The disease and its treatment usually have an impact on the structure of the child’s day, and according to the parents’ opinion the teacher should be informed about this as well. The significance of the given items has been acknowledged by two thirds of the questioned parents.

Table 15: Answers to the question *From the parents’ point of view, how important are the basic information on their child’s disease for the classmates and the other pupils at school?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	10.9	18.4	6.7	1.8	15.7	0.0	34.8
2	4.2	12.2	3.3	3.6	0.0	3.2	0.0
3	16.7	18.4	33.3	23.6	0.0	12.9	17.4
4	10.5	14.3	3.3	12.7	0.0	19.4	17.4
5 max	57.7	36.7	53.3	58.2	84.3	64.5	30.4

Table 16: Answers to the question *From the parents’ point of view, how important are the information on their child’s treatment in the hospital/at the physician for the classmates and the other pupils at school?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	36.6	39.6	13.3	14.5	84.3	16.1	34.8
2	9.7	12.5	20.0	18.2	0.0	3.2	0.0
3	25.6	35.4	50.0	25.5	0.0	38.7	13.0
4	11.8	0.4	6.7	23.6	0.0	16.1	13.0
5 max	16.4	2.1	10.0	18.2	15.7	25.8	39.1

Table 17: Answers to the question *From the parents’ point of view, how important are the information on their child’s disease impact on everyday life and free time for the classmates and the other pupils at school?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	13.8	20.0	3.3	3.6	35.3	3.2	4.3
2	10.4	18.0	16.7	16.4	0.0	0.0	8.7
3	22.1	34.0	30.0	32.7	0.0	19.4	13.0
4	16.3	14.0	30.0	18.2	0.0	25.8	21.7
5 max	37.5	14.0	20.0	29.1	64.7	51.6	52.2

Table 18: Answers to the question *From the parents' point of view, how important are the information on the right behaviour in case of an emergency situation for the classmates and the other pupils at school?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	11.4	10.0	6.7	5.5	25.5	0.0	20.0
2	5.5	4.0	6.7	7.3	0.0	3.2	20.0
3	14.3	26.0	23.3	14.5	0.0	6.5	20.0
4	9.3	14.0	16.7	12.7	0.0	9.7	0.0
5 max	59.5	46.0	46.7	60.0	74.5	80.6	40.0

This section of the questionnaire (Tab. 15–18) was focused at ascertaining of the parent attitude to the information, which should be provided to the classmates and the other friends of the diseased child. It ensues from the outcomes that according to the respondent viewpoint the pupils should be informed about the basic characteristic of the illness. The parents in Russia think that classmates should know about what is happening at the physician; the parents in the Czech Republic are of an opposite opinion and consider this information unessential. Contrary to that, they have expressed consent to the information on the impact of the illness on the everyday life of the classmate. A high percentage of the parents agree to the necessity of informing the classmates about the first aid in case of an emergency situation.

Table 19: Answers to the question *Did/does your child have problems in the sphere of social relations in the class?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	50.2	37.5	33.3	56.4	65.9	68.8	27.3
2	12.1	12.5	20.0	7.3	18.2	9.4	4.5
3	19.0	29.2	23.3	10.9	11.4	15.6	31.8
4	9.5	12.5	10.0	16.4	2.3	0.0	13.6
5 max	9.1	8.3	13.3	9.1	2.3	6.3	22.7

Table 20: Answers to the question *Do you have your own experience that your child did/does not want to go to school?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	54.4	35.4	36.7	71.4	72.5	56.3	40.9
2	12.7	18.8	20.0	7.1	10.0	9.4	13.6
3	15.4	14.6	20.0	16.1	7.5	18.8	18.2
4	10.1	20.8	13.3	3.6	5.0	9.4	9.1
5 max	7.5%	10.4%	10.0%	1.8%	5.0%	6.3%	18.2%

Table 21: Answers to the question *Does your child lag behind in any subjects because of his/her illness?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	37.4	27.1	10.0	47.3	51.2	40.6	40.9
2	16.5	8.3	23.3	9.1	20.9	31.3	13.6
3	21.7	33.3	20.0	21.8	16.3	18.8	13.6
4	13.0	14.6	26.7	10.9	4.7	3.1	27.3
5 max	11.3	16.7	20.0	10.9	7.0	6.3	4.5

Table 22: Answers to the question *Does your child have a lower self-esteem because of his/her illness?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	37.4	29.2	23.3	37.7	45.2	53.1	36.4
2	16.7	25.0	13.3	7.5	19.0	21.9	13.6
3	22.0	16.7	43.3	28.3	21.4	3.1	18.2
4	16.3	20.8	13.3	18.9	9.5	18.8	13.6
5 max	7.5	8.3	6.7	7.5	4.8	3.1	18.2

Table 23: Answers to the question *Was/is your child emotionally imbalanced because of his/her illness?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	33.3	31.9	30.0	21.8	46.7	40.6	31.8
2	16.0	14.9	10.0	20.0	13.3	21.9	13.6
3	23.4	34.0	26.7	20.0	17.8	18.8	22.7
4	14.3	10.6	10.0	14.5	20.0	9.4	9.1
5 max	13.0	8.5	13.3	23.6	2.2	9.4	22.7

Table 24: Answers to the question *Did/does your child personally experience side effects of drugs?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	37.9	32.7	10.0	33.9	47.6	50.0	13.6
2	13.8	16.3	23.3	21.4	19.0	9.4	13.6
3	12.9	14.3	26.7	10.7	23.8	18.8	18.2
4	15.8	20.4	23.3	14.3	4.8	15.6	36.4
5 max	19.6	16.3	16.7	19.6	4.8	6.3	18.2

Table 25: Answers to the question *Did/does your child's illness necessitate an adaptation of his/her daily regime (physiotherapy, sleep, diet, school instruction ...)?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	30.2	20.9	23.3	32.7	39.5	43.8	13.6
2	9.3	14.0	16.7	7.3	14.0	0.0	0.0
3	14.2	23.3	16.7	18.2	9.3	3.1	9.1
4	14.7	11.6	13.3	10.9	14.0	18.8	27.3
5 max	31.6	30.2	30.0	30.9	23.3	34.4	50.0

Table 26: Answers to the question *Is your child in need of special hygienic measures?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	41.3	41.7	26.7	45.5	63.2	31.3	27.3
2	13.3	12.5	36.7	10.9	10.5	6.3	4.5
3	16.9	18.8	13.3	7.3	21.1	15.6	36.4
4	8.9	8.3	6.7	14.5	2.6	6.3	13.6
5 max	19.6	18.8	16.7	21.8	2.6	40.6	18.2

Table 27: Answers to the question *Is your diseased child provided with the same care as his/her peers?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	26.7	21.3	6.7	34.5	44.4	12.5	38.1
2	13.1	10.6	6.7	29.1	5.6	6.3	9.5
3	17.2	14.9	16.7	18.2	22.2	12.5	19.0
4	12.7	19.1	23.3	3.6	11.1	12.5	9.5
5 max	30.3	34.0	46.7	14.5	16.7	56.3	23.8

Table 28: Answers to the question *Were the teachers at school willing to cooperate?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	8.7	6.1	3.3	3.6	11.4	6.9	31.8
2	6.5	8.2	3.3	3.6	9.1	6.9	9.1
3	13.5	10.2	20.0	12.5	15.9	6.9	18.2
4	16.5	18.4	23.3	17.9	15.9	6.9	13.6
5 max	54.8	57.1	50.0	62.5	47.7	72.4	27.3

The above part of the questionnaire (Tab. 19–28) was focused at the specific needs of the defined group of pupils at school. Less than 20 % of parents have observed difficulties in the sphere of social integration of their diseased child. In Finland, Russia, and Germany the relative frequency was higher. There was no massive observation by the parents that their children would refuse to go to school (out of the mentioned countries this problem has been ascertained in the Czech Republic, Russia, and also in Finland more often). The parents have also stated that their children “lagged behind” at school because of their illness; this problem has been most often presented by the questioned parents in Finland and in the Czech Republic. The parents also have experience with lower self-esteem of their children together with problems in emotional sphere.

The issues of side effects of drugs were especially highlighted by the parents in Hungary. The parents in all countries have encountered the necessity to adapt the daily regime of their children and to take certain measures of hygienic character. The positive outcomes are the finding of the parents that their diseased children have received the same approach as their peers, and the fact that teachers were willing to cooperate with the families.

Table 29: Answers to the question *How intense is your experience with the cooperation between the hospital-attached school and the regular school of your child?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	36.6	20.0	34.5	39.3	32.7	45.2	65.2
2	7.1	16.0	13.8	1.8	0.0	6.5	8.7
3	15.1	22.0	20.7	21.4	0.0	12.9	13.0
4	10.5	16.0	20.7	12.5	0.0	9.7	4.3
5 max	29.8	26.0	10.3	25.0	67.3	19.4	8.7

Table 30: Answers to the question *From your point of view, how important is a further assistance of the hospital-attached school provided to the regular school of your child?*

Position on the scale	All countries (%)	Czech Republic (%)	Finland (%)	Germany (%)	Hungary (%)	Norway (%)	Russia (%)
1 min	7.2	6.0	3.4	5.6	4.0	12.9	17.4
2	2.1	4.0	0.0	3.7	0.0	0.0	4.3
3	15.6	30.0	13.8	11.1	0.0	12.9	34.8
4	15.2	28.0	27.6	14.8	0.0	12.9	8.7
5 max	59.9	32.0	55.2	64.8	96.0	61.3	34.8

The experience with the cooperation between the hospital-attached school and the regular school (Tab. 29) was acknowledged by more than 40 % of the questioned parents; the lowest frequency of positive answers has occurred among the parents in Russia. According to most of the parents the assistance of the hospital-attached school remains important even later on (Tab. 30). It follows from these answers that the necessary cooperation of the regular schools (teachers) and the hospital-attached schools has to be highlighted.

Conclusion

The outputs (materials for the target groups) of the TIMSIS project should correspond with the results of the questionnaire surveys among parents and teachers of the diseased pupils. As has been stated, it is important to provide information to the teachers, especially the class-teachers. A reasonable amount of information is based on a good cooperation of the parents and the teachers. It emerged from the survey that information is necessary also for the other teachers as well as the classmates of the child suffering from a disease. It is therefore necessary to focus the future projects also on the questions as to how and to what extent should information be provided.

By some teachers it is especially the information provided to the classmates that may be regarded as problematic. It is obviously important as well that the teacher receives all essential data related to the disease of the child from the parents. Many times this is a “new” situation for both the parents and the teachers themselves, who have not been trained for it. For this reason it is necessary to prepare for the conversation with the parents, to think over the possible questions. As parents have stated, they have faced the side effects of drugs/treatment, the impact of the disease on the child’s psyche; many times the disease influences the everyday life of the child.

The goal of the entire process is the possibility to respect individual needs of the child and the facilitation of his/her re-integration back to the regular school that may also be aided by the cooperation with the hospital-attached school.

From the point of view of the parents the most important person at school is the class-teacher who should also be the one to acquire most information on the pupil’s disease. The teacher should also inform the classmates.

The class-teacher should be provided with the following information:

- Basic information on the disease;
- Information on the medication/treatment and the possible side effects;
- Information on the impact of the disease on the child's psyche;
- Influence of the disease on the structure of the day;
- Frequency of appointments with the doctor;
- Information on the possible adaptation of the timetable to the needs of the pupil;
- Discerning of the symptoms and providing of help in emergency situations.

The classmates should be provided with the following information:

- Basic information on the disease;
- Influence of the disease on the everyday life of the child;
- The right reaction in case of a sudden deterioration of the health state.

The parents have experience with the following problematic situations:

- Side effects of drugs;
- The necessity of adaptation of the daily regime, acceptance of hygienic measures.

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OTÁZKY EDUKACE ŽÁKŮ S CHRONICKÝM ČI JINÝM ZÁVAŽNÝM ONEMOCNĚNÍM Z POHLEDU RODIČŮ - MEZINÁRODNÍ PROJEKT TIMSIS

Souhrn: Dítě trpící závažným či chronicky probíhajícím onemocněním představuje nejen významný medicínský, ale též výchovný a pedagogický problém. Mezinárodní projekt TIMSIS mapuje názory a potřeby rodičů a pedagogů v několika evropských

zemích pomocí dotazníkového šetření. Výsledky ukazují, že je velmi důležitá vhodná a správná informovanost rodičů o podstatě choroby dítěte, jejích komplikacích, terapii a řešení krizových stavů. Rodiče by měli též komunikovat s pedagogem, uvědomit ho o povaze onemocnění jejich dítěte, o možnostech integrace ve třídě, o omezeních při výuce. Rodiče se setkali s vedlejšími účinky léků, s dopadem nemoci na psychiku dítěte a s ovlivněním každodenního života dítěte. Z pohledu rodičů je nejdůležitější osobou ve škole třídní učitel, který by měl rovněž mít o nemoci žáka nejvíce informací a v přiměřené míře informovat spolužáky.

Klíčová slova: děti, rodiče, učitelé, škola, nemocnice, onemocnění, dotazník, pomoc, TIMSIS, projekt

DIABETIC PUPIL IN CLASS – HANDBOOK FOR ELEMENTARY SCHOOL TEACHERS

Marie HAVELKOVÁ, Petr KACHLÍK, Hana HÁJKOVÁ

Abstract: *The frequency of Diabetes mellitus has sharply increased recently. Consequently, there is a high probability that teacher meets a diabetic pupil in the class. The questionnaires were distributed among teachers from selected elementary schools. The questions were put to find out what kind of knowledge teachers have about this disease. The aim of this task was to learn about the teachers' ability of helping the pupil who fell into a diabetic coma or who has a more common complication connected to this disease. The questionnaire replies showed that teachers would welcome a short information handbook with reference to the actual situation of a diabetic pupil in the class. On the basis of these requests the handbook was written. It explains teachers the everyday reality that the diabetic child has to cope with. The aim of the information is to get teachers know how to react to possible urgent complications and how to involve the child in school activities.*

Keywords: *diabetes mellitus, pupil, elementary school, teacher, study, questionnaire, handbook*

Introduction

Diabetes mellitus is still an incurable illness threatening children and adolescents. Diabetes is often considered by public as an illness of elderly generation that in most cases can be cured by diet or by a combination of diet and medicaments. Diabetes in children, however, is a totally different illness, the cause and the course of the illness differ and the child is permanently obliged to receive insulin in injections. In the republic there are about 2,000 children who have to cope with the illness and learn how to live with it. A very important role is thus played by the education both of the patient and particularly of the family and school. If the closest family members are not informed properly and in time about possible complications, they cannot help correctly and in time and might endanger the life of the diabetic or damage his life heavily. The essential goal of the patient becomes a lifelong compensation of diabetes because incorrectly cured diabetes leads to later chronic complications (Kopecký, 1986; Vavřinec, 1995; Vávrová, 2002).

Almost every eighth teacher has a pupil with diabetes in his class in these days and in future the problems with diabetes will be more urgent. Even if the knowledge of teachers has improved in recent 20 years, there is an endeavour of diabetes therapists to implement the issues of chronically ill children into the curriculum of undergraduate teaching program in faculties of education (Podroužková, 1994; Michaličková, 1996; Hlavicová, 2002).

The fundamental and the causes of the disorder

“Even if today diabetes mellitus is usually rated among so-called civilisation illnesses, in fact it belongs among the oldest illnesses known by mankind” (Švejnoha, 1998: 5).

Diabetes mellitus forms a non-homogeneous group of disorders of various aetiology, a common denominator of which is hyperglycaemia – an increase level of sugar in blood, and in its effect glycosuria – finding sugar in urine. This disorder is conditioned by an absolute or a relative shortage of insulin and its decreased effectiveness, and is contributed by a complex failure of metabolism of sugars, lipids, and proteins (Středa, 1985; Rybka, 1985, 1988; Blaha; 1999; Anděl, 2001).

Diabetes mellitus Type I (IDDM – insulin dependent diabetes)

The disorder is due to the impact of a selective destruction of Beta cells leading to an absolute shortage of insulin and to life dependence on its exogenous administration.

- a) Immunity conditioned diabetes – distraction of Beta cells occurs on the basis of a cell autoimmune process that runs in genetically predisposed persons. The autoimmune process can proceed slowly with a gradual loss of Beta cells. That is the reason why at the beginning the symptoms of ketoacidosis can be missing and the disorder can appear as DM type I. DM type I can appear in any age. The presence of obesity does not prevent the diagnosis of DM type I.
- b) Idiopathic diabetes mellitus type I – its aetiology is not known. Clinically the ill persons are totally dependent on the intake of exogenous insulin, they tend to ketoacidosis, there are no detectable marks of auto-immunity.

Aetiopathogenesis of diabetes type I

“In generating diabetes, genetic factor participate in combination with external influence.” (Brázdová a kol., 2000: 27). The cause of generating diabetes type I is a congenital deviation of the organism defence ability, immunity system, which can come out after a stimulation of an inductive factor, which can be various infections, chemicals, stress, etc. The inductive factor activates T-lymphocytes that with their cytotoxic impact destroy the Beta cells of pancreas.

Gradually comes to a formation of directed against the own tissue. This process can be in progress for several weeks but also for many years and is denoted as an autoimmune destruction of Beta cells of pancreas. “ The auto immune destruction can also strike cells of other organs, e.g. thyroid gland, pituitary, blood vessels, etc.”(Brázdová et al., 2000: 28).

Presence of diabetes in population (according to Lebl at al., 1998)

Diabetes type I falls upon one of two thousand children and adolescents up to 18 years (in the Czech republic more than 1800 children and adolescents totally). Diabetes type II falls upon almost every the twentieth person. In CR there are half a million people who do not know about their disorder yet. While diabetes type I usually manifests suddenly and its symptoms cannot be overlooked, the diabetes type II can be found out by chance and the disorder need not make any troubles for a long time.

In the occurrence of the diabetes type I there are big differences between the regions. The highest presence is in northern countries (Finland, Scotland, Sweden) and the lowest presence in the southern ones (Japan, France). Other influential factors are different life conditions and environment, migration and genetic dispositions.

The risk of the diabetes type I genesis (*according to Brázdová, et al., 2000*) in common population is 0.4 %. If mother suffers with the illness, then the child is endangered in 3 %, if the father is ill, then the danger is 8 % and if both parents are ill, then the transfer risk is 30 %.

Methodological notes

The goal of the pilot investigation was mapping the amount of information of pupils on the diabetes type I, their reactions and possibilities of helping an ill person. Another goal was to design a methodological handbook for teachers who have diabetic pupils.

The information from pupils was collected by means of an anonymous non-standardised questionnaire of 10 items, 6 of them were of close-choice character, 1 half-closed and 3 answers were open. The questions were focused at the information sources on diabetes, at the causes and symptoms of diabetes and at the first aid actions.

The data were collected in two randomly chosen elementary schools in Brno region. Pupils in 5 classes of 8th and 9th grades were questioned. The investigation was performed during May 2006 with the participation of 109 responders, 55 girls (50.5%) and 54 boys (49.5%). Their average age was 14,32 years \pm 0.67 years.

The data were processed by the help of EpiInfo programs (Dean a kol., 1994–2004) and Statistica for Windows (*StatSoft Inc.*, 2000–2005). Test χ^2 was used in the bi-variation analysis.

Results of the pilot investigation

The results were presented in a table form (absolute and relative numbers/frequency) and a commentary in words. A sum of 109 pupils filled in the questionnaire. The set consisted of 55 girls (50.5 %) and 54 boys (49.5 %).

Table 1: Survey of answering the question "Who was the first to tell you about the illness called "diabetes"?"

Answers	Absolute number(n)	Relative number (%)
Teacher	35	32,1
Parents	58	53,2
Schoolmate/friend	3	2,8
Physician	2	1,8
Someone else	11	10,1

Pupils most frequently put in their parents, in total 53.2 %. On the second is the teacher with 32.1 % and in the category Someone else were put in grandparents. A schoolmate or a friend and a physician were put in five cases only.

Table 2: Survey of answering the question "What is typical for children diabetes?", the whole set

Answers	Absolute number(n)	Relative number (%)
Whole-life taking insulin in medicaments	24	22,1
Whole-life taking insulin in shots	54	49,5
Total ban of sweet food consumption	31	28,4

From the offered possibilities the pupils chose the right answer in 49.5 %. The number of the other two remaining possibilities is relatively high, of course.

Table 2a: Survey of answering the question "What is typical for children diabetes?", according to gender

Answers	Girls (%) n=55	Boys (%) n=54
Whole-life taking insulin in medicaments	27.3	16.7
Whole-life taking insulin in shots	40.0	59.3
Total ban of sweet food consumption	32.7	24.0

Table 3: Survey of answering the question “What is the insulin?”

Answers	Absolute number(n)	Relative number (%)
Substance decreasing the sugar level in blood	79	72.5
Substance decreasing the sugar level in blood	17	15.3
I do not know	13	11.9

The answer to the question “What is the insulin?”, was in most cases correct (in 72.5%). Differences between girls and boys were minimal.

Table 4: Survey of answering the question “What is glucagon?”

Answers	Absolute number(n)	Relative number (%)
Substance decreasing the sugar level in blood	18	16.5
Substance decreasing the sugar level in blood	55	50.5
I do not know	36	33

The pupils in 51 % chose the right answer but they were not too sure about it. In 33 % they answered “I do not know, which is a relatively high number. Differences between girls and boys were minimal.

Table 5: Survey of answering the question “Do you have school mate, a friend who has diabetes?”

Answers	Absolute number(n)	Relative number (%)
Yes	17	15.6
No	92	84.4

Seventeen pupils (15.6 %) put down that they have a school-mate or a friend suffering from diabetes. Therefore it would be surely useful for them to be more informed about the illness to be able to help in case of some urgent complication.

Table 6: Survey of answering the question “Did you get any information materials on diabetes at school?”, the whole set

Answers	Absolute number(n)	Relative number (%)
Yes	19	17.4
No	90	82.6

In total 19 pupils (17.4 %) received some information material on diabetes. The rate of information of pupils should be substantially higher. In every school there should appear brochures, leaflets or posters highlighting particularly possible emergent complications of a diabetic as, e.g.. hypoglycaemia. It is important to recognise the symptoms and to know how the ill person should be properly helped. If there is a diabetic in the classroom, all classmates should be properly instructed.

Table 6a: Survey of answering the question “Did you get any information materials on diabetes at school?”, according to the gender

Answers	Girls (%) n=55	Boys (%) a=54
Yes	25.5	9.3
No	74.5	90.7

As to the gender more positive answers were given by girls (in 25.5 %) than by boys (9.3 %). The difference is statistically significant on 5 % significance level ($p=0,0259$; χ^2 test).

Table 7: Survey of answering the question “If you got any information materials on diabetes, write down what it was (e.g. leaflet, article in a magazine, book – if you remember, put down the name of it) and who gave it to you.”

Answers	Absolute number(n)	Relative number (%)
Magazine	7	36.8
Leaflet	7	36.8
Book	4	21.1
Internet	1	5.3

The source of information on diabetes most frequently were a magazine and a leaflet, both in 36.8 %, after that a book in 21 % and Internet in 5.3 %. The pupils did not tell the name of the book or the magazine or the source of the information material.

Table 8: Survey of answering the question “How can a shortage of sugar (hypoglycaemia) in a diabetic person show up?”, the whole set

Answers	Absolute number(n)	Relative number (%)
Paleness	1	0,9
Head ache	2	1,8
Sickness/weakness	8	7,4
Sweating	2	1,8
Change in behaviour	2	1,8
Black-out	14	12,9
I do not know	80	73,4

In total 80 pupils (73.4 %) did not know how hypoglycaemia can show up in a person. From correct answers the most frequent was a black-out (12.9 %), which is a manifestation of heavy hypoglycaemia, and sickness or weakness (7.4 %). The other types of manifestation were mentioned in one or two cases, only.

Table 8a: Survey of answering the question “How can a shortage of sugar (hypoglycaemia) in a diabetic person show up?”, according to the gender

Answers	Girls (%) n=55	Boys (%) n=54
Paleness	1,8	0,0
Head ache	3,6	0,0
Sickness/weakness	10,9	3,7
Sweating	0,0	3,7
Change in behaviour	3,6	0,0
Black-out	14,6	11,1
I do not know	65,5	81,5

Girls were more successful in the answers. In total 19 (34.5 %) knew the correct answer. Ten boys (18.5 %) who responded, mentioned only 3 correct possibilities: sickness, weakness, sweating and black-out. The difference in the sum of correct and faulty answers according to the gender is on the edge of statistical significance ($p=0.0583$; χ^2 test).

Table 9: Survey of answering the question “What would you do if your diabetic classmate, friend were loosing consciousness because of heavy hypoglycaemia? Can you help him somehow by yourself?”

Answers	Absolute number(n)	Relative number (%)
Give sugar	13	12,0
Give something sweet	8	7,3
Call a physician	33	30,3
Call help	12	11,0
Call the parents of the stricken	1	0,9
I do not know	42	38,5

As to the ability to help the person who is loosing consciousness due to heavy hypoglycaemia, 42 pupils (38.5 %) answered “I do not know”. Those who reacted would most frequently call a physician (in 30 %) and also give the patient sugar (12 %) or something sweet (7.3 %). 12 pupils (11 %) would call another person for help and one (0.9 %) would call the parents. In several cases there was also an incorrect answer “to give insulin to the patient”, which would be a fundamental mistake that would worsen his state even more. The answer “to administer glucagon to the diabetic person” did not appear at all. There were no substantial differences in the answers between the genders.

Table 10: Survey of answering the question “Would you like to know something more about diabetes?”, the whole set

Answers	Absolute number(n)	Relative number (%)
Yes	65	59,6
No	44	40,4

More than half of the questioned (59.3) answered positively. The reason was, beside others, that they did know how to help a person who was loosing consciousness due to hypoglycaemia.

Table 10a: Survey of answering the question “Would you like to know something more about diabetes?”, according to the gender

Answers	Girls (%) n=55	Boys(%) n=54
Yes	76.4	42.6
No	23.6	57.4

Among the answers classified according to gender, a highly significant difference was found on the level of 0,1 % ($p= 0.000327$; χ^2 test). In girls there were 76.4 % of those who wanted to know more about the illness. The boys wanted to get more information in 42.6 % only.

Discussion

From the pilot investigation presented here it is not possible to make generalising conclusions due to a small sample and a limited choice. But it can be a base and an impulse in organising representative studies on the issues of children diabetes and the knowledge of it.

It was our aim to address the children of out-of-Brno schools in order to find out what is the knowledge and information of pupils of the 8th and 9th grades of basic schools in a village and provincial environment on diabetes. The authors presupposed that the Brno pupils have better knowledge of diabetes, have more possibilities to meet their peers suffering from it and that the offer of literature and educating materials in Brno should be wider and richer.

Another theme for realisation, besides the investigation in a representative sample, can be a comparison of the state in a big town and in a village (provincial town), or possibly studies from various regions.

The goal of education is that the child should learn how to co-operate in the therapy and that the adolescent could be able to take the diabetes therapy into his own hands.

The education should start immediately after setting the diagnose. In small children it is possible to exploit the world of fairy tales, to demonstrate vividly what meals are permitted and what meals are forbidden. A school child masters, usually with interest, how to test urine and comprehends that the content of sugar in blood can be decreased by insulin administration, that the amount of sugar in urine is reflecting the amount of sugar in blood and that it is necessary to modify the doses of insulin. From the age of 8 a pupil can apply injections by himself, from 12-13 he is able to master the instructions on modifying the insulin doses, everything in practical way (Dub, Brožek, 1983; Kopecký, 1986; Lebl, 1998; Hlavicová, 2002).

A unique school of diabetology for children and adolescents are summer or winter recreationally educational dia-camps. There the children learn how to master diabetes in a serious and entertaining way, theoretically and practically. At the end of the stay everybody takes insulin shots by himself, they know how to answer correctly questions like: "How to recognise hypoglycaemia?", "What must be done in the state of hypoglycaemia?", "What is the glucagon?". A proper dia-camp includes: early-morning reveille, urine testing, insulin ordination, insulin shots before breakfast (and before supper), morning warming-up, competitive games, camp log and many other activities.

Dr John, a Czech-American compatriot, was among the first in the world who gave rise (from his own means) to such a summer camp in the woods near Cleveland in 1930. In Europe the first summer camp for diabetic children was held in Czechoslovakia in 1930 (Škvor, 1995; Etwiler, 1994).

The number of diabetic children is growing and that is the reason why the authors of this paper, besides the investigation, designed a handbook for teachers of diabetic children that would help clear the facts connected with the illness. Similar handbook should be at hand in every school in every classroom so that the pupils could know how to help a diabetic school-mate or friend. Help in proper time and in a proper way can save a diabetic person his life when he falls in unconscious.

Conclusion

A the framework of the study an anonymous questionnaire investigation was done on the sample of 109 pupils of 8th and 9th grades in 5 classes in 2 out-of-Brno basic schools. The questionnaire had 10 items and was directed at fundamental knowledge of diabetes of children and youth, on information sources and on the possibilities how to help a school-mate in need.

The children get most information about diabetes from their parents (half of the sample) and from teachers (a third). Half of the children connect the juvenile type of diabetes with insulin shots, the correct answer was chosen by more boys (60 %) than girls (40 %) but the difference is not statistically significant. Three quarters of the questioned know what insulin is, a half know glucagon.

Approximately 16 % children know a peer with diabetes, only 17 % of the sample met any information material about diabetes, girls substantially more ($p < 0.05$). The most frequent source of information were magazines and leaflets, less frequent were books and Internet.

As a warning should be considered the fact that three-quarters of children did not know by what symptoms hypoglycaemia can be manifested in a person. Among the correct answers

The most frequent were black-out, sickness and weakness. One third of the girls were able to classify the hypoglycaemic symptoms, in boys only a fifth, the difference between the genders is at the edge of statistic significance of 5 %. Approximately 40 % of the questioned did not know how to behave in the case that their peer would be stricken by heavy hypoglycaemia. Those who reacted somehow, would most often call a physician (30 %) or another person (10 %), or would hand the patient sugar or something sweet (20 %). There were no significant differences between the genders.

As much as 60 % of the sample wanted to get more detailed information on diabetes, substantially more girls (76 %) than boys (43 %), $p < 0.001$.

Transfer to teacher's profession

It was shown that in the observed sample was relatively little information on the problems of the juvenile diabetes and the actions of first aid. The children presented their parents and teachers as important information sources. The teachers must be equipped with the most recent knowledge of diabetes to be able to explain the children adequately the issue connected with the rise, symptoms, therapy and routine measures on diabetes and therefore they should be acquainted in their undergraduate program with the fundamentals of diabetology. The methodological handbook designed by the authors can help the teacher in this task.

Examples from the handbook:

1) Handbook contents

Before you start

Introduction

The principle of diabetes type I

Insulin therapy

 Aids for insulin application

 Aids of the diabetic for self-examination

 Glycaemia measurement

 Profile of glycaemia

 Urine test

Nourishment of a type I diabetic

Acute complications of diabetes and therapy of them

Soft hypoglycaemia

Medium hypoglycaemia

Heavy hypoglycaemia

Glucagon

Hyperglycaemia

Ketoacidosis

Sport and diabetes type I

5 basic rules for fitness

10 factors increasing the risk of hypoglycaemia

10 measures to decrease the risk of hypoglycaemia

Diet adjustment and sport activities

Choice of sport

Movement activities of a diabetic child

Conclusion

Information sources applied

Dedication

2) An example from the handbook

Acute diabetes complications and the treatment of them

A whole-life task of a diabetic person is to watch the level of glycaemia and thus to omit later complications. The values of glycaemia are given in millimole units in a litre. In a healthy person the glycaemia is between 3.3 mmol.l⁻¹ and 6 mmol.l⁻¹. Short while after meal it is a little higher but after an hour it drops below 7.7 mmol.l⁻¹ and the decrease continues down to the watched interval, i.e., between 3.3 mmol.l⁻¹ and 6 mmol.l⁻¹. If the glycaemia value drops lower than 3.3 mmol.l⁻¹, the patient is threatened by **hypoglycaemia**. The brain is not fed enough by glucose, its function starts to decrease. Hypoglycaemia does not rise in a person not suffering from diabetes because his body immediately starts to produce hormones that increase the glycaemia. The symptoms of hypoglycaemia are various and of individual kind. Most frequently: **hunger, palpitation, diplopia, creepy feelings round mouth, frightening dreams, excessive sweating, morning headache**. Hypoglycaemia can also proceed without initial subjective symptoms! A diabetic child passes several hypoglycaemia events during a week but almost all of them come at night without being aware of.

Causes of hypoglycaemia (Lébl et al., 1998):

- too much insulin,
- too much food
- more movement than usually
- alcohol

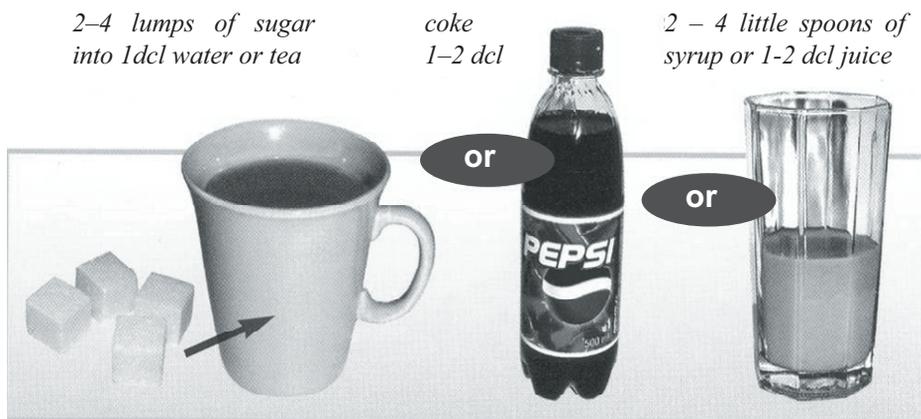
Mild hypoglycaemia (Brázdová, 1998)

Symptoms: hunger, fatigue, weakness, disorder in concentration, nervousness, sweating, paleness.

Blood sugar level: 3 – 4 mmol.l⁻¹

Therapy: 10–20 g saccharides in the form of pastry, fruit or chocolate

Fig. 1: Therapy of mild hypoglycaemia (Brázdová, 1998)



If a mild hypoglycaemia occurs before the planned dose of meal, it is enough to eat as usually.

In case of light hypoglycaemia, a smaller amount of saccharides must be taken and thus any unneeded increase of blood sugar level will not come.

If hypoglycaemia occurs in the time of fast insulin actuation, it can deepen more quickly and lasts shorter time. If hypoglycaemia occurs in the time of the actuation of insulin with longer-term effect, it proceeds more calmly and lasts longer time.

Medium hypoglycaemia (Brázdová, 1998)

Symptoms: are caused by a lower supply of sugar to the brain and nerves and are influenced by defensive mechanisms of the organism: peevishness or aggressiveness, disturbance of fine mobility – hand tremor, worse articulation, headache, unfocused vision, accelerated pulse rate, palpitation.

Blood sugar level: 3–2 mmol.l⁻¹

Therapy: 10–20 g saccharides in the form of sugar, syrup (2–4 lumps of sugar, sugar in a liquid state is absorbed more quickly)

Fig. 2a: Therapy of medium hypoglycaemia (*Brázdová, 1998*)

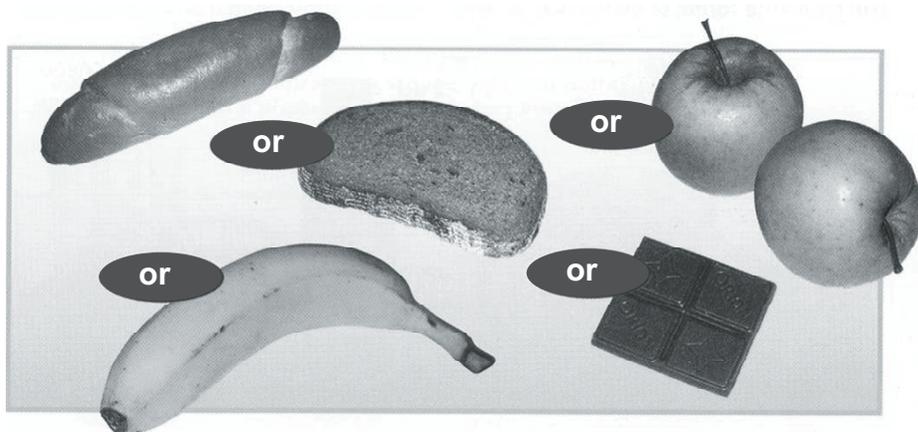
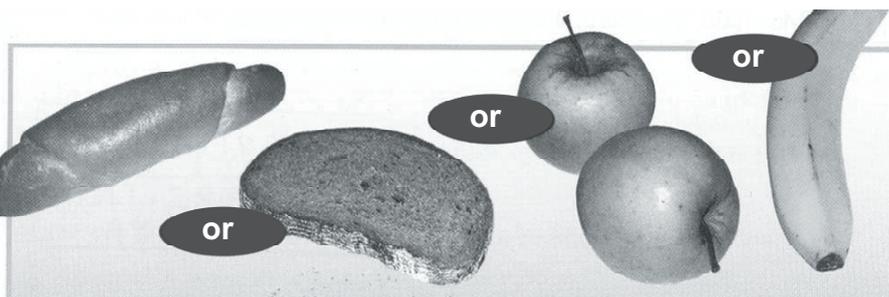


Fig. 2b: Alternative method of therapy of medium hypoglycaemia (*Brázdová, 1998*)



The child should inform about the feelings of hypoglycaemia in case of a worse state! If the symptoms maintain after 10–15 minutes, it is necessary to take sugar again. If the diabetic person feels better, he should eat 10–20 g saccharides in the form of pastry or fruits. If a medium hypoglycaemia occurs before the planned dose of food, then, after calming the symptoms, it is enough to eat something.

Heavy hypoglycaemia (*Brázdová, 1998*)

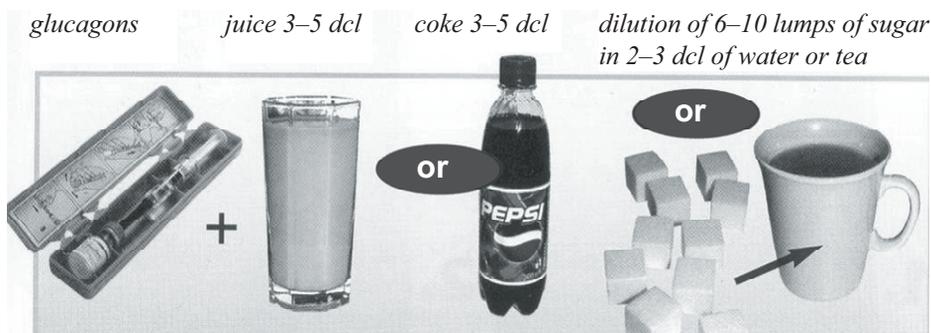
Symptoms: are caused by a pronounced shortage of sugar in the nerve tissue and in the whole organism, by a disorder of their functions. These symptoms cannot be evaluated by the ill person but the surrounding people will notice the non-adequate behaviour.

- Need of sleep or aggressiveness,
- Non adequate weeping or laughter,
- Perplexity and co-ordination disorders reminding drunkenness
- Unconsciousness,
- Cramps.

Blood sugar level: less than 2 mmol.l⁻¹

Therapy: depends on the help of another person

Fig.3: Therapy of heavy hypoglycaemia (Brázdová, 1998)



The diabetic person must be handed 30–50 g of saccharides in the form of sweet dilutions or syrups orally. If in unconsciousness the patient is not able to receive food orally, we administer glucagon (see further) and in the case of a sweet liquid per rectum.

If no improvement comes after 10 minutes, it is necessary to call emergency ambulance (155), the patient must receive glucose intravenously. If the consciousness improves, he must immediately get 20–30 g of saccharides in the form of sweet liquids. If he feels then better, he should eat 10–20 g of saccharides in the form of pastry.

Heavy hypoglycaemia can pass over to unconsciousness, cramps appear and the life can be imminently endangered. The classmates of a diabetic, especially in higher classes of the basic school, should be well informed what to do in case of hypoglycaemia. It is possible in some of the subjects – health education, family education, biology or physical education - to test how to help a diabetic person in emergency. It is also advisable to place a poster in the classroom with instructions what to do in case of heavy hypoglycaemia.

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DIABETICKÝ ŽÁK VE TŘÍDĚ - MANUÁL PRO UČITELE ZŠ

Souhrn: Frekvence výskytu této nemoci zaznamenává již řadu let prudký vzestup. Značně proto vzrostla pravděpodobnost, že se v jedné třídě učitel s diabetickým žákem setká. Učitelům vybraných ZŠ byly nejprve distribuovány dotazníky, jejichž otázky byly konstruovány tak, aby z odpovědí na ně vyplynulo, jaké jsou znalosti učitelů o tomto onemocnění. Úkolem bylo mj. zjistit, zda učitelé jsou schopni pomoci žákovi, který upadl do diabetického komatu nebo kterého potkala jiná - běžnější - komplikace této choroby. Odpovědi z dotazníků ukázaly, že učitelé by uvítali příručku, která by je o tomto onemocnění stručně, avšak kompletně a s ohledem na jejich konkrétní situaci ve třídě informovala. Na základě těchto přání byl proto sestaven manuál, který učitelům vysvětluje většinu skutečností, se kterými se musí diabetik denně vypořádat. Informace jsou podány s tím cílem, aby učitelé věděli, jak správně zareagovat na možnou akutní komplikaci a aby se nebáli dítě zapojit do všech školních aktivit.

Klíčová slova: diabetes mellitus, žák, základní škola, pedagog, studie, dotazník, manuál

DRAMA EDUCATION IN EDUCATIONAL PROJECT FOCUSED ON EPILEPSY

Tomáš DOLEŽAL

Abstract: *This essay describes research educational project focused on enlightenment concerning epilepsy. 1 222 children from the third, fourth and fifth classes from whole Czech Republic participated in this research. Used methods were drama education, lecture and film. Effectiveness of methods was compared through questionnaire enquiry.*

Keywords: *epilepsy , enlightenment, drama education, lecture, film, questionnaire enquiry*

Basis and aims of project:

The basis of all project was programme of Czech league against Epilepsy and EPISTOP (complex project for support people with epilepsy in Czech Republic). The aim was development of knowledge and gain new knowledge about epilepsy for pupils of primary school and their teachers. And further use of drama education as form of enlightenment and compare with another methods (lecture, film).

Researchers:

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doc. MUDr.Vladimír Komárek, CSc. - **Department of Paediatric Neurology**, The Motol University Hospital Prague

Czech league against Epilepsy and especially working group of project EPISTOP Component forms of education was realised by teachers and other pedagogical workers from primary schools and educational institutions from whole of Czech Republic. The research was realised since January 2003 until June 2003.

Research procedure:

Pupils in selected primary schools were acquainted with problems of epilepsy in different ways:

- projection of animated film
- lecture (verbal information about epilepsy)
- lesson of drama education (acting in roles)

Degree of knowledge was surveyed with assistance of questionnaire: before education, immediately after education, six months later. Then these effects were compared.

Questions of questionnaire:

- How can you recognize that somebody has epilepsy?
- What does epileptic seizure look like?
- Your friend threw a fit of epilepsy. What shall you do?
- What do you think of children with epilepsy?
- Children with epilepsy are:
- How should children with epilepsy behave?
- Try to imagine you have epilepsy. What will change in your life?

There were options of answer, one of them was correct.

Method of drama education – description of realization

Themes and basis:

- Main subject – story ADVENTURE ON THE ISLAND
„Children in your age sailed on the boat to the island. Something unusual happened on the island ...“
- Next subjects: RESCUE, CO-OPERATION, FEAR, TIREDNESS

These subjects allowed children to take active part (warm up, connecting and relaxation activities) and then pass through deep experience of „playing“ the story.

Structure of activities:

- warming up activities: *tag, place at my left hand is free, ...* RESCUE
- acting play freeze (expression of feelings, emotions) TIREDNESS, FEAR
- dramatic play *Raft* CO-OPERATION
- *static scene* – relationships and their hierarchy on boats (expression of relationships, states and feelings)
 - short etudes – acting of short stories on the island, selection of interesting aspects, building of static scenes, then teacher assigns a task to pretend signs of epileptic seizure
 - acting in roles hot chair (doctor, parents, informed friend, brother, sister,...):

„There is option to invite somebody who can explain, what is happening with your friend.“ Children usually choose doctor, because they recognize there are some health problems.

Used methods were very simple, so explaining of activities was easier and brief and all of pupils could understand it (regardless of experience with drama education).

This lesson was realised with five classes (3 x in the third class, 2 x in the fifth class).

We offer similar dramatic lesson to schools (and they are very interested) in Lužánky – Centre of leisure time Brno.

Result:

1 222 children from the third, fourth and fifth classes of primary schools participated in this research. Analysis of questionnaires proved projection of animated film was most effective. Next one was lesson of drama education Lecture (verbal information) didn't reach comparable grade.

DRAMATICKÁ VÝCHOVA VE VZDĚLÁVACÍM PROJEKTU O EPILEPSII

Souhrn: Příspěvek popisuje výzkumný vzdělávací projekt zaměřený na osvětu týkající se nemoci epilepsie. Osvěta byla realizována se 1122 žáky ze 3. až 5. tříd ZŠ z celé ČR formou lekce dramatické výchovy, projekce animovaného filmu a výkladu. Účinnost metod byla porovnávána dotazníkovým šetřením.

Klíčová slova: epilepsie, osvěta, dramatická výchova, výklad, film, dotazníkové šetření

XENOBIOTICS AND THEIR PART IN ETHIOPATHOGENESIS OF SOME DISEASES IN CHILD'S AGE

Eubica JAKUŠOVÁ, Aurel DOSTÁL

Abstract: *When evaluation of human diet, emphasis is placed in general on its energetic and biological quality. Of recent years scientists are interested in diet from a viewpoint of its possible contamination with xenobiotics. Special attention is paid mainly to the quality of diet in child's age. In the article, authors mention some health effects of food intake of toxic substances with emphasis on mycotoxins, at particular period stages.*

Keywords: *xenobiotics, child's age, nutrition*

Introduction

Diet significantly influences health of an individual from the first days of his life as well as in later stages. It influences prevention or genesis of acute and chronic diseases. Numerous studies concerning the effects of environmental toxic substances on human organism have augmented at present.

In human organism, majority of xenobiotics are metabolized and ineffective products of detoxication as well as more toxic substances with mutagenic, carcinogenic, nephrogenic, immunotoxic activity are formed.

Absorption, distribution, metabolism and excretion of xenobiotics in child organism are unlike those in the adults. The crucial agent of their different effects is also the difference in receptor sensitivity, maturation of tissue, gastrointestinal motility, immaturity of biotransformation processes, intestine microbiota and diaphragmal permeability, renal excretion, glomerular filtration, tubular resorption too. In addition, considering body weight, children take up more food than the adults. Therefore reactions can differ not only in the way of action but in intensity as well.

Immune system and xenobiotics

The main result of negative xenobiotic effect on the immune system is disturbance of optimal immunal reactivity of an organism. Metals, organic solvents and essential oil are supposed above all to be related to genesis of human autoimmune diseases.

As to the environmental harmful substances, mycotoxins, polychlorinated biphenyls, pesticide, lead and cadmium have considerable immunosuppressive effect.

Hormonal system is responsible for the functions of vital importance, disturbance of that can lead up to serious damage of organs.

Xenohormones, known as the endocrine disrupters, form a great deal of the xenobiotic spectrum. They are mainly pesticides, chlorinated hydrocarbons, phthalates, particularly persistent organic pollutants and other numerous organic compounds.

Xenohormones evoke disruption of the hormonal system closely associated to the immune and nervous systems.

Also the state of intestine microbiota is of considerable importance for the right activity of the mucous immune system. Increased quantity of harmful substances in food can have an effect on the composition of intestine microbiota thereby can adversely affect the bowel epithelial barrier and the immune system of the intestinal mucosa that is matter of great importance to etiopathogenesis of chronic inflammatory bowel disease on the autoimmune basis. Celiac disease, Crohn's disease, ulcerative colitis.

Genetic predisposition and environmental agents contribute to the cascade of immunopathologic reactions leading up to the harm to intestinal mucosa.

Food antigens, bacterial products, toxins and environmental harmful substances are predisposing agents in harm to bowel permeability and thereby can lead to development of the allergic and autoimmune diseases.

Conclusion

Health of grown-up child depends on the right diet. Biologically valuable diet shall have nutrients with adequate quantity, quality, proportionality, with minimum content of contaminating substances, xenobiotics.

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The work is a part of the project VEGA N ° 1/4247/07 "Nutrition of mothers in relation to presence of selected mycotoxins in human milk and their influence on clinical parameters of newborns and breastfed infants".

XENOBIOTIKÁ A ICH PODIEĽ NA ETIOPATOGENÉZE NIEKTORÝCH OCHORENÍ V DETSKOM VEKU

Súhrn: Pri hodnotení výživy človeka sa vo všeobecnosti kladie dôraz predovšetkým na jej energetickú a biologickú hodnotu. V posledných rokoch sa vedci zaujímajú o výživu aj z aspektu možnej kontaminácie xenobiotikami. Mimoriadna pozornosť sa venuje predovšetkým kvalite výživy v detskom veku. V príspevku autori uvádzajú niektoré zdravotné dôsledky prívodu toxických látok potravou v jeho jednotlivých vekových obdobiach, s dôrazom na mykotoxíny.

Kľúčové slová: xenobiotiká, detský vek, výživa

THE FIRST RESULTS OF ANALYSES OF OCHRATOXIN A IN HUMAN MILK IN SLOVAKIA

Jela ČAJDOVÁ, Aurel DOSTÁL

Abstract: *The authors analysed samples of human milk with a view to find potential contamination with a mycotoxin - ochratoxin A. A rapid and effective separative method the HPLC was used. Donors offered their human milk voluntarily and it was taken right at the clinic of children. The results of such kind of analyses in our country are summarized in the table. The analysis conditions are added to the data obtained by the referred chromatographic method.*

Keywords: *human milk, ochratoxin A, HPLC analysis, results of analyses*

Introduction

From lots of xenobiotics occurring in food, ochratoxin A is one of serious mycotoxins. The mycotoxin is produced by moulds growing and proliferating particularly on several kinds of food. Cereals, that are base material to production of food everyday eaten, are hospitable media.

Mycotoxins can be excreted from the body also to human milk. Human milk can be contaminated in dependence on environment and food pollution with xenobiotics.

Conditions of qualitative and quantitative determination of ochratoxin A

To carry out the determination of ochratoxin A by the HPLC technique, the chromatographic system Merck Hitachi with fluorescence detector L-7480 was used.

Procedure

A test portion of the human milk sample was extracted by n-hexan to remove the lipid fraction. In order to take out ochratoxin A, extraction with 1 % NaHCO₃ as the elution solution followed. A filtrated portion mixed with phosphate buffered saline was passed through the immunoaffinity column (IAC) specific to the mycotoxin where the analyte was adsorbed, purified and consequently eluated.

Ochratoxin A was separated from the cleaned-up and concentrated-up extract by means of the HPLC system with reverse phase separating column and detection of the analyt was carried out through the use of fluorescence detector.

HPLC operating conditions

Column oven temperature: 35 °C
 Analytical separating column: LiChroCART 125-4 filled with LiChrospher RP-18
 Mobile phase: acetonitrile – water - acetic acid
 with parts per volume 51 : 47 : 2
 Flow rate mobile phase: 1,0 ml/min
 Fluorescence detection: excitation wavelenth – 333 nm
 emission wavelenth – 433 nm
 Injection volume: 80 µl

Results of analyses of ochratoxin A in human milk

Tables of ochratoxin A values found in human milk samples and comment notes to abbreviation

Values of ochratoxin A in human milk samples				
N°	Volume of test portion of sample taken for analysis [ml]	Number of IAC	Concentration of ochratoxin A [ng/l]	Date of analysis
1	60	2	9,7	05.04.07
2	25	1	ND (4,8)	29.03.07
3	50	2	ND (4,8)	05.04.07
4	30	1	ND (4,8)	29.03.07
5	70	3	ND (4,8)	05.04.07
6	25	1	ND (4,8)	14.08.07
7	60	2	ND (4,8)	11.04.07
8	60	2	2,3	11.04.07
9	50	2	47,6	23.03.07
10	25	1	ND (4,8)	29.03.07
11	25	1	ND (4,8)	14.08.07
12	25	1	ND (4,8)	14.08.07
13	25	1	ND (4,8)	14.08.07
14	25	1	ND (4,8)	16.08.07
15	25	1	ND (4,8)	14.08.07
16	25	1	ND (4,8)	14.08.07
17	25	1	< 14,4 (6,4)	14.08.07

18	25	1	ND (4,8)	14.08.07
19	25	1	< 14,4 (5,7)	14.08.07
20	25	1	ND (4,8)	16.08.07
21	25	1	ND (4,8)	16.08.07
22	25	1	ND (4,8)	16.08.07
23	25	1	< 14,4 (5,3)	16.08.07
24	25	1	ND (4,8)	16.08.07
25	25	1	ND (4,8)	14.08.07
26	25	1	ND (4,8)	14.08.07
27	50	1	5,0	14.08.07
28	50	1	5,4	14.08.07
29	25	1	< 14,4 (6,8)	14.08.07
30	50	1	0,6	14.08.07
31	25	1	ND (4,8)	14.08.07
32	25	1	ND (4,8)	14.08.07

Quality assurance					
Test material		Ochratoxin A			
		Assigned value µg/kg	Satisfactory range µg/kg	Measured value µg/kg	
1	T1742 Baby Food (FAPAS®)	0,60	0,34 - 0,87	0,49	81,7
				0,54	90,0
2	Spiking of human milk matrix with ochratoxin A solution				

Comment notes		
ND (4,8)	Value equal or less than LOD	
< 14,4	Value less than LOQ but higher than LOD	
LOD	Limit of detection of the analytical method	LOD = 4,8 ng/l *
LOQ	Limit of quantification of the analytical method	LOQ = 14,4 ng/l *
	* If the volume of test portion of sample taken for analysis is 25 ml	

Conclusions

Human milk can be contaminated with various substances dangerous to health and it is not possible to present the whole scale of the them. With respect to the fact that

human milk as the first nutrition of a child influences significantly its physiogeny, studies from our country as well as from foreign countries are focused on presence of not only the most toxic xenobiotics but less toxic ones as well.

Within the scope of our research we concerned in the nephrotoxic mycotoxin ochratoxin A. There are not only our first results but also the first findings in Slovakia. Up to now our determinations enable to claim they are not alarming. We have found the maximum value of ochratoxin A 47,6 ng per litre of human milk whereas presence of the toxin was proved in 31% of the total number 32 analysed samples. Our experiments with determination of ochratoxin A continues.

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PRVÉ VÝSLEDKY ANALÝZY OCHRATOXÍNU-A V MATERSKOM MLIEKU NA SLOVENSKU

Súhrn: Autori analyzovali vzorky materského mlieka na zistenie možnej kontaminácie mykotoxínom ochratoxín A. Použili rýchlu a vysoko účinnú separačnú metódu kvapalinovej chromatografie HPLC. Materské mlieko poskytli matky dobrovoľne a bolo odobraté priamo na detskej klinike. Výsledky prvých analýz tohto druhu u nás sú zhrnuté v tabuľke. K údajom získaným uvedenou chromatografickou metódou sú doložené podmienky analýz.

Kľúčové slová: materské mlieko, ochratoxín A, analýza HPLC, výsledky analýz

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