

## USE OF COPING STRATEGIES BASED ON PHYSICAL ACTIVITIES IN STRESS ELIMINATION IN SCHOOL ENVIRONMENT

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**Abstract:** *As we have have testified in our research, the level of stress in the school environment directly influences all its participants. Adults are influenced in different periods and with higher intensity than children. Teachers have proved a high level of stress in this research. As an outcome of the proposed and applied methods we have learnt it is necessary to respect the offered help by means of selected physical activities according to the specialisation of every single person, i.e. with the individual approach. Special sets of physical activities have been built up from the proposed methods and we may divide them into three basic areas – sports physical activities, psychomotricity and its alternatives and kinesiotherapy and its alternatives. It depends on every particular person as well as on his/her stress level. In adults we have proved the positive effect of all mentioned variants, whereas in children only psychomotricity and kinesiotherapy showed positive impact.*

**Keywords:** *mental health, movement, quality of life, stress, coping strategies*

School environment represent a specific system in which a certain hierarchy may be seen with its own inner rules. For the external world this system seems often rather indistinct and the external environment is often not acquainted enough with all circumstances of the events happening in a school. Therefore, it is necessary to respect this system as a framework based on several interconnected levels that contact the external environment by means of information transfer toward the parents and the public in an official way (e.g. teacher-parent meetings, pupil's book, school web sites or doors open days, etc.) or by means of a more common form, i.e. by leakage of unsubstantiated pieces of information and half-truths, which usually opens a wide-ranging discussion about the school.

All the above mentioned features are always interconnected and their partial changes entail changed pieces of information and thus a non-adequate reaction of the participating persons, i.e. stormy reaction of the parents or teachers that may however not be based on truthful information. Therefore, certain tension appears inside the system itself and it is often caused by the external interferences, although not knowing the reasons of the origin of these situations and their further circumstances.

The school environment system itself includes many features which may elicit in-

ternal unease and tension and this may also breed increased nervousness in all participants of the school environment and sometimes it a negative transfer on individuals appears. Negative environment influences the origin of misunderstanding and gradually, negative emotions, which develop into a more permanent stress, may appear as well. Stress is a generator of several serious diseases and influences both school and class atmosphere. We consider stress a burden, i.e. a state evoked by action of certain initiatives in excessive amount and for a longer period. Generally speaking, stress may also be a state of deficiency, i.e. deprivation (Vymětal et al., 2009). Regarding human beings, stress was originally considered a negative emotional experience, accompanied by a set of biochemical, physiological, cognitive and behavioural changes (Křivohlavý, 2001). Nowadays we speak more of an extreme load that leads toward internal tension and critical balance disruption (homeostasis) of the organism. In case the physical or psychological balance of a human organism is imperilled, it answers with a stress reaction (Atkinson, et al., 2003). Stress may be appear as a reaction on unexpected events, which is then labeled “acute stress“ or as a reaction on a long-term load, i.e. „chronic stress“ (Jones, Moorhouse, 2010). As soon as the organism is exposed to stress for a longer period, severe changes in human organism happen, such as loss of muscle tone (especially the body posture decreases), immune system debilitates and thus the performance of man decreases. We may state that stressed people find it more difficult to communicate with others, they react on common requirements in an inappropriate way and they shut away from the outside world. Children may often be taciturn, inattentive, non-cooperating in a team, introvert, uncreative and uninterested in play. It is often one of the first and typical reactions on a load induced by stress (Fink, 2000).

Stress may also be perceived in a positive way, in case it is not a negative emotional experience but an attempt to manage particular situation or something that makes us happy while we must make an effort. In such a case we speak about the „eustress“ (Křivohlavý, 2001). Experienced teacher may use this positive stress type in the school environment in order to improve the school results. However, its long-term overuse may bring a negative result.

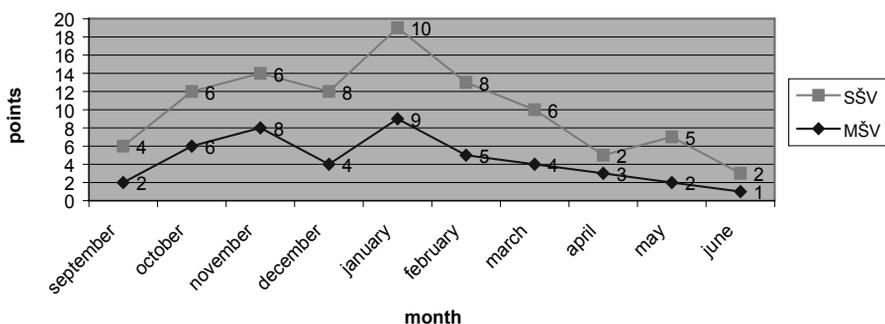
In our *School and Health 21* research project we dealt with stress in school (distress) and its roots. We learnt that stress is a common serious problem of the contemporary school and it varies according to the participants (age or time aspect). During the 2-year research we obtained a detailed analysis of the stress state in 6 selected schools in the Czech Republic in 2264 pupils of primary schools, 320 teachers and 12 school employees. We learnt that stress in pupils appears less frequently than we had expected, i.e. in 13,5 % (see Table 1). There was more stress symptoms in young school age children and in females. We were also interested in the fluctuation of stress in relation to school year period and thus we repeated the research procedures in selected pupils of particular school several times. We learnt that the stress level fluctuates in dependence on the school year continuance (see Picture 1). The highest stress level was evident in children at the beginning of the school year and in during the half-term. In the older-age children it was evident before the end of a school year as well. In teachers the stress level is rather high and we may state that one third of primary school teachers prove themselves to have stress (see Table 2). Stress fluctuation in dependence on time is different from pupils as teachers have the highest stress level before Christmas and towards the end of a school year (see Picture 2). Many of them leave for holidays rather exhausted and they

have labeled their stress „hard to cope with“. We also attempted to address other school employees but only 12 of them were willing to cooperate (bursar, secretary, chief cook and janitor). In two employees we ascertained repeated stress of a higher level and one of them decided to cooperate with us in order to eliminate the stress symptoms.

Table 1: Higher stress level in pupils of selected school in the Czech Republic

Stress level	Number of pupils	Total number of pupils
Pathologic stress	12	2264
Heavy stress	44	
Big stress	89	
Increased stress	155	

Stress fluctuation in pupils

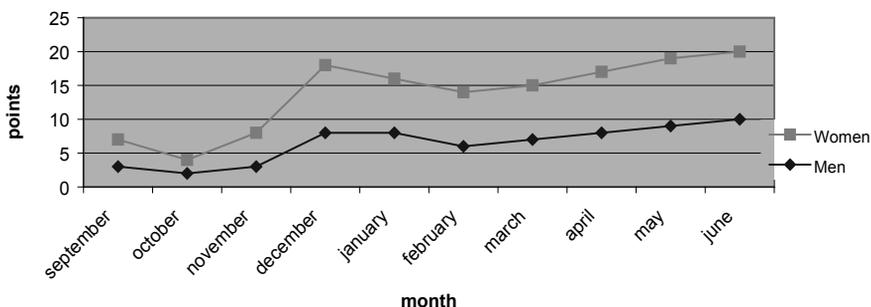


Picture 1: Stress fluctuation in pupils in dependence on time

Table 2: Higher stress level in teachers of selected school in the Czech Republic

Stress level	Number of teachers	Total number of teachers
Pathologic stress	14	320
Heavy stress	22	
Big stress	29	
Increased stress	47	

Stress fluctuation



Picture 2: Stress fluctuation in teachers in dependence on time

During the result processing we also initiated further cooperation with schools in the area of care of health and we focused on coping strategies of stress elimination in school. The process of managing stress situations is known as „coping“. It consists of two basic forms. One can focus on a particular problem or situation that has appeared and try to find a way of changing this situation or even of avoiding such a situation in future. This form is called “problem-focused coping“. However, we may also focus easing the emotions connected with the stress situation, although the change of the situation itself need not come about. This process is known as an “emotion-focused coping“ (Atkinson, et al., 2003) . The keystone of stress management is in good health and enough power (Křivohlavý, 2001). We shall also emphasise that a stressed person must be convinced that he wants to eliminate his problems and therefore is willing to do something about it. This is a positive attitude to problems. Some authors also mention adequate social or material support of the stressed person. Psychological resilience is an expected prerequisite of success in the environment under high psychological pressure. Therefore some teachers or parents intentionally evoke stress situations as they suppose they will improve the psychological resilience of their children. In a questionnaire research, we conducted in selected persons showing repeatedly a higher level of stress, we obtained information of the stress origin and causations. In this stage it was necessary to divide the coping strategies into two categories with one being focused on pupils and the other on teachers and non-pedagogical employees. Our interventions focus on physical activities that may contribute to stress elimination in a positive way as well as to increase of psychological resilience.

## **1. Pupils**

Teachers were informed about the fact that some children prove problems with stress coping (in some cases the teachers themselves had labeled such pupils). By means of questionnaire survey we learnt that the pupils are unsatisfied with both the offered sports activities and other selected sports which have not been in offer so far. We thus focused on the offer of psychomotor games and exercises which are based on experience and joy of movement as well as on selected steps from the area of kinesiotherapy, the basis of which we presented to PE teachers and other participants. 14 seminars for teachers in total (2 in each school) were conducted and some of the teachers also participated in a course arranged by the Department of Special Pedagogy, Faculty of Education (32 hours – 6 participants in total ) or in licence course at the Faculty of Sports Studies (3-day course – 8 participants in total). Play was the keystone of the selected exercises and it enabled the pupils to participate in the activities spontaneously. At the same time it is necessary to respect the fact that play is a basic element of social and intellectual development of human personality. By means of playing we develop motricity and both non-social and social skills as well as social roles. Cognitive side of a child is developed, behaviour is innovated and signalisation is changed – one’s self-presentation towards close objects (in young children represented by parents, in older children by classmates, friends and adults including teachers). These features are particularly important for a further development of children as in the period of dependence they achieve not only formal education under the intention of values and traditions of culture, but they are also confronted with various social roles they have to play and manage (Michel, Mooreová, 1999).

Components of kinesiotherapy were used especially in children who proved pathologic stress level. These children are under medical surveillance and cooperation with teachers is particularly intensive. Some children with pathologic stress had even stopped attending school as a result of this serious disease (4 children in total). This area of our cooperation with selected schools is continuously developed and another research survey is planned for spring 2011.

## 2. Teachers

Surprisingly high stress level occupied all the addressed school directors who consequently requested a suitable intervention for their teachers. Some teachers did not show any sign of interest in further cooperation. However, many of them gradually started reacting in a positive way and took part in the offered physical activities.

*Sports movement activities* – particular schools have offered selected sports disciplines to teachers in the afternoon hours on a voluntary basis:

- volleyball (2 schools)
- basketball (1 school)
- football (1 school – women and just 2 men)
- fitness centre (2 schools)
- aerobic (2 schools)
- swimming (1 school)

Teachers who proved normal stress level also participated in the above mentioned activities. They supported the successful cooperation and motivated their colleagues who were under stress and had problems with performing any physical activity as well. Sport and sport-movement activities are significant for adults as regular movement activity contributes to the correct body posture, obesity and overweight decrease, protection against civilisation diseases and it also prevents hypokinesia that is evident in increasing number of adult population. Physical activity also contributes to a better psychical condition and therefore to the increase of quality of life.

*Psychomotricity* – in the selected schools we conducted 2 seminars of psychomotricity and kinesiotherapy in which all teachers and some non-pedagogical employees participated. Many teachers started using the activities from the area of psychomotricity in their lessons, apart from physical education, e.g. in maths, music, Czech or in foreign languages teaching (English, German). The teachers themselves have admitted that they participate in the psychomotor activities with their class in order to get to know the group of pupils and to improve mutual cooperation.

*Kinesiotherapy* – teachers who experienced pathologic stress were recommended to attend seminars of psychomotor therapy that take place at the Faculty of Education, Masaryk University. Out of the total number of addressed teachers 5 of them (4 women,

1 man) attended these seminars. 3 teachers have quit their job for health reasons and 2 teachers are find themselves in a long-term state of work inability.

We are going to continue this form of cooperation as well and we plan to conduct one more seminar in each school and evaluate the whole project eventually.

Our research and cooperation with the selected schools have brought several experiences on the basis of which we shall state the following recommendations:

1. Stress in the school environment is a characteristic negative feature.
2. Stress level of the pupils relates to the contemporary conditions of school and it is necessary to monitor this feature. Higher stress level is often to be seen during a serious disease outbreak or in children from insecure social environment without adequate social support.
3. Stress level increases under the conditions of agresivity that may precede even school bullying.
4. Teachers should systematically increase their psychical resistance within their job in order to prevent the burn-out syndrome or fatigue syndrome.
5. Physical activities are basic features of coping strategies that contribute to the increase of resistance in school.

Within the health care movement is especially important and all its forms should make a regular part of our lives in order to improve the quality of life and to live a full-value life at the same time.

## Literature

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## VYUŽITÍ COPINGOVÝCH STRATEGIÍ S NÁPLNÍ POHYBOVÝCH AKTIVIT PŘI ODBOURÁVÁNÍ STRESU VE ŠKOLNÍM PROSTŘEDÍ

**Abstrakt:** Jak jsme prokázali v našem výzkumném šetření, míra stresu ve školním prostředí přímo působí na všechny jeho účastníky. Na dospělé v jiném období a s vyšší intenzitou než na děti, přitom učitelé v tomto šetření prokazují vysokou míru rizika. Z navrhovaných a posléze aplikovaných metod jsme zjistili, že je nutné respektovat nabízenou pomoc formou vybraných pohybových aktivit dle zaměření jednotliv-

ce, tedy individuálně. Z navrhovaných metod jsou sestaveny nabídky, které spadají do tří základních okruhů – sportovně pohybová aktivita, psychomotorika a její varianty, kinezioterapie a její varianty. Závisí na jednotlivci i na hladině stresu, kterou člověk vykazuje. U dospělých se nám osvědčily všechny zmíněné varianty, u dětí pouze psychomotorika a kinezioterapie.

**Klíčová slova:** duševní zdraví, pohyb, kvalita života, stres, copingové strategie