

## HEALTH EDUCATION AND STRATEGY OF MENTAL WELL-BEING IN EDUCATION PROCESS

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**Abstract:** *The paper is aimed on mental health development of children and youth and on implementation of mental hygiene in schools of the Czech Republic. The theoretic part focuses on actual health knowledge about the signification of mental health as a complex and influences of stress on human health and the coping strategies. The exploration contains results of interventional strategies verified in about hundred schools in Czech Republic in pupils aged 13 – 15 years old. Diagnostic methods contained interventional programs (12 week duration), questioning, observation. Results present high level of benefits of intervention in relatively short influence of educators. Significant changes were found in pupils stress management ability, in self - esteem, and values. Pupils expanded their knowledge and skills in interpersonal relations and they got to know new options of physical activities. The paper is also aimed on definition of adequate movement regime in context with mental health.*

**Keywords:** *health education, mental hygiene, adolescence, breathing exercises, relaxation, adequate movement regime*

### **Introduction**

Participants of an EU high-level conference “*Together for Mental Health and Wellbeing*”, which held in Brussels in 2008 ([http://ec.europa.eu/health/ph\\_determinants/life\\_style/](http://ec.europa.eu/health/ph_determinants/life_style/)) acknowledge the importance and relevance of mental health and well-being for the European Union, its Member States and citizens. Mental health was recognized like a human right. It was declared that mental health enables citizens to enjoy well-being, quality of life and health. Mental health promotes learning, working and participation in society. The level of mental health and well-being in the population is a key resource for the success of the EU as a knowledge-based society and economy. However mental disorders are on the rise in the EU. Today, almost 50 million citizens (about 11 % of the population) are estimated to experience mental disorders, with women and men developing and exhibiting diff-

erent symptoms. Depression is already the most prevalent health problem in many EU-Member States. Suicide remains a major cause of death. In the EU, there are about 58,000 suicides per year of which 75 % are committed by men. Eight Member States are amongst the fifteen countries with the highest male suicide rates in the world. The mental health and well-being of citizens and groups, including all age groups, different genders, ethnic origins and socio-economic groups, needs to be promoted based on targeted interventions that take into account and are sensitive to the diversity of the European population. There is a need to improve the knowledge base on mental health by collecting data on the state of mental health in the population and by commissioning research into the epidemiology, causes, determinants and implications of mental health and the possibilities for interventions. Amongst the priority areas are included Prevention of Depression and Suicide Depression is one of the most common and serious mental disorders and Mental Health in Youth and Education. The foundation of life-long mental health is laid in the early years. Up to 50 % of mental disorders have their onset during adolescence. Mental health problems can be identified in between 10 % and 20 % of young people. It is necessary to start with education and training to involve in the health education of youth mental health and well-being strategies and to promote the integration of socio-emotional learning into the curricular and extracurricular activities of pre-schools and schools. Also is important to promote the participation of young people in sport and employment. Technical development in transport, in building industry, in agriculture, in level of housing, in the speed of information and in computer technology in last decades guide to fact that the human life changed dramatically. We speak about “Consumption life style” which is typical of overconsumption of different things and often of wasteful use of them, of the environment indolence, of the food-stuffs overconsumption (frequently unhealthy foodstuff) and of drugs (alcohol, tobacco, substance abuse, narcotics).

During 2007 - 2008 we realized in cooperation with Japan Kochi university a research study in infants aged 3 - 6 years old 697 (360 girls, 337 boys) Japanese infants and 627 (305 girls, 322 boys) Czech infants which were investigated by inquire method for parents, which answered the standardized questionnaire. The study was focused on life style habits and on the analysis of the circadian rhythm and sleep schedule. Results demonstrated that Czech children were more morning-typed than Japanese children, while Czech parents were more evening-typed than Japanese parents (Mann-Whitney U-test,  $z=-12.33$ ,  $P=5.97 \times 10^{-10}$ ). Czech children were depressed more frequently than Japanese ones who were more frequently angry than the Czech children. Infants who were depressed or angry often were significantly more evening-typed than those who feel depressive and angry less frequently in both countries (Mann Whitney U-test, Czech:  $\chi^2$ -value=13.02,  $df=3$ ,  $P=0.0045$ ; Japan:  $\chi^2$ -value=12.87,  $df=3$ ,  $P=0.0049$ ). Results have shown that de-synchronization of the circadian clock system is accompanied by emotional instability and depressed mood (WADA, KREJCI et al., 2009). Intervention programs to promote the sleep and mental health in different age groups of children and youth in sense to shift to morning – type would be very useful in school education process. This study is only an exemplar of problems with mental health in childhood.

Every change in social milieu has a psycho – somatic response in the organism with a health impact. The change of situation is in first evaluated through the “psychic filter” with follow health impact (e.g. impact in body or it manifests as a mental-social effect) It depends of that, if situation is perceived as a stressful, endangering (e.g. evoking unsafely, destruction of psychosomatic integrity or too much stimuli together) or if can be accepted, positively evaluated or solved thanks the will. Through the “psychic filter” gone and are evaluated also signals coming from inside, from organism (e.g. burst of pain, palpitation). Just on completely subjective evaluation depends, if the response will be at last positive or negative from the view of health impact. If the situation is understood as endangering, symphateticus is mobilized together with noradrenalin and adrenalin mobilization. If people have not possibility to move at this moment, what is typical for nowadays sedentary life style and social interactions (in job, in car, by TV watching etc.), it starts biological reaction with all negative impacts on cardiovascular system and on inner organs. If the subjective stress repeats often or permanently, another hormone response in organism is mobilized, especially from the adrenal cortex (glucocorticoids, mineralocorticoids) and from other glands. This fact has very negative impact in immune system, allergic reactions and different diseases development. The defense and also the prevention is in physical activity. Its intensive impact on peripheral part, it means on somatic system thanks the adequate movement regime is affected psychic condition and physical condition so much that can be absolved stress without any health risk. The base of health support is self-esteem. Predisposition of that is a self-understanding. Predisposition for the self-understanding is ability to relax. The conciseness becomes more objective and wide in the process of self-understanding. Self-understanding makes people more open to personal experiences and has a positive influence on the level of social contacts (MÍČEK, 1988). To understand self, to be able to express self, they are key skills for competence. In this connection a social pressing comes forth, which influences much the individual (FIALOVÁ, 2008). Introspection and self-understanding plays an important role, because if we more and better understand our self, better and more we can adapt in environment (ROGERS, 1998).

## **Intervention strategies in mental health promotion**

The Continuum of Self transformation in the sense of Health support and Health development proceeds in coherent cycles (we recommend 3month’s cycles, e.g. 12 weeks), when in the first cycle a basic education is realized and after in other cycle(s) is deepened education in sense of independence of the clients on educators. The aim is the complete individual autonomy, when the client is able to:

- use relaxation and breathing techniques for tiredness compensation and stress management
- plan and realize an adequate movement regime
- know the benefits of health nourishment and to solve drinking regime and overweight management

- be resistant to false advertising
- know overweight and obesity health risks including health risks of hypo kinesis
- analyze health risks joint to the occupation and to compensate it with adequate salutors

Teaching of educators in health education area should be very authentic, with high level of empathy and acceptance. On the base of presented recourses and on the base of our research results in the projects GAČR 406/05/1685, GA ČR 406-08-0352 the continuum of Self transformation was defined. The continuum is ordered in the circle, see Figure 1.

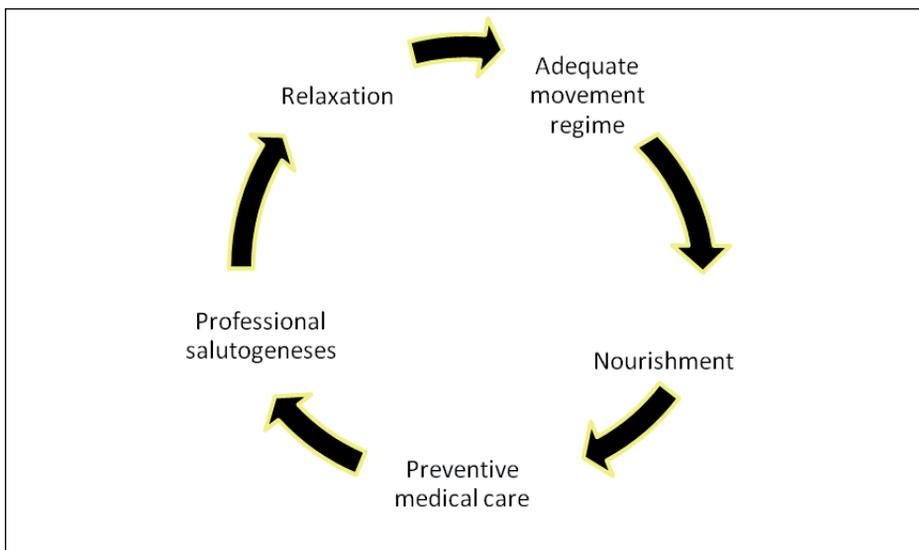


Figure 1: Continuum of Self transformation in the sense of Health support and Health development

Under critical analyze of the model of the Continuum and higher mentioned consequences of relaxation and self-valuation, self-esteem, we found out that to start by *Relaxation* is benefited from the view of active life style and health support. As it was mentioned up, psychic state is key point in area of individual health support and health development. In psyche it decides about the whole health change, does not matter in which dimension of organism. To influence effectively the psyche is most easy just during relaxation and breathing process. It is possible to use many techniques, which all have benefits in self-regulation and self-control development. Relaxation in psychic state can be easy transfer in motor area, if the principle of adequate movement activity is respected. Also in the process of motor learning and motor engram creation, the relaxation plays very positive role. In the state of relaxation and well-being people learn better and easier to motor skills. The Czech system of education this important phenomenon

missed till the end of 20<sup>th</sup> century. In present Czech school education system including Health education (area Human and Health in base schools and secondary schools) is opened possibility to master relaxation and breathing techniques (e.g. to master the self-control), which is very valued for active life. Mastering of the relaxation leads to homeostasis optimization and positive influences in circadian rhythms, including sleep habits. In this way one can feel the connection between psyche and physiological response and peripheries of the motor area.

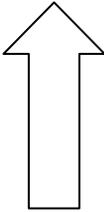
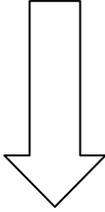
Stress	Changes	Relaxation
	Myotonus Breathing rate Cardial rate Blood pressure Metabolism EEG	

Figure 2: Physiological changes during stress and relaxation

The next element of the Continuum is the *Nourishment*. Food should be always fresh prepared with important portion of raw food (e. g. fruit, nuts, vegetable, milk, muesli etc). Just in fresh and in raw food are enzymes, which are accelerants of biochemical reactions in human organism (bones construction, muscles, haematogenesis). Ready-to-cook foods, heated food, old food, food with chemic additives influence negatively on organism and health, provoke tiredness. Other often mistake in nowadays is a poor breakfast and too opulent dinners. Also hurry during eating time, non concentration (calling, reading, TV) they are unfit to good digestion. Angry or agonized people cannot eat properly and if eat something, have digestive problems. Fears, angry, depression create “poison” even from the health food.

*Preventive medical care* and *Professional salutogeneses* are the rest parts of the Continuum of Self transformation in the sense of Health support and Health development. Preventive medical care in Czech Republic is based on European tradition of healing and presents self very high of treatment. So it is very wise and advisable to prosper from the possibilities of prevention check-up and care according the individual needs. It is necessary to remark that WHO declares that preventive medical care can positively influence the human health only from 15 -20 %. The biggest part can be positively influenced during the active life style including the adequate movement regime. From the view of the Professional salutogeneses for everybody is very important to analyze working milieu, working regime and according that consider carefully risk factors in context of individual health and health of others. On the base of this analyze is possible to implement in life style the salutors, which compensate health risk of the profession – for example voice calmness in teacher’s profession, stretching in programming engineer, etc.

*Adequate movement regime* can improve and maintain mental health, on the base of optimal mode, intensity, frequency and duration of exercise. General movement insufficiency can be observed in adults as in child age as well in nowadays.

It results in special psychic symptoms (so called “hypo kinetic syndrome”), which are demonstrated like impulsivity, irritation, non concentration, lack of self-control, discomposure and aggressiveness. Experience of adventure, in the past realized in different child games and playing, in nowadays is replaced by a virtual experience with minimizing of movement activity. Just the movement insufficiency (hypo kinesis) is the reason of disponibility to movement activity generally, because the motor learning is inhibited from childhood.

Physical movement and exercises are promoted as a means to enhance various aspects of mental health, including emotional disorders and cognitive processes. However, there is far less research on the mental benefits in the context with adequate movement regime. Our previous researches in the projects GAČR 406/05/1685, GA ČR 406-08-0352 and the project ESF Aim 3 -16 PACZion has consistently found that physical exercise improves psychological improvements, including intentional socialization effects.

Different movement activities, adequate to the individual skills, inclinations and interests are suitable implemented in daily life and create the adequate movement regime. Its basic characteristics and principles are defined (in the line according the importance and the consequence) in the next points:

- **Coping** - in the sense of individual managing and mastering of movement. What for one is easy, for the second is difficult. The main role play: condition, age, health situation, impairments, etc. Coping is the base of progress in motor learning.
- **Spontaneity** – in the sense of freedom, facility, pleasure during the movement activity, eventually to experience in the „flow“ effect. The spontaneity is the preposition for the saturation benefit.
- **Saturation** – in the sense of satisfaction, self-realization, self-determination during the movement activity and after it. The person has tendency to return to the movement activity again and again.
- **Repeatability** – in the sense of wish to return to the movement activity and to develop the performance as possible. Only in this step is real to begin with regular training with variable training load. The person accepts discomfort and even a pain.
- **Training** – in the sense of the variable dosage of the intensity according to the health situation, age, condition, body structure, sex, etc. During the training process can be developed a positive dependency on the movement activity. An obstacle can be availability of the movement activity every day.
- **Availability** – in the sense of regular, daily application of movement activity. It depends of nature conditions, time factors, solvency, laws, etc. Here usually begins combination of daily activity with season, temporal move-

ment activities (for example yoga + alpine skiing + biking). Adequate movement regime is created.

- **Safeness** – in the sense of the accident prevention, rescue during the movement activity realization. To keep principles of safeness. Only safe movement activity is adequate to the person. Again an important role plays: health situation, age, condition, body structure, sex, availability of equipment, etc.

On the base of adequate movement regime is possible to develop individual motoric skills. All, what is learned should be used in normal daily life and active life style according individual specifics and needs as for example to swim, be good in biking, to relax, to experience well-being during movement activity. It is very good if adequate movement regime concludes outdoor activities. Adequate movement activity connected with outdoor and has unsubstitute healing effect in physical, mental, social and spiritual level of health.

In adequate movement regime is not necessary to be compared in performance with others. Everybody is special and somebody prefers non-competitive movement activity. Therefore very good results bring non-competitive activities as to absolve a bike trip, to descent the river, walking tour with a dog, paragliding, snowboarding etc, when we do not compare our skills and force with others, but more to excel, to realize self. If the adequate movement regime is practiced with friends, family members or partner, is upgraded in unforgotten experiences fixed friendships and relations with transfer in next generation.

## **Research study procedure, methods**

118 teachers (92 females and 26 males) from junior high schools from different areas of Czech Republic were educated for realization of “Mental health support strategy intervention program” at school education process. 2367 pupils of the junior high schools participated in intervention. From the number 2367 pupils, 385 randomly selected pupils (186 males, 199 females) participated in testing. Before and after the intervention program selected pupils were tested. Data were analyzed by SPSS non parametric Cruscal Wallis Test. Statistical analyze was provided by Akane Kobayashi z Kochi University during her stay in University of South Bohemia in Ceske Budejovice.

### **Methods:**

- Intervention program,
- Intentional observation,
- Free notices of participants
- Test of circadian typology (Czech version - HARADA ET AL., 2007)

- Test „POMS“ Profile of mood states (version MAN, STUHLÍKOVÁ, HAG-TVET, 2005)
- Biofeedback Schulfried
- School environment analyze
- Weekly reports about daily regime of participants

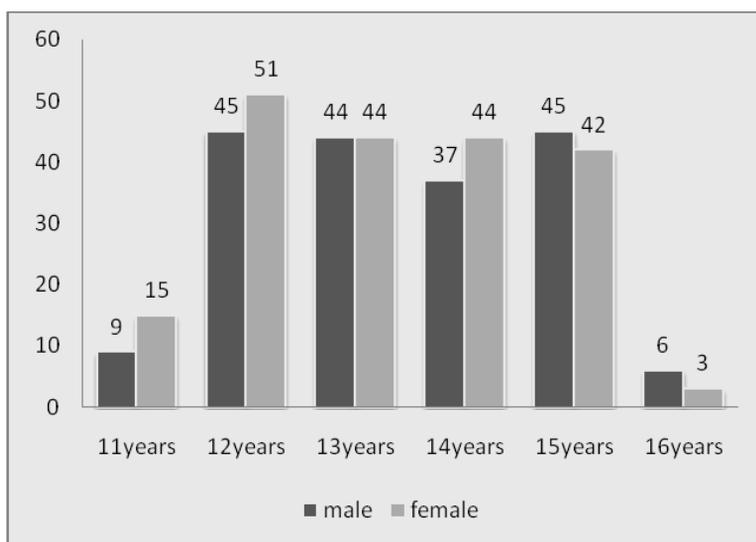
**Table 1A, B: Characteristic of tested sample – e.g. number, sex, age**

A

	11years	12years	13years	14years	15years	16years	sum
males	9	45	44	37	45	6	186
females	15	51	44	44	42	3	199
sum	24	96	88	91	87	9	385

B

		min	max	average	standard deviation
age	385	11	16	13,35844	1,303575876



**Figure 3: Characteristic of tested sample – e.g. number, sex, age**

The first phase of intervention program includes positive changes in self-control and in self-esteem through the integral yoga training (3 month) and the second phase continues in coherent mastering of adequate movement activities leading into individual adequate movement regime (2 weekends, one week course). The training was realized

in 2 weekend's courses in outdoor in interval of 1 month and after culminates in one week course again in outdoor.

## **Description of integral yoga techniques used in intervention program**

- Training of relaxation, yoga exercises
- Training of abdominal breath, full yoga breath and alternate breath (through left and right nostril)
- Training of concentration, visualization and Self Inquiry Analyze
- Lectures about sleep habits, circadian typology, stress management, ethics

The integral yoga training was realized in the group of participants in a 3 month cycle. Always once in week the yoga training proceeds. Participants learn here, what they should do at home regularly every day. Every 2 weeks the training set of exercises is changed according to keep up the motivation level of participants. Optimal duration of the training is 45 minutes for the lecture and discussion + 90 minutes for practicing of yoga techniques. Yoga techniques consist from yoga sets, yoga positions and exercises (from easy exercises – so called Sarvahittasanas – to the more difficult exercises developing strangeness and balance), from breathing exercises, relaxation mastering, concentration development techniques and from self-analyses („Self-inquiry meditation“). In the group of participants is applied an individual approach (tutoring, consultations). The lectures and discussions are oriented on topics as ethic life, active life style, stress management, nourishment, drinking regime, diurnal rhythms. Optimal number of participants in one training group is 15 participants.

Yoga exercises are provided in static or in dynamic forms. In all cases they have harmonies effects on nervous and motor system and on system of glens. If muscles are in permanent contractions, the blood circulation is blocked, and this fact corresponds with psychic lability (BERGER, PARGMAN & WEINBERG, 2002, MAHEŠVARANANDA, 2006, PIŠOT et al., 2008). Yoga these blocks and spasms „dissolves“ and in this way influences positively on the actual psychic state. Equal the aerobic exercises, e.g. walking, running decrease tensions in the body and lead to optimization of blood and lymphatic circulation (BUNC, 2007).

Yoga exercises support the metabolic processes and utilization of whole breathing capacity. Breathing exercises have revitalization effect and harmonize psychic states. Thinking process and breathing process are in the close relationship. If the man is irritate, his breath becomes irregular, slight, loud and limited in up chest. If the man is calm and relaxed, the breathing process is deep, slow, regular, with usage of whole breathing capacity (diaphragm breath). This principle is possible to use in such way, that during the change of breathing it is possible to calm emotions and harmonize psyche. Especially the full yoga breath and “Nadi shodhan“ (breathing through left and right nostril) present special techniques to calm and balance nervous system.

## Results and discussion

**Table 2: Significance of changes in Factors of test POMS (before – after intervention)**

	question number	average1	average2	average1 SUM	average2 SUM	shift	significant
Angry	2	1	0,493506	5,623626894	2,96388757	-2,6597393	<0.001
	11	1,096354	0,569191				
	19	1,067532	0,5625				
	21	0,994805	0,462338				
	25	0,716883	0,395833				
	31	0,748052	0,480519				
Fatigue	29	1,597403	1,012987	8,028571429	5,293513258	-2,7350582	<0.001
	18	1,8	1,14026				
	37	1,101299	0,836364				
	26	1,438961	1,002604				
	3	0,87013	0,524675				
	17	1,220779	0,776623				
Vitality	32	1,893506	2,18961	11,12973676	11,79579934	0,66606258	<0.001
	9	2,122078	2,408854				
	5	2,28125	2,511688				
	24	2,306494	2,532468				
	35	1,385417	1,166234				
	13	1,140992	0,986945				
Depression	4	0,986979	0,548052	5,551381866	3,267738937	-2,2836429	<0.001
	12	0,64752	0,389034				
	33	0,771429	0,47013				
	23	0,87013	0,483117				
	14	0,680519	0,481675				
	20	0,685714	0,467532				
Confusion	15	0,909091	0,428198	3,640028558	2,219595632	-1,4204329	<0.001
	36	1,101299	0,65974				
	34	0,846753	0,509138				
	10	0,803665	0,526042				
Tension	6	0,888312	0,524675	3,368831169	1,770265152	-1,598566	<0.001
	22	1,212987	0,592208				
	16	1,054545	0,552083				
	1	1,101299	0,625974				

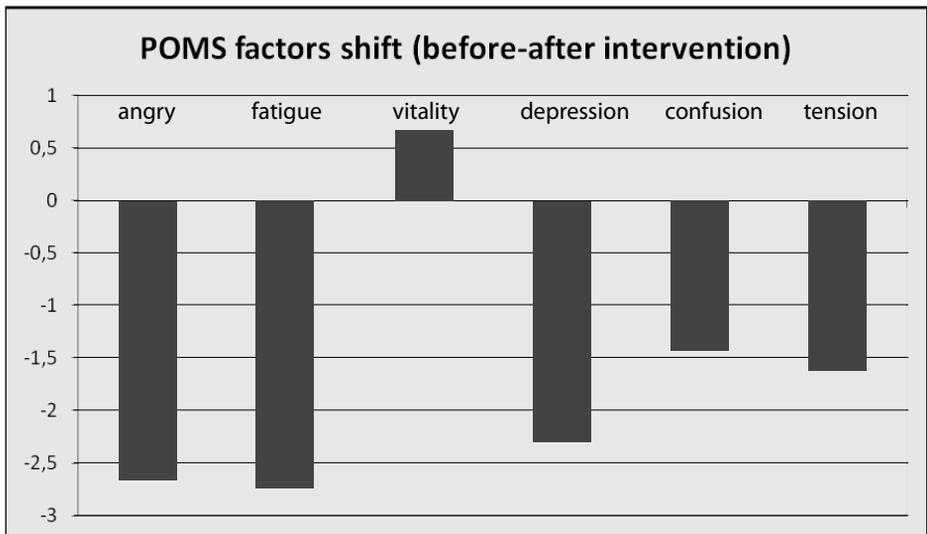


Figure 4: POMS factors shift (before-after intervention) in tested adolescents

In our previous interventions and researches with yoga techniques applications oriented on mental training of sportsmen, on concentration development, re-socialization effects, etc. (KREJČÍ et al., 1992 – 2003), we found improvement of emotional states. Using the self perception method POMS we certified significance changes in factors “angry”, “fatigue”, “vitality”, “depression”, “confusion”, “tension” – see Table 1 and Figure 1 in tested groups of adolescents. Especially expressive changes (decreasing) were found in factors “fatigue”, “angry” and “depression”. The shift from state “unhappy”, “nervous”, “enraged” to optimization of psychic states of pupils is evident. We can refuse null hypothesis and constant that after the application of program positive changes in emotional and social indicators were reached. In abroad research works, yoga was applied as a successful method of overweight reduction (e.g. RAJU et al., 1998, KHARE & KAWATHEKAR 2002, PAWLOW, O’NEIL, MALCOLM, 2003). In Czech environment such research missed and in the years of 2005 - 2007 was realized in our Institute as a granted research project GAČR 406/05/2431 “Positive effects of self-control and self-esteem development on overweight reduction through the yoga training“ (KREJČÍ, 2008). Our and abroad research results identical demonstrate benefits of yoga techniques in overweight reduction. Even the short term applications can bring positive results. Measures of lipoproteins and cholesterol in blood found out significant metabolic changes after 9 days long yoga training in consequence of relaxation of tensions and stress (PRASAD, SUNITA et al. 2006). Our results verify such conclusions.

Relaxation and concentration techniques reduce stress and mental tensions, help to self-esteem development and satisfaction, evoke happiness and well-being. Relaxation and concentration techniques open the way to self analyzes („Self-inquiry meditation“). Physical exercises manifested in body in the condition and muscle force, similarly the concentration strengthens mental health (memory, fast reaction, etc.) and self-control.

Meditation develops freedom and inner peace, supports intuition and empathy. Meditation is a key technique to self-control and self-esteem development, what is very in individuals with overweight. Meditation helps to experience of a presence moment. In the state of the inner concentration step by step the emotional blocks, phobias, anxiety are removed. Participant is able to recognize own possibility and aims to self-realization.

Only the right motor stereotypes create the base of comfort feelings in physical activities. Only right learned motor stereotypes lead to spontaneity in movement activity, what is fine for a catharsis effect, e.g. movement relaxation and stress compensation. Unfortunately stress is a part of temporal life style. Needs of long concentration, on orientation in couples of information, on prompt and quick reactions are in nowadays a base of optimal performance in work and personal life. As it was discussed up in the characteristics of adequate movement regime, if movement activity is relaxed, it leads automatically to mental relaxation. And in opposite, mental well-being positively influences healing process and body regeneration. Adequate movement regime supports not only overweight reduction, but also supports health and active life style in daily life. After realization of integral yoga training participants are able to use compensation and relaxation techniques to removing of tiredness and stress and to start with training in adequate movement activities. After the courses comes the emancipation, independence period (e.g. to realize individually) 2 months, when participant can consult with educator individual program, but more and more is independent. Participant continues in individual program of adequate movement regime alone or with a friend from the course. If he need, after 2 months period, he can again absolve 3months cycle of integral yoga training and at the same time continue in elected adequate movement activities with the variable dosage of the intensity. About 80 % of participants elect the possibility to absolve again the integral yoga training. Only after that, they feel so able and independent to continue in adequate movement regime individually.

To declare better influence of quality of adequate movement regime on health in adults we present here also selected results from a research study aimed on adequate movement regime in middle age adults. In the research study 811 respondents (405 males, 406 females) in medium age of – 30.9 years in males, 30.02 years in females participated. From the view of education level 226 were alumni of universities, 555 graduated of secondary schools a 30 absolved working schools. Questionnaire of Adequate Movement Regime, included 10 questions (KREJČÍ, 2010), was applied. Statistic analyze was provided by t-test - Fisher test. According the statistical analyze the significant difference was found out in activity „Walking, walking with dog” from the view of categories “Last year” and “Last week” ( $p < 0.00001$ ). In categories of “Last 3 months” and “Last year” was no significant difference found ( $p = 0.0793$ ). It seems that the walking is very important and often used activity in both genders of participants in category “Last week”. In retrospection of activities in categories “Last 3 months” and “Last year” the walking lost its importance at all. Sure it does not mean that respondents do not provide walking as a daily activity. But they do not want to interpret “Walking” as an important movement activity in periods of “Last 3 months” and “Last year”. In opposite they interpreted here sports like alpine skiing, swimming, fitness.

According to results of Fisher test it was found out significant difference in no adequate suitability between factor “Time” and “Finance”  $p=0.0018$  and between factors “Time” and “Distance”  $p=0.0013$ . In adequate suitability it was between factors “Finance” and “Distance”  $p=0.0031$  and between factors “Time” and “Distance”  $p=0.0013$ . Results confirmed, that the biggest problem for respondents is “Time” factor, e.g. to find time for physical activities. Factors “Finance” and “Distance” do not play an important role. Results indicate good level of ability to organize movement activities in adequate regime of respondents, see Table 3.

**Table 3: Suitableness of movement activities (N=811, 405males, 406 females)**

Suitableness	Time	Finance	Distance
Very adequate	459	576	671
Adequate	174	168	102
Non adequate	165	54	25

Other results declare an interesting fact that most popular physical activities, to which respondents like to return, are not master on the proper level of motor learning. Respondents evaluate self mostly by mark 3, see Figure 5. It is striking especially in alpine skiing, which was evaluated in both genders of respondents as the most popular physical activity, see Figure 6.

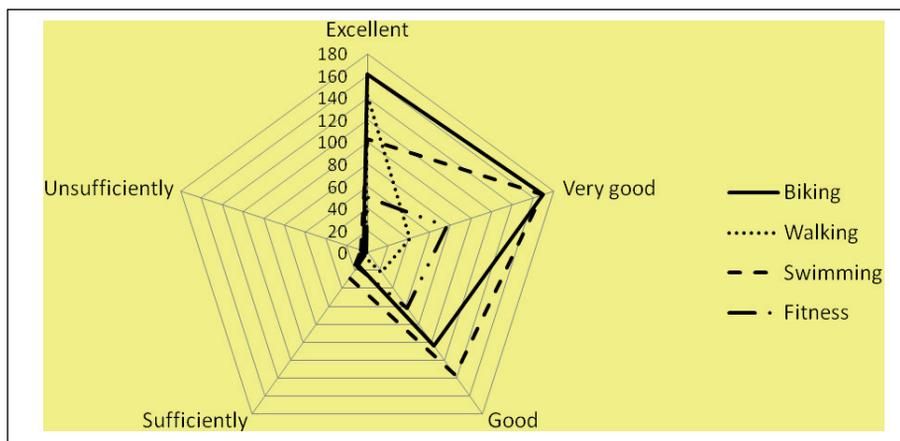


Figure 5: Most popular physical activities from the view of declared level of mastering 1=excellent, 2=very good, 3=good, 4=sufficiently, 5=insufficiently. (N=811, 405 405males, 406 females)

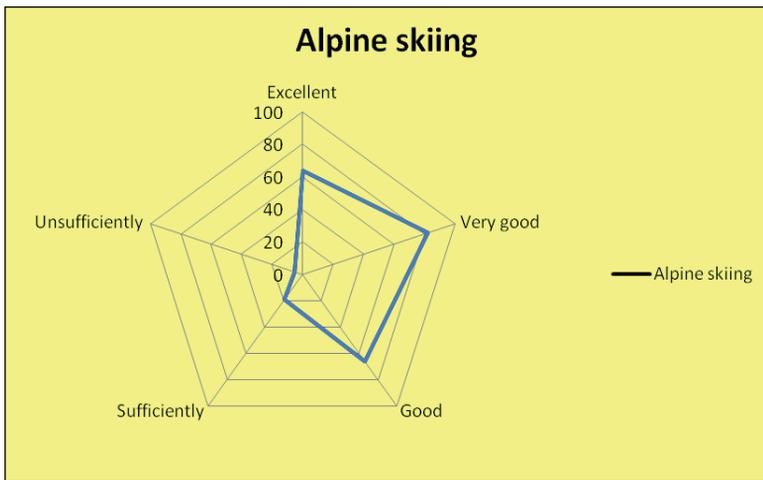


Figure 6: Alpine skiing from the view of declared level of mastering 1=excellent, 2=very good, 3=good, 4=sufficiently, 5=insufficiently. (N=811, 405 405males, 406 females)

The last result, which we present, which one was again same in both genders of respondents, is the day time preference for physical activities. In both genders dominate preference of the afternoon and evening time, see Figure 9. This result is surprising and shows more low knowledge about health benefits of morning exercises as lack of time in the morning. Benefits of morning practicing are accented especially in overweight reducing period. In addition morning movement activities are effective from the view of mental hygiene, for the well-being and feelings of harmony for the whole day. Also the investigation in the area of circadian typology and rhythms verified the positive health impact of morning physical activities (HARADA ET AL., 2007).

Regarding to the nowadays hurry life style often biorhythms are disturbed. No adequate movement regime results in a sport “burn out” effect, cardiovascular overload and tiredness symptoms. But just the tiredness symptoms present clear signals to rest. Tired man is irritable, produces conflicts and can be aggressive, If a special regime is pushed him in his time table and he cannot free decide about his rest “psychic philter” signalizes stress, threat, the irritation increases and the man has a tendency to stop all activities and never return to it. This is contra productive to the health benefits of physical activities and to the health education to active life style.

Pupils of grammar schools feel more often overload then pupils of junior high schools, especially in the number of lessons, difficultness of forms and content of curriculum and homework. Time spent at school of all tested pupils represents daily 9- 10 hours in 14 – 15 years old. Participants feel problems in mental health, but are shying to talk about that. Also they do not like to speak with parents about problems in mental health. Main problem, which they define, is an absence of leisure time and time for relaxation. Adolescents were unsatisfied with absence of time for friends, family members as well. They would like to have more time for walking, resting and sleep. On the base of our results and observation we can declare that pupils liked the education in mental

techniques and in yoga techniques. They were active and it was not necessary to apply a special motivation support. They liked all program of mental health support, felt less tired, more in harmony and vitality, what significantly is shown in results of POMS method. Teachers which guided the program expressed also satisfaction how all participants were very initiative in learning.

On the base of weekly timetables of participants we discover disorders in circadian rhythms (especially late getting in bed, interrupted sleep, lack of sleep) and not adequate movement regime. In opposite they spent too long time daily on the computer playing and internet communication.

## Conclusions and recommendations

On the base of found results we recommend to implement mental health support and training of mental hygiene techniques in school education in context with presented program and paradigm of Continuum of Self transformation in the sense of Health support and Health development. Special attention in education process should be gave to optimizing and explanation to sleep habits and circadian rhythm. With mental health support use adequate movement regime and promote movement skills and self – esteem and self – confidence during individual providing of physical activities.

Health support in adequate movement regime presents an important part of active life style analyzing. Adequate movement regime creates a part of a paradigm - “Continuum of Self transformation in the sense of Health support and Health development” and therefore can influence on the level of individual active life style since childhood till senior age. Health education is based on prediction that man is a subject who is developing, e.g. the change of Self is possible in any age period. The Self is not completed and finished, in the sense that we could operate with the Self in a calculable way. In this fact amazing potential of educator’s work is hidden here for kinesiology specialists and competence physical education experts. On the base of the up discussed research results is possible to declare that integral yoga training can present for individuals with overweight a suitable initial physical activity, which founds an area for the others physical activities (adequate to individual specifics) and for the full individual and independence adequate movement regime. In addition during the integral yoga training people must not fear of ironizing, unsuccessful, they must not suffer of anxiety and to have any social barriers in connection to physical activity. The aim of this publication was to define the active life style in connection to the adequate movement regime. The adequate movement regime is declared with characteristic steps on pages. Adequate movement regime can be upgraded in outdoor environment, eventually in non competitive way of its realization, when it is not necessary a nonstop comparison with others. Adequate movement regime has a fundamental influence on the support and development of individual health, including the problematic of circadian rhythms, development of motor learning, tiredness compensation and stress management.

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## **VÝCHOVA KE ZDRAVÍ A STRATEGIE VÝUKY DUŠEVNÍ HYGIENY VE ŠKOLE**

**Abstrakt:** Příspěvek se zabývá otázkou rozvoje duševního zdraví dětí a mládeže a zařazením výuky duševní hygieny ve školách v České republice. Teoretická část shrnuje dosavadní poznatky o významu duševního zdraví jako celku a zabývá se vlivy stresu na zdraví člověka a dále algoritmy optimalizace stavu ve školním prostředí. Výzkumná část prezentuje výsledky intervenčních strategií ověřovaných na desítkách základních škol v České republice u žáků od 12 – 15 let. Metodika výzkumu byla založena na aplikaci intervenčních programů (12 týdenních), dotazování (POMS), pozorování, projekci. Výsledky ukazují vysokou účinnost intervence při poměrně krátkodobém působení edukátora. K výrazným změnám došlo u žáků v oblasti zvládnání úzkosti, v sebehodnocení a hodnotové orientaci. Žáci si také rozšířili vědomosti a dovednosti v mezilidských vztazích a získali přehled o nových možnostech pohybových aktivit. Práce se zabývá definováním pojmu adekvátní pohybový režim ve vztahu k mentálnímu zdraví člověka.

**Klíčová slova:** výchova ke zdraví, duševní hygiena, pubescence, dechová cvičení, relaxace, adekvátní pohybový režim