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# **CURRENT STATE OF TEACHER'S OPINION ON CLASSIFICATION AND EVALUATION IN PHYSICAL AND SPORT EDUCATION AT ELEMENTARY SCHOOLS**

**ADAMČÁK ŠTEFAN – KOZAŇÁKOVÁ ANNA**

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**KEYWORDS:** classification, evaluation of school physical education and sports, educational process.

## **INTRODUCTION**

The main aspect of educational process in physical education is a positive influence on physical and mental health, physical, functional and motional development of students, the formation of psychological, intellectual, moral and other personal characteristics of pupils in the interaction between teachers' educational activity and the learning activity of a student. (Trunečková, 2002).

Pupils' assessment is a form of stimulating or limiting the responses of a child. It is a good instrument in reinforcing the correct behaviours and eliminating the undesirable. It is a powerful stimulant and has a great educational value, but only if it is accurate and just. The term assessment is often identified with the terms of classification and grades. Assessment is a broader concept than classification; it is an expression of emotional relationship, opinion and evaluation-grade. Grade is a measure of the pupils' knowledge; it should not be a tool of reward or punishment (Rosa, 2001).

Gondová (1997) claims that questions of evaluation are now one of the most discussed topics, not only in pedagogical theory or educational practice but also among the general public. Assessment is a process by which the value of an activity, event, situation, action, or student's behaviour is being evaluated through verbal and nonverbal means. It involves a wide range of short and long term activities of a teacher, educator such as screening, testing, monitoring, assessment and classification of pupils. Result of these activities is to evaluate the

student, basically the classes or educational groups in various forms. Terms assessment and classification are in practice often identified with each other; one must realize that these concepts are not equivalent. Assessment is a broader term which also involves classification as a result of an evaluation process; but not only classification is the result of this process. It also reminds us of that teacher may objectively evaluate a student solely on his basic comprehensive knowledge.

Aim of assessing the learning outcomes of students is to provide pupils' and parents' feedback on how the student has mastered the issue, where he lacks knowledge, has limitations or how big is his progress. One part of the evaluation is also to encourage further work as well as instruction on how to proceed in eliminating deficiencies. The aim is to asset the linkage of knowledge between skills and competences. Classification is the final act of an evaluation process in which pupils are arranged into certain classification grades due to the results achieved. It should fulfil following functions: controlling (diagnostic), prognostic, motivational, educational, informational, developing, as well as feedback. (Michal.2003; Turek, 2001).

In our opinion, physical education in primary schools should be seen as a subject determined towards the aim of getting pupils into regular exercise. This understanding of teaching then focuses principally on pupil; emphasizes learning points relevant to the person who is learning. This relates to the whole personality, its cognitive, affective and operational part. (Bartík et al., 2004).

## **AIM OF WORK**

Aim of this work was related to the grant assignment of VEGA 1/03770/08 "humanization of teaching in sport games as a means of making the process of learning in primary schools more effective", to find out the current view of teachers on classification and evaluation in physical and sports education at elementary school.

## **HYPOTHESIS**

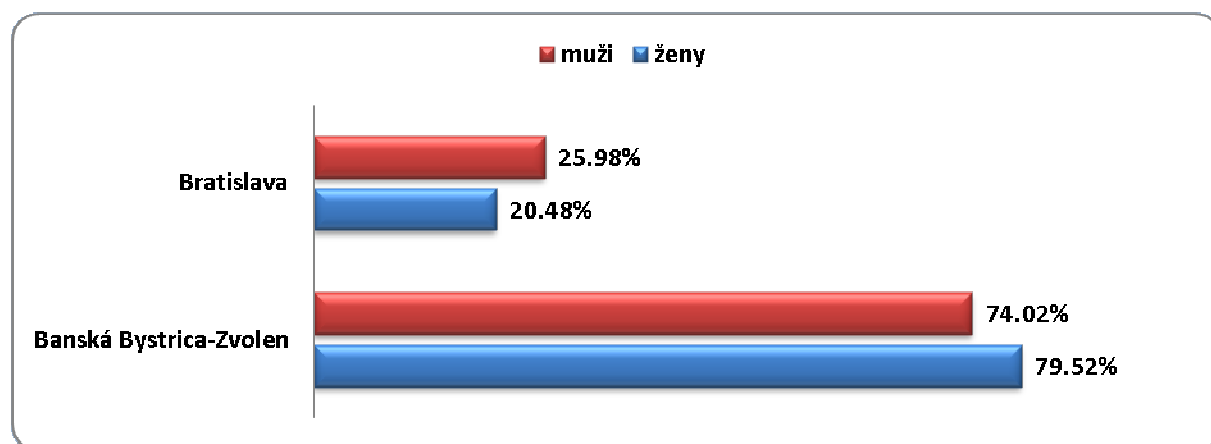
H1: Classification, evaluation of hours of physical and sports education is considered by more than half of respondents as an important factor in the educational process.

H2: In time of evaluation, classification more than half of respondents is taking into account the effort pupils have shown during the hours of physical and sports education.

## METHODOLOGY

### Characteristics of the research sample

The research sample consisted of physical and sport education teachers working on the secondary schools in Banská Bystrica - Zvolen and Bratislava. Their total amount was 40. Their ratio is shown in Picture 1

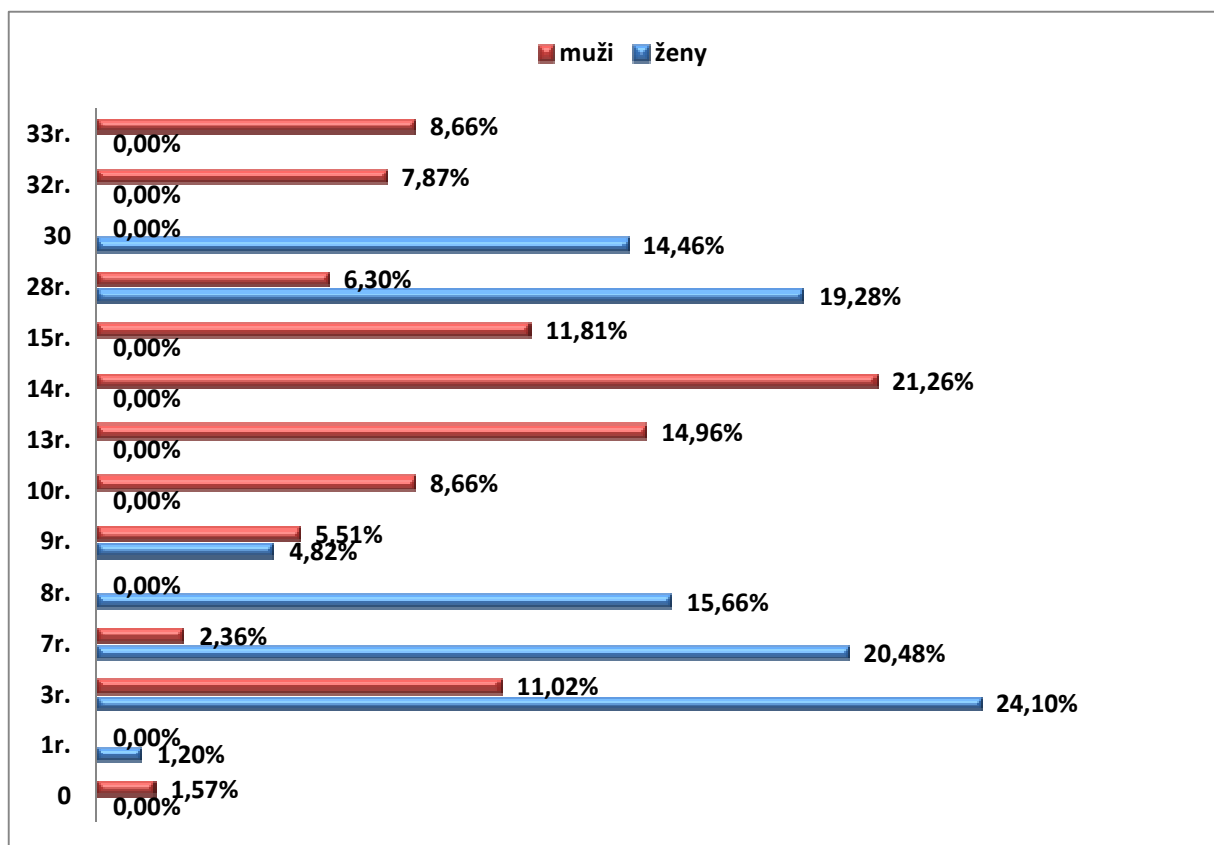


Picture 1 Characteristics of the teachers' sample teaching on the 2<sup>nd</sup> level - from the aspect of location and gender

Most teachers in the male category were teachers aged 38 and 42 years. Teachers in the female category were aged 29 and 31 years. In terms of practical experience (Pic. 2) most of the teachers are male of 13 and 14 years of experience from which we can conclude they are experienced teachers.

The situation in women's group was different – dominant were teachers with practical experience of 3 and 7 years. From the picture below, we can conclude teachers of experience more than 30 years are working in primary schools, too. A fact, we consider less positive is – that only a small % of teachers – men involved in school physical education have practice less than nine years. This fact can be easily explained with the low-pay rate of teacher's work where teachers trained in the field of physical and sport education end up in other – more lucrative sectors. In terms of approbation, which teachers graduated from, dominated teachers in combination with geography (Z), biology (BIO), but also Russian Language (RJ). At the same time, there are more teachers teaching in primary schools which graduated from the field of physical education focused on training.

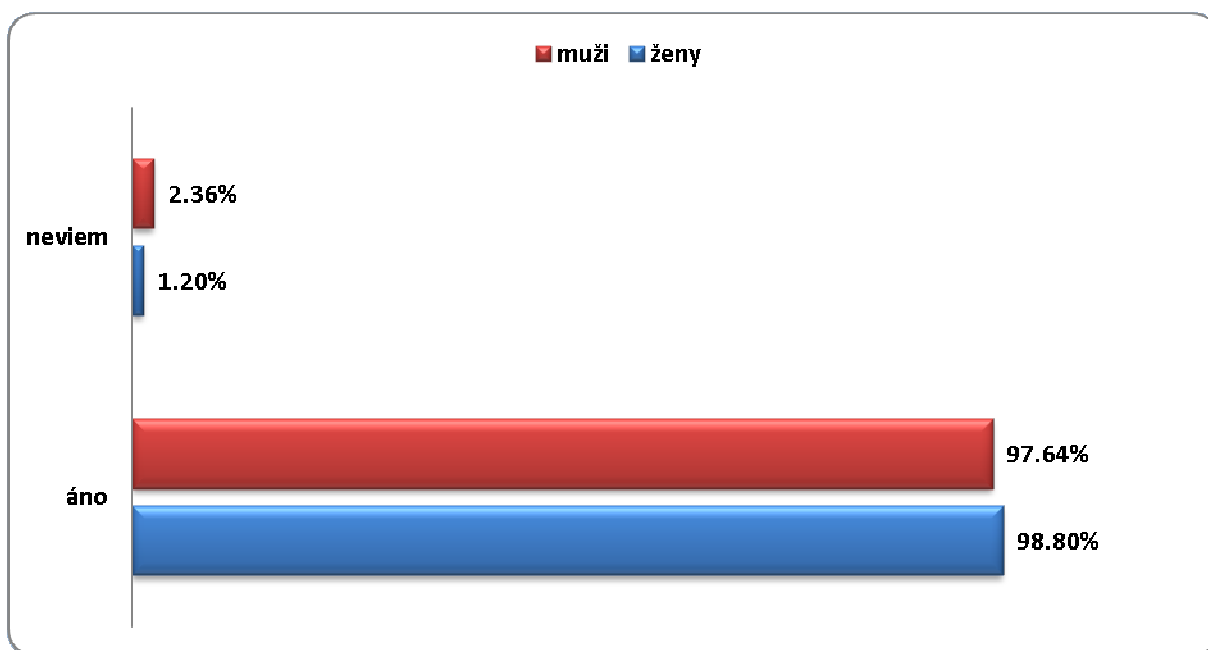




Picture 2 Characteristics of the teachers' sample teaching on 2<sup>nd</sup> lever – from the aspect of gender and practical experience

## RESULTS AND DISCUSSION

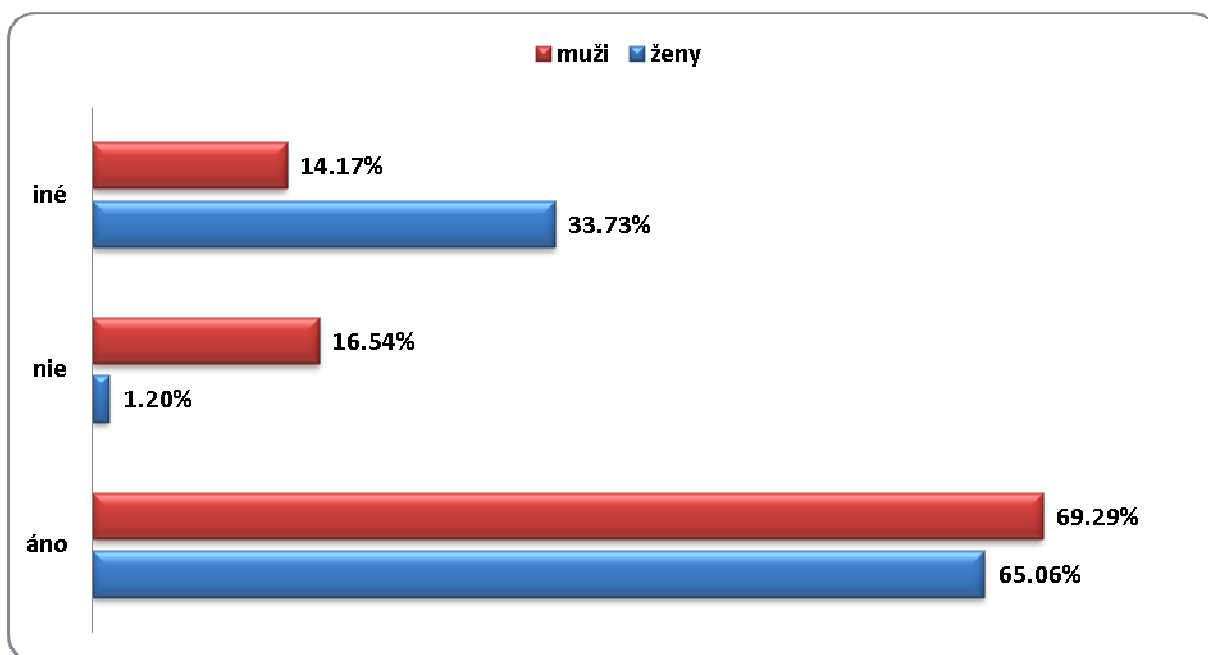
In the first question, we asked respondents whether they consider evaluation, classification in school physical and sport education as an important factor in the educational process (Pic. 3).



Picture 3 Teachers' opinion on the importance of evaluation and classification in the educational process of physical and sports education

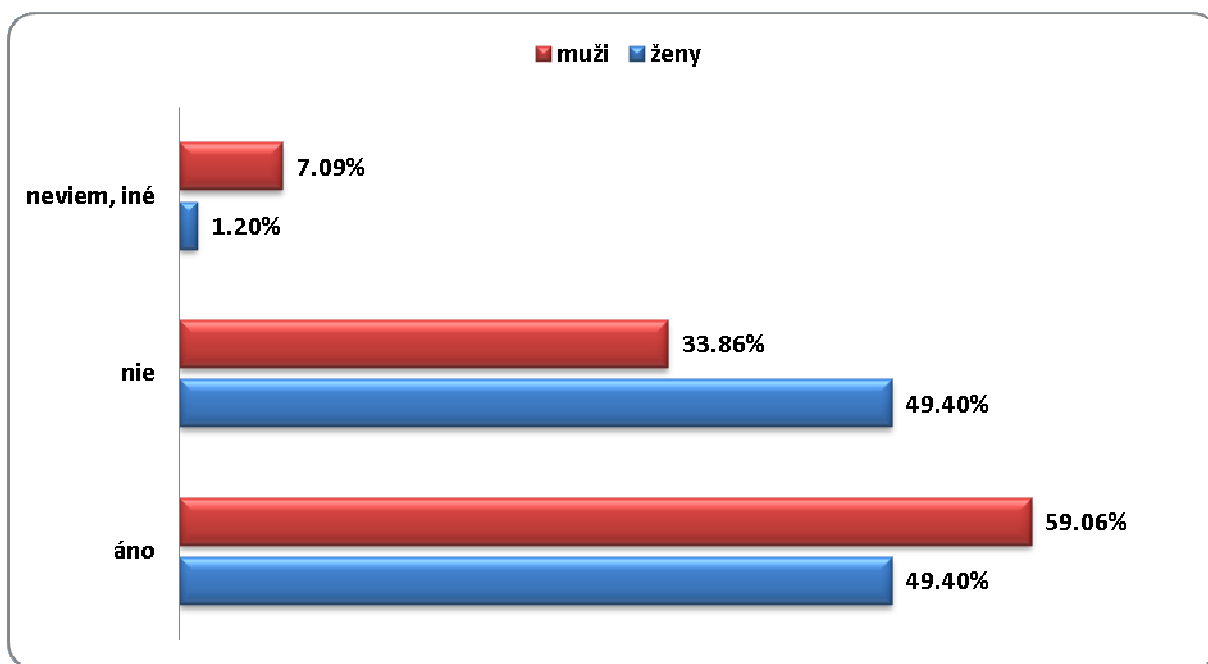
Evaluation results of the questionnaire have shown us that more than 97% of the respondents from both genders marked "yes" as an answer. These findings were positive for us, but we are quite sure that teachers do not use it in form of "carrot and stick", because according to Pelikan (1990-1991) most damage is caused when teachers are unable to capture pupils' attention throughout actual learning. The answer "no" was not marked by any of the respondents. The remaining percentage of respondents, namely 1.20% of women and 2.36% of men choose the answer "do not know."

Assessment and classification have in many cases a large impact on pupils themselves, therefore the second questions respondents were told to answer was: "Do you think that assessment, classification has an impact on changes in the level of physical skills and abilities?" On picture 4 we can see that the answer "yes" was indicated by most of the respondents, accurately 69.29% men and 65.06% women. Evaluating the results, we found out that respondents also marked the response "other", which was a third possibility. In response to this, they have been advised to give an example but we were surprised that none of the respondents who marked this possibility has done so. From the above, we can only assume that teachers took into account the standards of education in accordance to which the emphasis lies on outcome of the education and every level of these outcomes is aimed at competencies – this means a combination of knowledge, skills and abilities (Hauser, 2008).



Picture 4 Opinions on the impact of assessment and classification changes in the level of physical abilities and skills

Controlling activity is in addition to planning and management activities very actual, serious and a sensitive part of leading the learning process. This is done by various means and methods (Mikuš-Bebčáková, Modrák, 2008). For this reason we were interested in the opinion of respondents on the classification through grades. Therefore, we formulated the third question as follows: "It is appropriate to evaluate and classify the physical education with grades? Give the reasons why? "Evaluating the results we came to a diversity of responses in both genders (Picture 5). The positive answer was marked by 59.06% of men, 33.86% answered negative and 7.09% could not express themselves. In case of women we recorded the same percentage 49.40% in both positive and negative answers. The remaining percentage of respondents was unable to comment which points at the third response they have chosen.



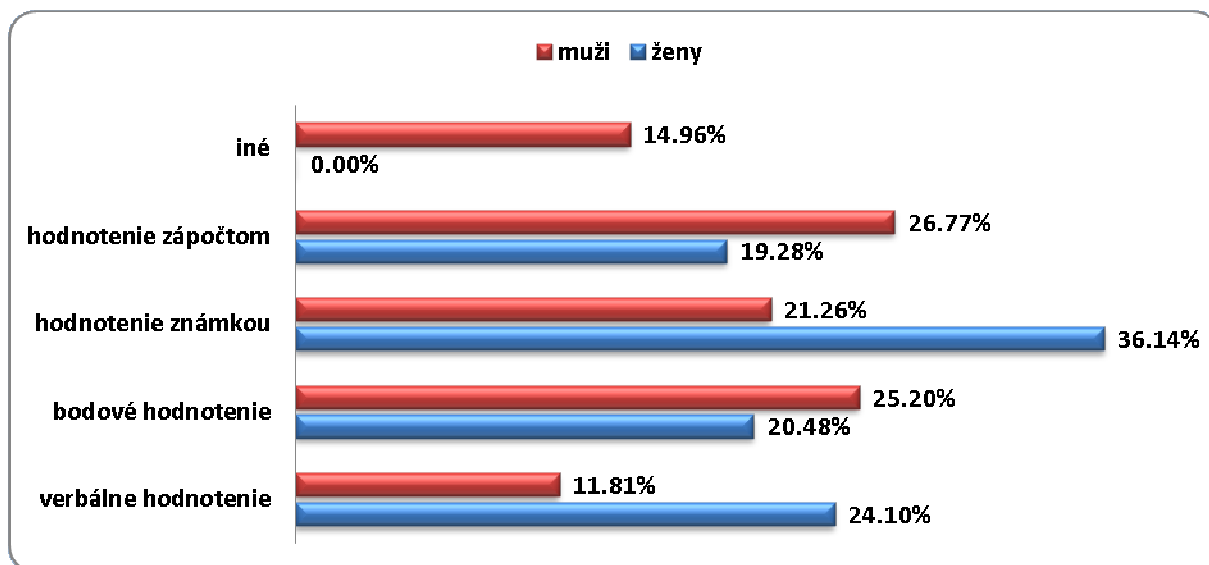
Picture 5 Opinion on assessment, classification through grades

According to Slavík (1999) evaluation intervenes with each student's motivation to learn, influences his self-esteem and self-evaluation. It affects most the relations between pupils' social environment and the pupils themselves; it can strongly affect the quality of their future education.

In the previous question we expected differences in responses, because each teacher has his own view and opinion on classification. Therefore we decided to formulate the questionnaires next fourth question as follows: "Choose a communication method, which you consider to be appropriate in physical education." Assessing the results, we found out that most men - 26.77% considered as the most appropriate type of evaluation the credit evaluation. Almost the same percentage - 25.20% received the score evaluation. Possibility to choose the response "assessment grade" was identified by 21.26% of men, which is the third most popular method of evaluation. Our findings have been a surprise for us as according to Slavík (1999) this method is the most common form of assessment in schools. Whereas the grades are easily recorded and are a simple mean of communication. This fact was definitely determined by the transformation processes at all school levels in recent years.

Reply which dominated the female gender reached - 36.14%. Lower percentage of responses received the verbal and grade evaluation (see Pic. 6). According to Spilková (1994) verbal evaluation represents a complex assessment of the personal development; it is not limited only to the definition of current state but seeks the causes, shows development and the

roads towards changes. Verbal assessment is generally positively tuned with expression of support at overcoming obstacles and difficulties.

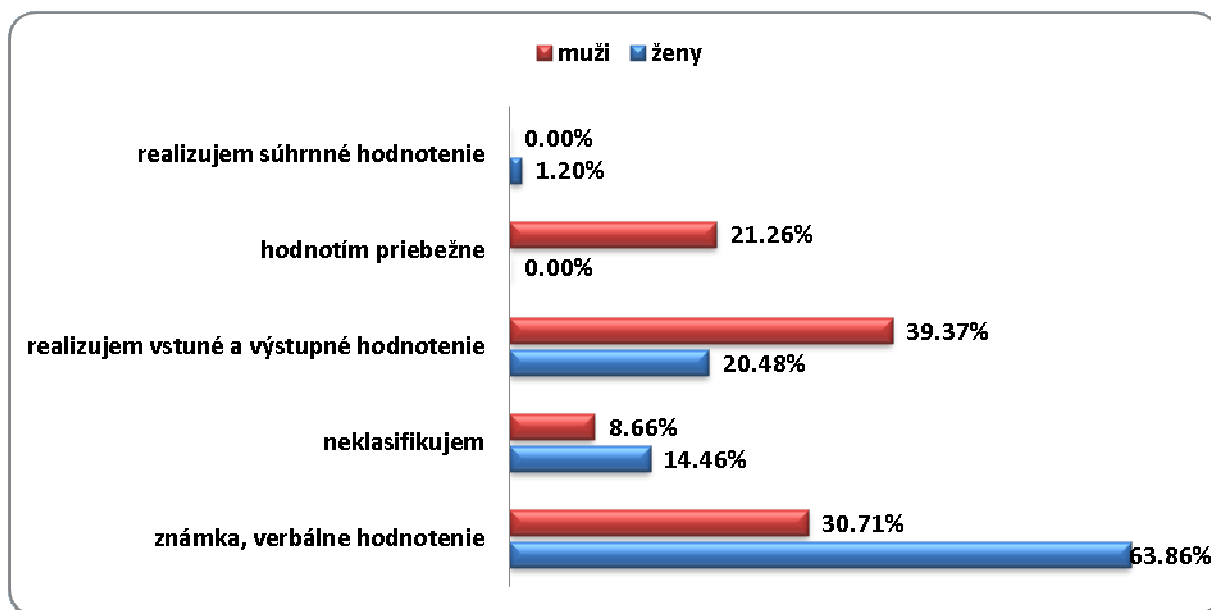


Picture 6 Opinions on the best method of classification, evaluation in physical and sports education

We agree with Zelinková's (2004) statement that assessment through grades or points these assessments must be continually supplemented with verbal evaluation which takes better notice of start, process, results and conditions in which pupils have at work. A formal assessment could lead to a formal performance. Weaker students should be given tasks which would take into account weaker pupils advantages – for example physical strength, dexterity, imagination, technical skill and so on.

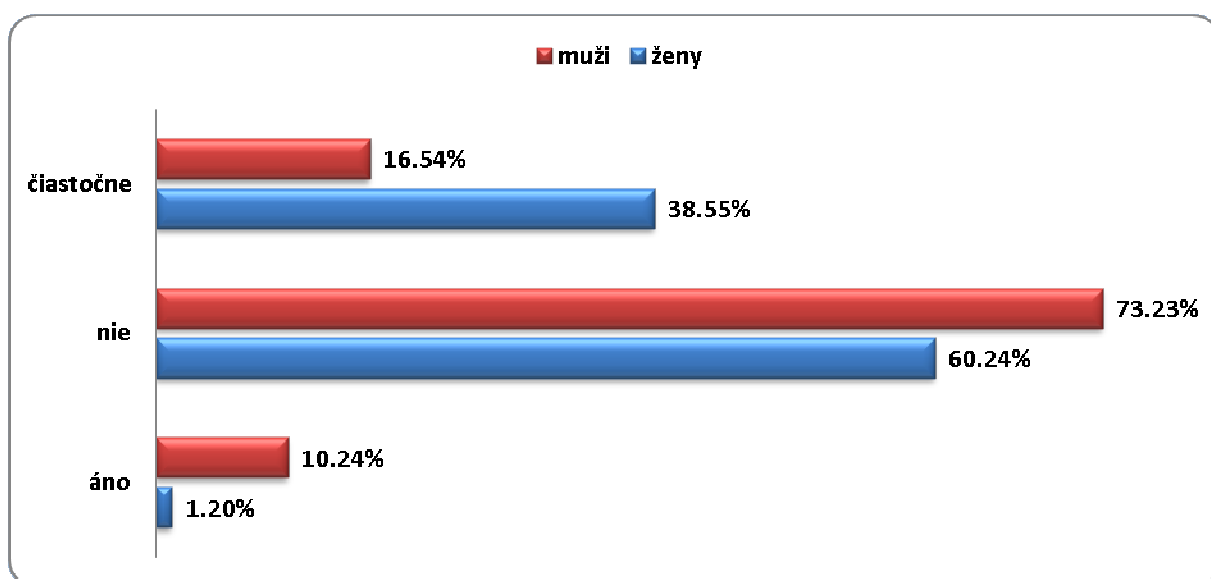
Fifth question, participants were asked to answer was their current method of assessment and classification during physical and sport education. Comparing the results, we have found out that the biggest percentage of males' implements entry and exit assessment (39.37% male); females were significantly dominating in verbal and grades evaluation (63.86% women). With this issue, we recommended the respondents to continuously switch during grades and verbal assessment – because it allows reflecting the strengths and weaknesses of students more accurately and for many and especially for girls is an important and often more powerful motivational tool. The percentages obtained in the classification of other possibilities can be seen in Picture 7. With the question of pupils' classification was concerned also Dančíková and Antala (2008). They found out that in the issue of pupils' classification in physical education even the school managers (directors and deputy directors) are not united. Opinions on this issue have been almost equally divided - 48.1% was for

classification and slightly more (51.9%) was against the classification. According to these authors, many expressed the opinion that students of physical education should be assessed the same way as in other subjects.



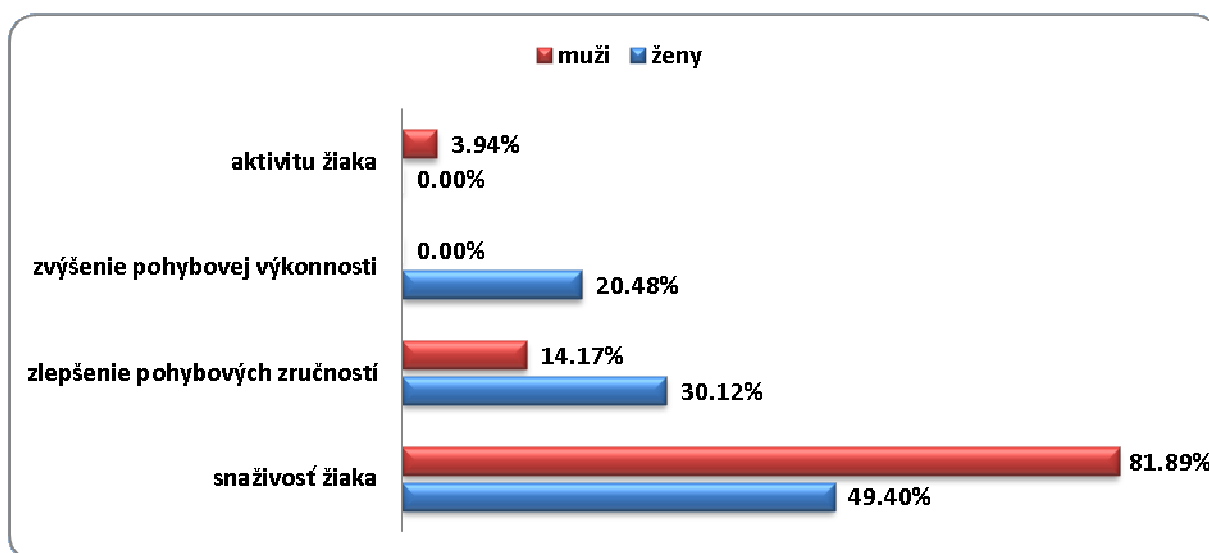
Picture 7 Current methods of assessing students by respondents

Next question we asked the respondents was whether they take into account the grades in other subjects while evaluating the school physical education. Acquired amount of responses shows that more than 60% of respondents of both sexes take these grades into account. These results we evaluate as highly positive. Specific percentage values are depicted in Picture 8.



Picture 8 Taking into account the grades of other subjects while evaluating the students in school physical and sport education

Assessing the relationship of a student towards physical education can the teacher make not only based on a long-term monitoring of students throughout class education – where he observes especially his particular activity, effort, independence and creativity – but also based on his activity and involvement in school and after-school physical education as well as his interest in sports. Therefore we asked, the respondents, in the penultimate question what do they take into account when evaluating the student in physical education (Pic. 9).



Picture 9 Levels of pupil's personality taken into account by assessing, classification in school physical and sport education

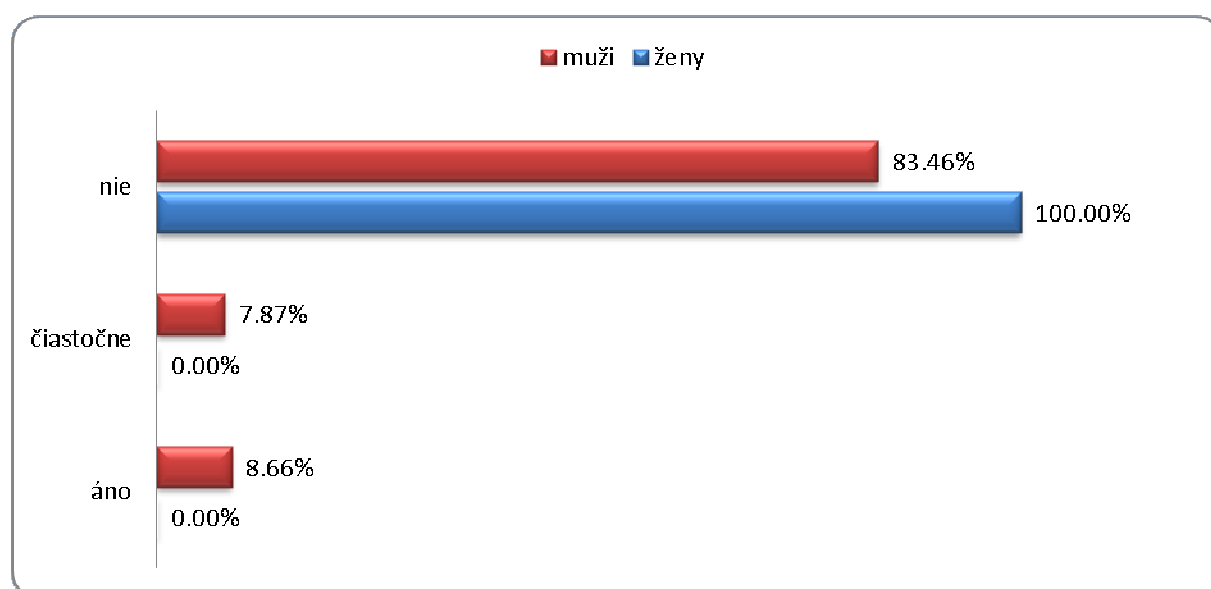
Assessing the results, we came to a conclusion that the biggest percentage of respondents of both sexes takes students' effort into consideration while evaluating. These conclusions have been made based on the results in percentages. As you can see in Picture 9, students' effort was identified by 81.89% of men and 49.40% of women what has been the biggest score compared with other options possible. Activity of pupils, got the lowest percentage, identified only by the 3.94% of male respondents.

The facts we obtained were very positive to us in comparison to Labudová and Antala (2008), for who the basic indicators in school physical education are these:

- Assessing the approach and attitude of students, especially their relation to physical activity, physical and sports education as well as their social behaviour and adaptation
- Development of body, movement and functional abilities of pupils, especially the development of health-oriented fitness, physical performance in relation to individual anticipation of pupils;

- Learning process, acquisition, improvement and consolidation of movement skills as well as theoretical knowledge, especially orientation in the content of curricula prepared by teachers and implemented at individual schools.

The last question was aimed at increasing teachers' know-how because we were asking the respondents whether they have knowledge of other types of classification which is being applied in foreign school physical education. At this point all the women and 83.46% of the men marked the first opportunity, which brings us to result that the respondents do not have information about new types of classifications used in foreign countries (see Picture 10). This unfavourable fact is certainly influenced by several factors as we agreed with Antala (2009), who in his work points out the fact that many teachers are forced to look for another work, which often distracts their attention from the work at school - in our case, the area of self-education.



Picture 10 Awareness of other classification and evaluation types used in foreign countries

## CONCLUSION

We identify ourselves with the opinion of Chromik (1993) that the teacher is the most important factor in the educational process because he provides information to students and also affects the development of their personality. His work is highly responsible and challenging because he leads students towards learning - in our case to create a good relationship to physical and sport education and as well as physical activity; therefore students must have feedback which in our case is assessment - the classification. The main goal of our work was to determine the current status of teachers' views on classification and evaluation in



physical and sports education at primary schools. Our working hypothesis were clearly confirmed as the results of our survey showed that assessment, classification is considered by more than 60% of teachers as an important educational factor. The fact that teachers in assessing pupils' utmost take into account their effort is considered as highly positive - therefore we clearly confirmed our second hypothesis, too.

## LITERATURE

- ❖ ANTALA, B. – DANČÍKOVÁ, V. 2008. Názory manažérov stredných škôl a ich zástupcov na vybrané otázky školskej telesnej výchovy In *Telesná výchova a šport, zdravie a pohyb*. Prešov: MPC Bratislava, alokované pracovisko Prešov, 2008, s. 57-63. ISBN 978-80-8045-515-6
- ❖ ANTALA, B. 2009. Telesná a športová výchova v základných a stredných školách v SR po prvom roku transformácie vzdelávania. In *Slovenský školský šport: Podmienky – prognózy – rozvoj*. Štrbské Pleso: Slovenská asociácia univerzitného športu v spolupráci s MŠ SR, 2009. s. 54 – 62. [Citované dňa 2010-09-1] Dostupné na internete: <http://skolskysport.sport-konferencia.sk/files/zbornik.pdf>
- ❖ ANTALA, B.-LABUDOVÁ, J. 2008. Koncepcia učebných osnov telesnej a športovej výchovy pre ISCED 3. In *Telesná výchova a šport, zdravie a pohyb*. Prešov: MPC Bratislava, alokované pracovisko Prešov, 2008, s. 17-25. ISBN 978-80-8045-515-6
- ❖ BARTÍK, P.-HRČKA, J.-ADAMČÁK, Š.-ROZIM, R.-KOLLÁR, R. 2004. Telesný rozvoj a pohybová výkonnosť žiakov na 1. stupni základných škôl v stredoslovenskom regióne. In *Tel. Vých. Šport*, 14, 2004, č.1. s.9-13. ISSN 1335-2245.
- ❖ GONDOVÁ, M. 1997. Všeobecná teória pedagogickej diagnostiky. Banská Bystrica: Univerzita Mateja Bela Pedagogická fakulta, 1997, 91 s. ISBN 80-8055-063-8.
- ❖ HAUSER, J. 2008. Štátny vzdelávací program pre 2. stupeň základnej školy v Slovenskej republike. ISCED 2 – nižšie sekundárne vzdelávanie. Bratislava: MŠ SR, 2008. [citované dňa 2010-08-29]. Dostupné na internete: <http://www.minedu.sk/index.php?lang=sk&rootId=2319>
- ❖ CHROMÍK, M. et al. 1993. *Didaktika telesnej výchovy*. Bratislava: Univerzita Komenského Bratislava, 1993. 200 s. ISBN 80-224-0349-6.
- ❖ MICHAL, J. 2003. Motion activity level of the students of Faculty of Education. In: *Acta Universitatis Matthiae Belii, Physical Education and Sport, Vol.5, No.5*, Banská Bystrica: PF UMB, 2003, s. 29-32, ISBN 80-80055-848-5

- ❖ MIKUŠ, M. – BEBČÁKOVÁ, V. – MODRÁK, M. 2008. Aktuálne problémy realizácie nových učebných osnov v praxi In *Telesná výchova a šport, zdravie a pohyb*. Prešov: MPC Bratislava, alokované pracovisko Prešov, 2008. s. 41-45. ISBN 978-80-8045-515-6.
- ❖ PELIKÁN, J. 1990 - 1991. Zamyšlení nad kritérii zjišťování připravenosti žáků školy pro život. *Výchova a vzdělávání*, 1, 1990-91, č. 7-8, s. 168.
- ❖ ROSA, V. 2001. Milénium - nová koncepcia výchovy a vzdelávania detí a mládeže a podiel školskej telesnej výchovy a športu v nej. In *Perspektívy školskej telesnej výchovy a športu pre všetkých v SR*. Bratislava: SVSTVŠ, 2001, s. 10-16.
- ❖ SLAVÍK, J. 1999. *Hodnocení v současné škole :východiska a nové metody pro praxi*. Vyd. 1. Praha: Portál, 1999. 190s. ISBN 80-7178-262-9.
- ❖ SPILKOVÁ, V. 1994. Nové přístupy k hodnocení žáků při vyučování. In *Slovní hodnocení*. Kroměříž: IUVENTA, 1994, s. 24 – 30.
- ❖ TRUNEČKOVÁ, E. 2002. *Základy športovej edukácie na školách*. Banská Bystrica: PF UMB, 2002, 92 s. ISBN 80-8055-666-0.
- ❖ TUREK, I. 2001. Návrh koncepcie vzdelávania učiteľov v Slovenskej republike. In *K problematike koncepcie rozvoja výchovy a vzdelávania v Slovenskej republike a v zahraničí*. Bratislava: Metodické centrum 2001, s. 15-54.
- ❖ ZELINKOVÁ, O. 2004. *Poruchy učení*. Praha: Portál, 2004, 264s. ISBN 978-80-7367-514-1.

## SUMMARY

Aim of this work was related to the grant assignment of VEGA 1/03770/08 "humanization of teaching in sport games as a means of making the process of learning in primary schools more effective", to find out the current view of teachers on classification and evaluation in physical and sports education at elementary school. Our job, we would like to contribute to the detection and understanding of the views and interests of teachers as they consider starting a factor in the organization and implementation of compulsory school physical education and sports. As the learning process can be accomplished without pupils, and can not be realized without a personality or a teacher who is one of the important factors of the educational process. The results of our survey show that although the teachers considered the current allowance of physical and sport education as inadequate, educational planning process seeks to ensure the curriculum, but pupils' opinions.

# THE HOBBY GROUPS WITH MOTOR AND SPORTS ACTIVITIES AT BASIC SCHOOLS IN ZVOLEN

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**KEY WORDS:** physical education and sport, leisure, sport, hobby groups, pupils.

## INTRODUCTION

Free time dealing with professionals from many sciences. From different perspectives, philosophical, psychological, sociological, economic and others. Leisure is an important part of life for everyone. It's time to focus on relaxation, regeneration, physical and mental strength, to relax after all the obligations arising from the social roles of each person. Free time is also a space for recreation, entertainment, social contact, fulfillment of needs, interests and according to their wishes. Leisure time is understood as freedom or as an autonomous space of freedom. Leisure can be seen as necessary to work opposite and obligations as stated Pávková et al. (1999). Time when your work can be freely chosen, we volunteered and we, bring us satisfaction and relaxation. Leisure is a significant area of each specific person, a man who brings a special favor, the joy of freedom, space for creativity, satisfaction, pleasure and happiness.

Leisure and the child's right to meaningful use is enshrined in the Convention on the Rights of the Child, adopted by the General Assembly in 1989, and signed by our Republic. It is important that the nature of leisure is maintained even in its educational influence. Education outside the classroom into practice is very large, rugged area. Conducted in different conditions of institutions, organizations, social facilities of the spectrum - in schools, after school, in school-based educational facilities - education outside the classroom, followed by various state, non-governmental and private institutions, organizations, civic associations - non-school education.

## PROBLEM

Many research results in this field such Fromel - Novosad - Svozil (1999), Majerský (2002), Vraňák (2003), Biela (2005) suggest that basic school pupils have increased interest in the content of such physical and sports activities that are not in the physical education curriculum and sport education. Respect the interests of pupils in school physical education and sport has a positive impact on the durability and depth of interest in different types of physical activity.

Fialová (2004) realized in research in the Czech Republic welcomes the number of visitors of school sports clubs pupils. The big advantage of the offer physical activities all school pupils who are interested. Also positively evaluates the impact of sport socialization, integration, development of skills and abilities of self-confidence, self-assessment. Students particularly appreciate the fact that clubs bring sport for everyone, not just for gifted children. Interest school physical education by Grexa (2005) develops pupils' interest in sport, to meet their emotional sports activities and compensates the mental load of classes. Mandatory education and hobbies and sports physical education and sport are irreplaceable in the Slovak sport.

We inclined to believe Majerský et al. (2006), which recommended in its initiative to upgrade the curriculum of physical education and sport education in elementary and secondary schools to introduce compulsory physical education teacher's hobby and sport activities.

Vlček (2008) notes that in Germany optional, that is, interest and school sport P.E. offers a variety of physical activities and sports. It also offers less widespread and non-traditional sports such as rowing, skiing, skating, riding, and even self-defense .. In Bavaria, students have the opportunity to choose from 72 activities. Interest P.E. includes physical sports breaks, school sports clubs, school sports programs...According Dobrý (2010) is interesting that in the U.S. compulsory school physical education is only in two states - Illinois and Massachutes, nevertheless gives rise to various stakeholders supporting movement, sports and physical education programs, and education codes that make physical education an interesting and developing motion literacy. Supporting as a sport and tourist activity (passive recreation) depends on many internal(pushing) and external (pulling) factors (Hadzik-Kantyka-Szromek, 2009., Hadzik-Tomik-Szromek, 2011).

## AIM OF RESEARCH

The aim was to analyze interest activity and share the hobby groups with a physical and sports activities at basic schools in Zvolen region. Other objectives were to identify differences in the interests of boys and girls of the interest groups with a physical and sports activities in basic schools in towns and villages.

## METHODOLOGY

Research examining the file in question share the hobby groups with a physical and sports activities with other interested students in the second grade of basic schools in the Zvolen region. The research sample were urban elementary schools (8 schools and 2312 pupils) and village basic schools (5 schools and 536 pupils). Total number of pupils at basic schools was 2848 pupils - 1489 boys (52.28%) and 1359 girls (47.72%). The main research method was the method of analysis of school documents - evidence of interest in education and hobby groups at basic schools.

## RESULTS

1. Compared hobby groups attending hobby groups containing physical and sporting activities for students 52.93%. 47.07% compared to students who attended other interest groups. This result was achieved thanks to the boys, who have shown much greater interest in rings with a physical and sports activities than girls (22.86 %). The boys dominated the interest of the interest groups with a physical and sports activities (63.11%) compared to the other ring (36.89%). In contrast, girls dominate the other rings (59.75%) over the rings with a physical and sports activities (40.25%). Interest in school work and thus interest and sports physical education and sport have been implemented mainly through educational vouchers. Usefulness of school education vouchers on urban elementary school was to 85.64%. Boys (88.97%) use school educational vouchers for 7.51% more than girls (81.81%).

2. On the second grade of 8 urban basic schools was of interest offers 23 rings with a physical and sporting activities are most interested in boys in football (17.75%) and sports rings (16.39%). Followed with a certain distance of tourist interest in the ring (8.51%), table tennis (8.22%), ball games (7.65%), karate (5.62%) and basketball (4.76%). The girls were most interested in the ring travel (17.55%), volleyball (15.21%), dance (13.80%), basketball (11.26%), table tennis (10.14%) and badminton (6.48%). Overall, boys and girls second the greatest degree of interest in urban basic schools in football (11.73%), tourism ring (11.66%),

sports rings (10.49%), table tennis (8.87%), volleyball (7.73%) , circle dance (7.15%) and basketball (6.96%).

3. On the second grade of five village basic schools was less tender than the rings of interest in urban basic schools. The smaller hobby groups supply 11 with a physical and sports activities (by 12 less than in urban schools) was most interested in boys in football (36.11%), as well as in urban elementary schools. Followed with great interest the pitch circle volleyball (14.59%), table tennis (13.89%), ring rock and roll and ballroom dancing (8.33%) and sports games (6.25%). The girls were most interested in volleyball ring (22.68%), ring rock and roll and ballroom dancing (14.43%), ring folklore - dancing (12.37%), sports games (10.31%), tennis (7.22%), table tennis (6.19%) and fire ring (6.19%). Overall (boys and girls) was most interested in football (22.40%), volleyball (17.84%), ring rock and roll and ballroom dancing (10.79%), table tennis (10.79%), sports games (7.88%) . folklore - dancing ring (15.11%). With a certain distance, followed by interest in tennis (5.81%) and fire ring (5.39%).

## CONCLUSION

Interest groups on the 2nd grade of basic schools work mainly with the support of the Ministry of Education and school education vouchers. Their use constituted 83.92%. Educational vouchers were used by 9.15% over the urban basic schools (85.64%) than the village basic schools (76.49%). Among the most popular clubs with a physical and sports activities were boys and girls in second degree of urban and village basic schools , especially sports games (football - only boys, volleyball, table tennis, basketball, badminton, tennis), rings with a dance (folk-dance, rock and roll and ballroom dancing) and tourism circles.

For the purpose of practice is recommended to improve education - learning process not only mandatory but also in the interest of school sport and physical education and sport, to introduce non-traditional sports and physical activities, modernize curricula, forms and methods of work. In addition to boys of various forms of football, we recommend that students engage second grade of basic school to other disks containing physical and sporting activities.

In the interest of school sport and physical education and sport in schools offering extended rings only traditional physical and sporting activities, but also unusual and less common physical and sports activities. Interested school physical education and sport should be in practice more widely implemented and lead teachers of physical education and sports.

## LITERATURE

- ❖ BIELA, D. Štruktúra športových záujmov diagnostikovaná u žiakov základnej školy. In *Telesná výchova a šport*, roč. 15, 2005, č. 1. ISSN 1335-2245, s. 6-10.
- ❖ DOBRÝ, L. Jaká by měla být praxe v tělesné výchově. *Tělesná výchova a sport mládeže*, roč. 76, 2010, č. 2. ISSN 0323-0449, s. 2-8.
- ❖ FIALOVÁ, L. Sport a jiné volnočasové aktivity v české škole. In *Telesná výchova a šport*, roč. 14, 2004, č. 1. ISSN 1335-2245, s. 26-27.
- ❖ FRÖMEL, K., NOVOSAD, J., SVOZIL, Z. et al. *Pohybová aktivita a športové záujmy mládeže*. Olomouc: Univerzita Palackého, 1999. 141 s. ISBN 80-7067-945-X.
- ❖ GREXA, J. Telesná výchova a šport mládeže na Slovensku. In *Telesná výchova a šport*, roč. 15, 2005, č. 2. ISSN 1335-2245, s. 2-6.
- ❖ HADZIK A.-TOMIK R.- SZROMEK A.: *Characteristics of Polish National Football team fans as sports tourists*. Studies in physical culture and tourism, Vol. 18, No. 1, 2011, s. 51 – 58.
- ❖ HADZIK A.-KANTYKA J.-SZROMEK A.: *Health tourism and wellness as modern forms of Spa tourism*. In: J. Bergier ed., Wellness and success, NeuroCentrum, Lublin, 2009, pp. 97-112.
- ❖ MAJERSKÝ, O. *Športové záujmy žiakov ZŠ a SŠ západoslovenského regiónu*. Bratislava: Metodicko - pedagogické centrum, 2002. 56 s. ISBN 80-8052-165-4.
- ❖ MAJERSKÝ, O. et al. Podnety na inováciu učebných osnov telesnej výchovy na základných a stredných školách. In *Telesná výchova a šport*, roč. 16, 2006, č. 2. ISSN 1335-2245, s. 2-6.
- ❖ PÁVKOVÁ, J. et al. *Pedagogika voľného času*. Praha: Portál, 1999. 229 s. ISBN 80-7178-295-5.
- ❖ VLČEK, P. Srovnání statusu tělesné výchovy v SRN a USA. *Tělesná výchova a sport mládeže*, roč. 74, 2008, č. 5. ISSN 0323-0449, s. 16-24.
- ❖ VRAŇÁK, P. Športové záujmy žiakov ZŠ v okrese Partizánske. *Telesná výchova a šport*, roč. 13, 2003, č. 3. ISSN 1335-2245, s. 8-10.

## SUMMARY

The aim of this article was to analyze interest activity and share the hobby groups with a physical and sports activities at basic schools in Zvolen region. Other objectives were to identify differences in the interests of boys and girls of the interest groups with a physical and sports activities in basic schools in towns and villages. The research sample were urban

elementary schools (8 schools and 2312 pupils) and village basic schools (5 schools and 536 pupils). Total number of pupils at basic schools was 2848 pupils - 1489 boys (52.28%) and 1359 girls (47.72%). The main research method was the method of analysis of school documents - evidence of interest in education and hobby groups at basic schools. The authors found out that among the most popular clubs with a physical and sports activities were boys and girls in second degree of urban and village basic schools, especially sports games (football - only boys, volleyball, table tennis, basketball, badminton, tennis), rings with a dance (folk-dance, rock and roll and ballroom dancing) and tourism circles.



# **THE EDUCATIONAL ASPECT OF THE SEASONAL ACTIVITIES WITHIN THE FRAMEWORK OF PHYSICAL EDUCATION ON THE FIRST STAGE OF PRIMARY SCHOOLS IN THE MARTIN REGION**

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**KEY WORDS:** physical education, seasonal activities, primary school teachers for the first stage.

## **INTRODUCTION**

“The scope of the Physical education in primary education is targeted on the physical, functional, and kinetic improvement whereby it contributes to the health establishment, a health oriented efficiency and the kinetic efficiency as well. The Physical education provides elementary theoretical and practical education from the field of motion and sport. It also contributes to the pupils’ psychical, social and moral development significantly. Furthermore, it contributes to the formation of positive attitude to the kinetic activity and it also fulfils a significant compensational function in the process of education (National Educational Programme ISCED 1)”.

As the National Educational Programme ISCED 1 has stated “the Physical education in the primary education results from general goals “Health and motion” that are valid for all school Physical education. Curriculum is divided into five themes where one of the theme is “The activities in the natural surroundings and the seasonal kinetic activities” (swimming, hiking, skating, skiing etc)”.

“To have the acquired basic skills adequately from swimming, hiking, skating, skiing, cycling, etc., and to be able to apply them effectively in the life and the sport” (National Educational Programme ISCED 1)”. This is a basic competence of a theme “Activities in the natural surroundings and seasonal kinetic activities” which should be obtained by the first stage primary pupils. The task for teachers is to help the pupils to learn the kinetic activities in

the natural surroundings as a necessary part of the man's motion and furthermore, to create a positive attitude to the nature, to the kinetic activities in a different natural environment and to the conservation of the nature as well.

The theme "Activities in the natural surroundings and seasonal kinetic activities" can be drawn up relatively broadly in regard of varied regions and school conditions whereby it has lived the possibility on a certain school to choose the specific seasonal activities. However, it is also important for all schools to provide some adequate scope of seasonal activities throughout the whole school year in all classes (ISCED 1).

## **PROBLEM**

The ability to learn the new motions has been formed at the beginning of the age six. A notable plasticity of the nervous system and the mobility of nervous processes have created the moderate conditions in the child's age for a coordination and speed development abilities (Perič, 2004).

Minarovjeh (1988), Krejčí (2010) has claimed that each person brings with themselves the inborn instinct – a desire for motion at their birth directly. We can make certain of this claim when we simply watch the small children. They always do something, they always move until they get tired. The motion connected with the motion on the fresh air guarantees a healthy development for the youth organism.

The stay and the various kinetic activities in the natural surroundings create an inseparable part for the school Physical education. Via those above mentioned, the kinetic abilities have been developed and thanks to them the necessary kinetic habits have been created which furthermore, have affected the increase of the general ability. Performing of various kinetic activities in the natural surroundings also has a positive effect on the nervous system. To bring the pupils closer to the nature and to adopt the necessary kinetic habits can lead to the active relaxation and to the whole regeneration of the organism (Michal, 2000).

As Michal has stated, (2002) swimming belongs among the aerobic kinetic activities and together with running, they fit into the most suitable kinetic activities. It is beneficial for thermoregulation system, for becoming hardened, for the right and effective breath use, for the support of heart vascular system, for hygienic habits (have a shower) and also for the development of many personality traits and making a will.

It is important to put the question: What is the educational aspect of seasonal and kinetic activities in the natural surroundings within the framework of Physical education on the first stage of primary schools?

## **AIM OF RESEARCH**

The aim of research is to find out the exact educational aspect of seasonal activities within the framework of Physical education on the first stage of primary schools in Martin.

## **METHODOLOGY**

On the basis of previous knowledge and experience from the field of Physical education we have strived to choose these methods that would provide us not only maximum information for analysis of a given theme but also to be the adequate to the research conditions. Two research methods have been used. Firstly, the study and analysis method of bibliography and secondly, questionnaire method.

The exactness of this questionnaire method consists on a possibility to express research phenomena numerically. On the ground of research problem and the aim of research work we have decided to use this method directly and to apply it as the most adequate for acquiring information. We had used anonymous questionnaire when we were gaining data from our respondents. The questionnaire had been designed for the primary school teachers on the first stage and it consisted from 20 questions.

Research was held at ten primary schools in the Martin region. Furthermore, these schools had been chosen on a random sampling, during which we were choosing five primary school in the villages (a label D1-5) and five primary schools in the towns (a label M1-5). Data necessary for our research were gained from the teachers who have been teaching in our chosen primary schools on the first stage. We have obtained 47 questionnaires. Furthermore, all respondents were female.

## **RESEARCH RESULTS**

In a table 1 there is not only some information about the primary school pupils in the Martin region but also in which school year they are going to take seasonal activities. The schools labelled with the numbers D1-5 represent the primary schools in the villages and the numbers M1-5 represent the primary schools in the towns.

Table 1 Scheme of the classes in which the pupils are going to take seasonal activities at the particular primary schools

education\schools	D1	D2	D3	D4	D5	M1	M2	M3	M4	M5
base swimming	2	3, 4	2	2,3,4	-	3	4	3	3	4
improved swimming	3	6	1-4	-	-	4	6	5	8	6
base skiing	7-8	7	-	7,8,9	-	6-7	7	7	7	7
base skating	-	-	-	3	-	4	-	4	-	-

As we can see in the table 1, the most organised seasonal activity is base swimming which has been organised by 9 from 10 randomly chosen primary schools in the Martin region.

We have found out on the basis of the respondents' answers that at least organised seasonal activity is base skating. The main reasons are inadequate possibilities for realisation of this given education. In addition, as it resulted from the answers, this given course has been only realised at two town and one village schools which had been chosen randomly in the Martin region.

Another point is that there has not been organised any education at one primary school in the village. The main reason is the lack of money that the pupil's parents cannot pay and the long distances to the potential places for the realisation of these seasonal activities. The only village primary school provides to take part on improved swimming for all pupils every year. All the students from each class can enrol in improved swimming but they prefer the pupils from the fourth classes and those who have never taken part in the swimming course before.

Skiing training has been organised by eight schools. All are for the pupils on the second stage at primary school. The respondents have mentioned these ski resorts: Snowland Valcianska valley (Valcianska dolina), Winter part Martinky and ski resort Jasenska valley (Jasenska dolina).

In addition, the respondents have also mentioned that the education of seasonal activities has been affected by insufficient amount for renting some equipment and its state at schools. We would say that more pupils have got the roller-skates than the skates. Thus, rolling-skating can be organised easier by the teacher than to provide an ice-rink or to build up an ice-skating ground. However, the teachers do not have enough information about some rolling-skating methodology.

Moreover, in the following part, we have been interested in teaching of seasonal activities at particular primary schools. The respondents' answers can be seen in the table 2

Table 2 Education of seasonal activities and its form

schools	course	occasionally	theoretically	we do not take part in
D1	swimming, skiing	hiking, sledging, skating, cycling		rolling-skating
D2	swimming	sledging		the others
D3	swimming	hiking, swimming, snow games		
D4	swimming, skiing, skating	ice-hockey, jogging + natural countryside		
D5		summer and winter hiking, sledging, swimming, cycling		
M1	swimming, skiing	hiking, sledging, skating		cycling, rolling-skating
M2	swimming, skiing	sledging, skating	cycling, hiking	
M3	swimming, skiing	summer and winter hiking		cycling
M4	swimming	hiking, skating		
M5	swimming	hiking, sledging		

As the table 2 shows swimming courses have been organised at nine primary schools and skiing courses at five ones. They occasionally do hiking, sledging and skating. However, only at one primary town school they also teach cycling and hiking theory. What is more, they do not take part in rolling-skating and cycling at three primary schools.

In the next part of our research we asked our respondents, what was the school environment in which they had been teaching like and if there was also enough space for doing some seasonal activities.

The table 3 represents the answers from respondents at village primary schools and the table 4 shows the answers from respondents at town primary schools.

The numbers in the table represent the respondent numbers who referred what was the school environment in which they had been teaching like and if there was or was not enough space for doing some seasonal activities. As we can see in the table 3, the teacher opinions are almost the same for all seasonal activities.

Table 3 The village primary school teachers' opinions on the possibilities for doing some seasonal activities in the school surroundings.

seasonal activities	M1		M2		M3		M4		M5	
	Y	N	Y	N	Y	N	Y	N	Y	N
swimming	0	4	1	3	1	4	1	4	1	3
summer and winter hiking	4	0	4	0	5	0	4	1	3	1
skating	0	4	0	4	0	5	1	4	1	3
rolling-skating	2	2	1	3	4	1	5	0	3	1
skiing	3	1	3	1	4	1	3	2	1	3
cycling	4	0	4	0	5	0	5	0	4	0

key: Y – yes, N – no

Almost all the village teachers have thought that there are enough possibilities for summer and winter hiking. This is because of hilliness in Turcianska basin (Turcianska kotlina). The swimming and rolling skating can be practised worse because of the necessity to commute to the town swimming pool in Martin and because of fatal road systems.

Twenty teachers from twenty-two have considered as insufficient condition for skating at village primary schools. It is connected not only with the commuting but also with the costs that must be paid for renting of skating rinks. Naturally, all the respondents said that the possibilities for cycling in the school environment was satisfactory. The most balanced answers were recorded thanks to the sufficient possibilities for skating what can be directly linked with the fact how these schools are located in the Martin region.

Table 4 The town primary school teachers' opinions on the possibilities for doing some seasonal activities in the school surroundings.

Seasonal activities	M1		M2		M3		M4		M5	
	Y	N	Y	N	Y	N	Y	N	Y	N
swimming	5	0	5	0	5	0	5	0	5	0
summer and winter hiking	4	1	5	0	2	3	5	0	3	2
skating	2	3	2	3	3	2	2	3	3	2
rolling-skating	1	4	2	3	1	4	2	3	1	4
skiing	4	1	5	0	5	0	4	1	5	0
cycling	3	2	2	3	4	1	3	2	2	3

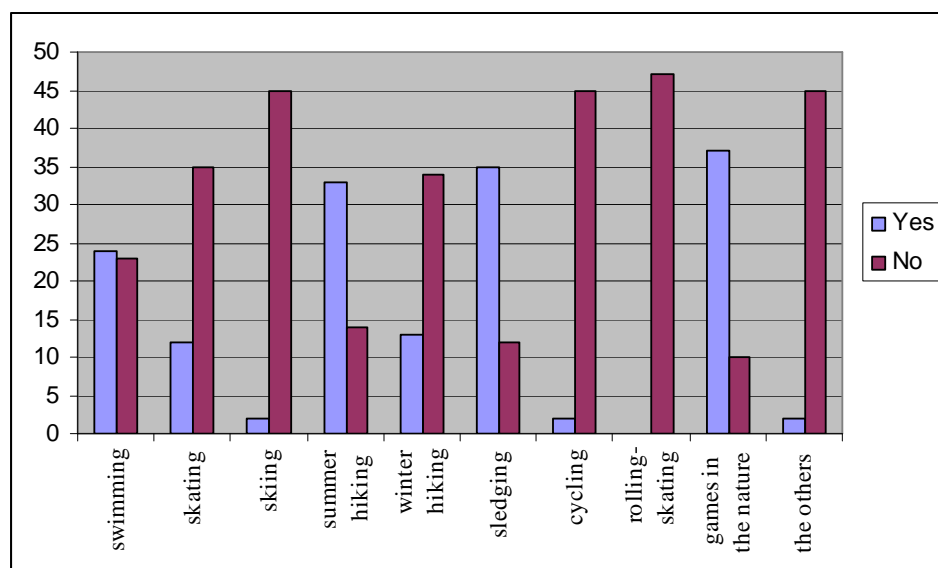
key: Y- Yes, N – nie

In the table 4, there is an attention-grabbing teachers' different opinion on the adequate possibilities for cycling and skating. For cycling, there are not enough suitable tracks what has also affected the respondents' answers for possibilities for rolling-skating and thus the more respondents have thought that there are not enough possibilities in the school surroundings for rolling-skating as well. Moreover, the results about the accessibility for the skating is surprising because the ice rink is situated in the town centre Martin directly. In conclusion, the different opinions have probably resulted from the high renting costs for ice-skating ground.

Almost all respondents have agreed that there are enough conditions for teaching skiing, winter and summer hiking in the school surroundings what is directly connected with some offer from three ski resorts and tourism as a whole in Turcianska basin (Turcianska kotlina).

The same opinions were given to one seasonal activity – swimming, for which, as resulted from table 4, there are good conditions in the town Martin. We would say that it was a unexpected claim because in the Martin region there is only one town swimming pool and one swimming pool directly situated in a primary school but this school did not belong to research sampling.

In the next part we can deal with the assumption of the respondent's answers to the question: "Which from the following activities have you taken part in with your pupils? To sum up, the answers have been evaluated and presented in a picture 1.



Picture 1 The teacher's presence or absence on seasonal activities

As it is stated in the picture 1 the teachers have taken part in these above mentioned activities with their pupils variously. The most teachers 37 what represents 78,7% have taken part in playing the games in the nature. Sledging has been done by 35 teachers with the pupils

altogether. Summer hiking has been done by 33 teachers what is 74,5% and only 2 teachers (4,7%) have taken part in cycling and skiing with their pupils. In conclusion, it is interesting that such a low teacher's presence on skiing because the primary school teachers on the first stage have to take part in skiing course during their university studies. Nobody has taken part in rolling-skating. We would say that the worst position for rolling-skating has been affected by the fact that the teachers do not know how to practise the teaching on the rolling-skates.

## CONCLUSION

The aim of this work was to find out the exact educational aspect of the seasonal activities within the framework of the Physical education on the first stage of primary school in the Martin region. On the basis of the research results, it has been shown that the educational aspect of the seasonal activities in the Martin region is not sufficient.

As we found out, there are more problems. The most serious problem related to the education of seasonal activities and Physical education as a whole is the absence of money. The primary schools have fallen under the administration of the towns and villages. These organizations have been approving the budget for the primary schools. The shortage of money has related closely with the problem of material supply for the schools and the situation deepens every year. It is very difficult task to solve it because it has had connection with the economic situation in all our society. However, the schools and the villages have strived to do projects to gain the support from European Union Funds.

Although the curriculum enables the teachers to use seasonal activities during the Physical education, many teachers have not used them. The main reason for them is their insufficient preparedness, the parents and pupils' disinterest and they are also afraid of the possible injuries. It is also affected by the reality that the pupils are not equipped sufficiently for these seasonal activities and there are only few schools that have borrowed some equipment to the pupils. Furthermore, there are some schools that have possessed the equipment which is inconvenient.

The given inadequacies would be solved by working out of various projects to gain the finances from European Union Funds. Moreover, we should also recommend to exhibit the pupils' works and to do the other promotions or activities in order to gain financial profit. Some sponsorship and donations would also help them to overcome bad financial situation.

Furthermore, the next step for using the seasonal activities more often is; firstly, the more specialised preparedness for future teachers on the first stage of the primary schools; secondly, to organize more courses or longer-lasting courses targeted to the seasonal



activities; thirdly, to try to focus on the more modern sports such as rolling-skating is; fourthly, to organise various supplementary courses connected with more modern seasonal activities and sports after the university graduation.

## LITERATURE

- ❖ KREJČÍ, M. et al. (2010): *Adequate movement regime and bio-psycho-social determinants of active life style*. České Budějovice: JU
- ❖ MICHAL, J. 2000. *Sezónne činnosti na 1. stupni základných škôl (Telovýchovné činnosti)*. Banská Bystrica : Pedagogická fakulta UMB, 2000. 72 s. ISBN 80-8055-461-7.
- ❖ MICHAL, J. 2002. *Teória a didaktika plávania*. Banská Bystrica : Pedagogická fakulta UMB, 2002. 98 s. ISBN 80-8055-679-2.
- ❖ MINAROVJECH, V. 1988. *Pohybom k aktívnemu zdraviu*. Bratislava : Šport, 1988. 156 s.
- ❖ PERIC, T. 2004. *Sportovní příprava dětí*. Praha : Grada, 2004. 198 s. ISBN 80-247-0683-0.
- ❖ Štátny vzdelávací program (ISCED 1). Dostupné na internete [www.stadpedu.sk](http://www.stadpedu.sk).

## SUMMARY

An author has been finding out in his work the exact educational aspect of the seasonal activities within the framework of the Physical education on the first stage of primary schools in the Martin region. The main aim of this work was to find out the educational aspect of the seasonal activities and also the primary school teachers' opinion and their attitudes by the help of the questionnaire research method. The research was realised at ten primary schools in the Martin region. They had been chosen on the basis of a random sampling from all primary schools in this region. Furthermore, we had also chosen five primary schools located in the villages and five ones located in the towns. The results have shown that the educational aspect of the seasonal activities is not sufficient in the Martin region.

# ADEQUATE MOVEMENT REGIME AS PREVENTING FROM BURNOUT SYNDROME IN TEACHER'S PROFESSION

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**KEY WORDS:** health, stress, occupational disease, needs, teachers, EU projects “STRESSLESS”, “PACZion”.

## INTRODUCTION

In last 20 years the stress involved in a career in teaching has increased considerably. Anxiety, depression, long-term psychical burden, relationship difficulties and even physical illness are just some of the symptoms. The teachers work deals with the effect of undesirable stress on human organism and follow the responses in immunity system. The goal is to provide a survey on this interaction and to alert to the burnout syndrome as manifestation of weakening of the organism at all its levels. The knowledge on the causes, symptoms and prevention of burnout syndrome is focused on the personality of the teacher whose profession is included among the most endangered ones. To the existing pressures of discipline problems are appended poor working conditions and low pay in some countries of EU (Krejčí 2010). Kornatovska (2011) presented in her paper research results of Krejčí et al. (2010), Michal (2009) and Stemberger (2009, 2010) which documented following findings in monitored teachers:

- sickness absence (and in many cases long-term),
- sleep problems,
- low motivation,
- low productivity,
- lack of engagement,
- lack of co-ordination,

- poor interpersonal relationships,
- poor student feedback.

To develop strategies to control stress should help schools to reduce pressures on their staff by the development of satisfactory in quality of life. Quality of life is the product of the interplay among social, health, economic and environmental conditions which affect human and social development. It can be said that quality of life reflects the difference, the gap, between the hopes and expectations of a person and their present experience. Teachers, which can learn how to be more effective in the management of their own stress levels, are stable in own health and prevented of occupational diseases. On the other hand teacher has great role in pupil's behaviour so it is of great importance that teacher is in very good physical condition, healthy and has a lot of knowledge about healthy lifestyle.

## **AIMS**

The presented study aims according the main goal within EU Project “STRESSLESS” was to recognise the needs of teachers and educators work related stress in the education area. The objective was to develop and evaluate useful content with an international perspective to fight educators’ and education institutions’ stress through effective intervention strategies.

## **METHODOLOGY**

### **Characteristic of Sample**

In total 459 educators from Belgium (BE), Czech Republic (CZ), Greece (GR), Latvia(LV), Netherlands (NL), Portugal (PT), Slovenia (SI), Switzerland (CH), United Kingdom (UK) were investigated in the Questionnaires. Almost half of them were educators working in secondary schools, followed by primary and post-secondary institutions. The majority of the educators are referring to educators with more than 20 years of service. In Czech Republic 49 educators were investigated – 43 teachers were analysed in the “Psychosocial factors at work – Questionnaire” and 6 managers from different education institutions. Almost half of the 43 participant teachers were working in pre-primary schools (43, 9%), followed by primary teachers (39, 02%) and tertiary teachers (9, 7%). The majority of the cases were referred either with educators with more than 20 years of service (31, 7%) or with educators with 1 or 5 years of work (21, 95%) and with educators of 15 – 20 years of educational practice (17, 07%) and 5 - 10 years (14, 63%). From the 6 managers were in head positions - 1 in a kindergarten, 3 in primary schools, 1 in a secondary school, 1 in University).

## Methods

### A. Exploration

The “Psychosocial factors at work – Questionnaire” was developed of the National Centre for the Working Environment Copenhagen, Denmark and the Utrecht Work Engagement Scale – Scale. The scales called SHORT COPSOQ II questionnaire (of the Copenhagen Psychosocial Questionnaire – COPSOQ) were translated in mother languages of participated countries and were used in exploration process. This questionnaire has been developed as a tool for surveys of the psychosocial work environment to be used by the companies and workplaces themselves without support by professional consultants.

### B. Statistical methods

The statistical analysis was provided in the “Sociedade Portuguesa de Inovação”, Portugal.

- **Descriptive Statistics** included data related with the number of cases, the range of the responses (minimum and maximum), mean and standard deviation. These data provided the basis for comparing the mean obtained for each question in this study with the mean obtained in the original study in which the same instruments were used.
- **Pearson Correlations** analysed the significant differences in the descriptive statistics (comparing the original study results with the ones obtain in these needs analysis process).
- **Linear regression:** for the statistical procedure were created several models supported by the different variables identified during the correlation analysis. The linear regression models analysis must be done by the result obtained in the R Square (should be higher than 0, 5), the significance of the ANOVA (should be equal to 0,000) and also the significance of the coefficients for each variable (less than 0, 1).

## RESULTS

The results of stress level were analysed regarding to the 4 selected stress indicators, e. g. “Work engagement”, “Work life conflict”, “Burnout”, “Distress”. These 4 major variables to analyse the consortium defined during the research. Other variables were included in each country when relevant differences were found.

### **1. Work engagement:**

The statistical analysis showed no significance ( $R^2 = 0,189$  for an ANOVA of 0,000), but presented strong consistence regarding the relation of work engagement and quantitative demands, tempo, emotional demands, meaning of work, role clarity and burnout.

On the base of Pearson correlation process, negative correlations (meaning that the increasing of one variable is accompanied by the decreasing of the other) were observed between work engagement, quantitative demands and tempo. Positive correlations (meaning that the increasing of one variable is accompanied by the increasing of the other) were observed between work engagement and emotional demands, meaning of work, predictability, role clarity, leadership, social support, trust, justice, burnout and stress.

From descriptive statistic of the 9 countries data it is evident that in the indicator of “Work engagement” (range 0/6) CZ, UK, SI, PT presented higher results and CH, NL and BE lower results.

### **2. Work life conflict:**

The statistical analysis showed significance ( $R^2$  of 0,529, ANOVA =0,000) and presented a strong relation with quantitative demands, tempo, emotional demands, development, burnout and stress. Positive correlations were found between work life conflict, quantitative demands, tempo, emotional demands, development, meaning of work, burnout and stress.

Negative correlations were found with predictability, rewards, social support, job satisfaction and self-rated health. The indicator of “Work life conflict” concluded that PT presented higher levels (75% of the responses were between 4 and 6 points) and was followed by LV. GR, CZ and UK showed the lower scores.

### **3. Burnout**

The model created showed significance ( $R^2$  of 0,650, ANOVA =0,000) and presented a strong relation with work engagement, emotional demands, work life balance, self-rated health and stress. Positive correlations were observed between burnout, work engagement, tempo, emotional demands, meaning of work, work life conflict and stress.

Negative correlations were found with predictability, rewards, job satisfaction, justice and self- rated health. In the case of “Burnout” indicator (range 0/8) PT was the country with

higher levels, followed by LV, SI, CZ and UK. GR, BE and NL were the countries with lower levels of burn-out syndrome.

#### 4. Distress

The model created showed significance (R Square of 0,598, ANOVA =0,000) and presented a strong relation with quantitative demands, tempo, emotional demands, work life conflict and burnout. Positive correlations were observed between stress, work engagement, quantitative demands, tempo, emotional demands, work life balance and burnout.

Negative correlations were found with predictability, rewards, role clarity, leadership, social support, job satisfaction, justice and self- rated health. The “Stress” indicator (range 0/8) demonstrated that PT was the country with higher levels, followed by CH, SI and BE. In the opposite UK, CZ and NL were the countries with lower levels of stress score.

#### General findings of Czech Republic

**Descriptive Statistics:** Czech results showed that the majority variables in study<sup>1</sup> were higher in components of “Burnout”, “Meaning of work”, “Emotional demands” and “Stress” comparing with the original study results. The results were equal in components of Work engagement and Work family conflict and lower in the component Quantitative demands comparing with the original study results.

- **Work and well-being:** higher global levels of work engagement, mainly linked with dedication (sense of significance, sense of enthusiasm and proud, sense of challenge and inspiration). Vigour (linked with high levels of energy and resilience, motivation for investing efforts and persistence to difficulties) presented also general high levels. Nevertheless, this was the indicator less valued by the respondents.
- **Psychosocial factors at work:** higher levels regarding meaning of work and role clarity (the work is meaningful and important and clear objectives exist, helping educators to know exactly what is expected). Stress and burnout (feeling worn out, emotionally exhausted, irritable and stressed) integrated the lower scores of the group, together with the quantitative demands (having enough time for the task and getting behind with the work).

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<sup>1</sup> During the research, the consortium defined 4 major variables to analyse: Work Engagement, Work Family Conflict, Burnout and Stress. Other variables were included in each country when relevant differences were found.

- **Other variables:** the majority of the educators are satisfied with their jobs, considered that their health was very good during the 4 last weeks and assumed that the work has in some way a negative effect on their private life).

**Offensive Behaviour:** Similar results compared with the ones found in the original study for the bullying cases (2, 5%).

**Correlations:** The variables with significant differences regarding the original study were analysed through a statistical procedure of correlation. The results were the following:

- **Work engagement:** Positive correlations were found between work engagement and predictability, rewards, job satisfaction, self-rated health. Negative correlations were found with quantitative demands.
- **Work family conflict:** Positive correlations were observed between work family conflict and quantitative demands, emotional demands, burnout and stress. Negative correlations were observed with job satisfaction and trust.
- **Burnout:** Positive correlations were observed between burnout and quantitative demands, emotional demands, work family conflict, and stress. Negative correlations were observed with role clarity, leaderships, social support, justice and self-rated health.
- **Stress:** Positive correlations were found between stress and quantitative demands, emotional demands, work family conflict, and burnout. Negative correlations were found with influence at work, role clarity, leadership, social support, justice and self-rated health.
- **Quantitative demands:** Positive correlations were observed between quantitative demands and work family conflict, burnout and stress. Negative correlations were found with work engagement, predictability, rewards, social support, job satisfaction and justice.
- **Emotional demands:** Positive correlations were observed between emotional demands and work family conflict, burnout and stress. Negative correlations were found with job satisfaction.
- **Meaning of work:** A negative correlation was found with stress.

**Linear Regression:**

- **Work engagement:** R Square=0,431 (not relevant).

- **Work family conflict:** R Square=0,489 (not relevant but with significance for quantitative demands).
- **Burnout:** R Square=0,624 (ANOVA 0,000) with relevant significance for self-rated health and stress.
- **Stress:** R Square=0,720 (ANOVA 0,000) with relevant significance for role clarity and burnout.
- **Quantitative demands:** R Square=0,578 (ANOVA 0,001) with relevant significance for work family conflict
- **Emotional demands:** R Square=0,304 (not relevant).
- **Meaning of work:** No model was created since only a negative correlation with stress was found.

#### **Clarifications:**

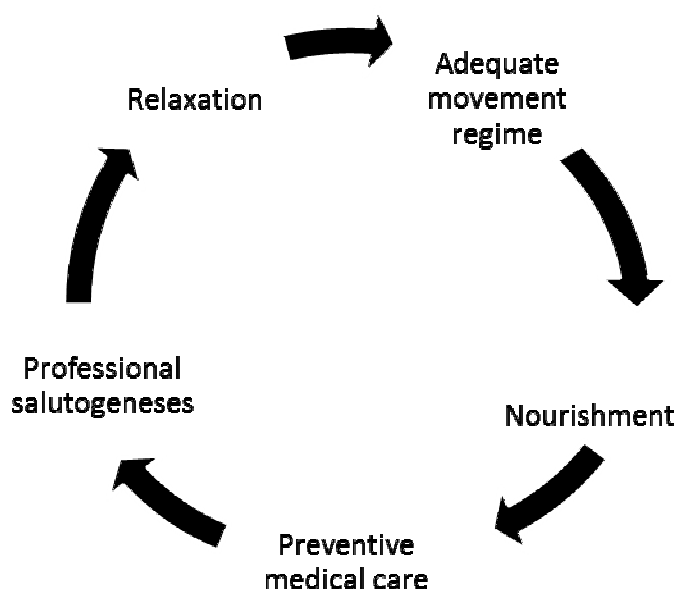
- It was found an important relation between Stress and Burnout with relevant significance for role clarity and self-rated health.
- It was also found an interesting relation between Quantitative demands and the Work Family Conflict. These and the up mentioned relevant variables are in context with a high feminization in Czech education system and with high divorcing. For women is not easy and often not possible to joint quantitative demand in their job with traditional women roles. Still in Czech society is hard rooted the model, when men are not helping generally to women.
- Therefore the quantitative demands were observed like a strong stress factor with in correlation of tempo, work life balance and burnout. Negative correlations were found with predictability, rewards, role clarity, leadership, social support, job satisfaction, justice and self-rated health.
- The research in Czech – German cooperation exemplifies that only daily compensation of professional effort and mastering of the effective compensation techniques can keep teacher healthy and stress less.

#### **DISSCUSSION TO MANAGE THE STRESS LEVEL**

Very important for a successful intervention is an individual aspiration level. In the situation of the health support in adequate movement regime the key factors present just the individual aspirations. In this sense we used in our research projects “the agreement with self”

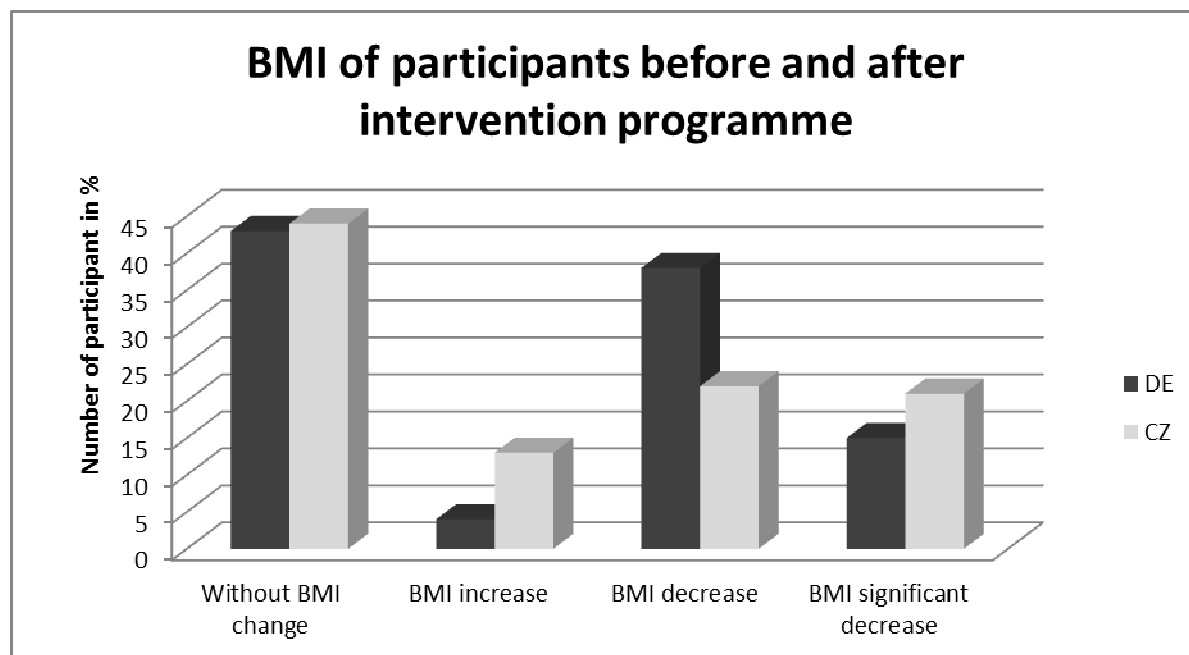


to promote a condition level of participated teachers and manage the stress (Krejčí, Kornatovská, Kokeš 2009). On the base of presented results of STRESSLESS project analyse and on the base of research results in the ESF Aim 3 -16 PACZion “Passau-České Budějovice union for support of teachers’ health“ the continuum of Self transformation was defined. In the continuum main principles of health protection and support are contained, e.g. Relaxation - Adequate movement regime – Nourishment – Preventive medical care – Professional salutogeneses. The continuum is ordered in the circle to express better the continuity and a possibility to repeat health support paradigm in coherent cycles. On analyze of individual specifics it is possible to start the intervention, for example, from nourishment, or movement and proceeded further with components in the circle line. In psyche it decides about the whole health change, does not matter in which dimension of organism (e.g. overweight reduction).

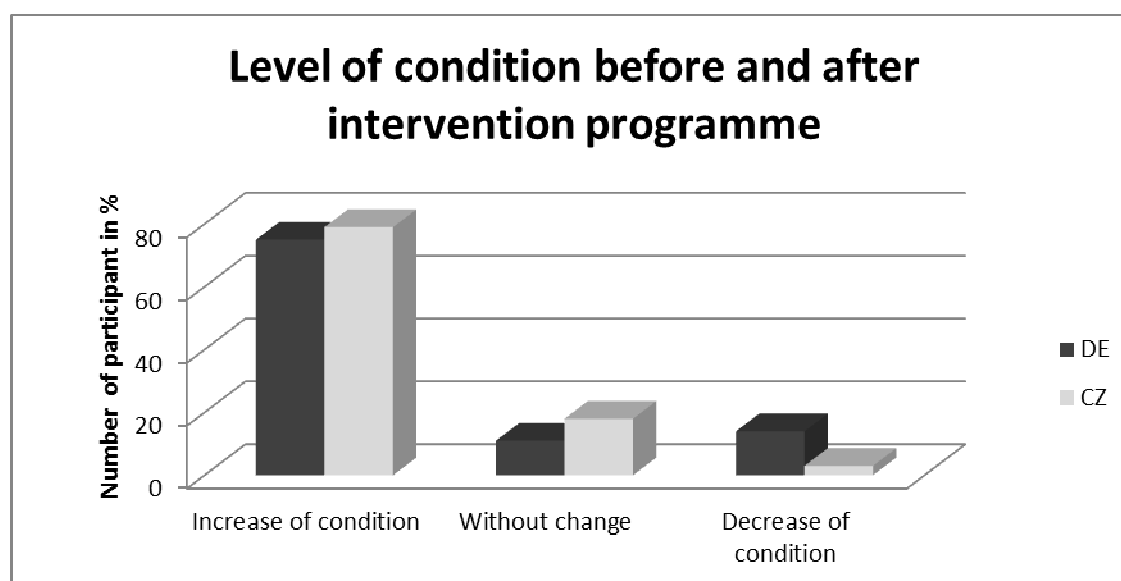


Picture 1 Continuum of Self transformation in the sense of Health support and Health development

We found out that to start by Relaxation is benefited from the view of active life style and health support of teachers, because of their psychic state is key point in area of individual health support and health development. To influence effectively the psyche is most easy just during the relaxation and breathing. 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 motoric area, if the principle of adequate movement activity is respected. The process of motoric learning and motoric engram creation, the relaxation plays very positive role.

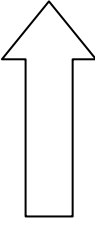
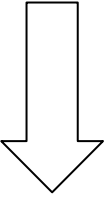


Picture 2 BMI of participants before and after intervention programme(n=29, male 4, female 25)



Picture 3 Level of condition before and after intervention programme(n=29, male 4, female 25)

In the state of relaxation and well-being teachers learn easier to motor skills which are a base for the individual adequate movement regime. Mastering of the relaxation leads to homeostasis optimization and positive influences in circadian rhythm - see Picture 4.

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

Picture 4 Physiological changes during stress and relaxation

The next element of the Continuum is the nourishment. Health supported food should be fresh prepared with important portion of raw food (e. g. fruit, nuts, vegetable, milk, müsli, 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. According the results of monitored teachers was found out that they neglect health nourishment and that they have not the health nourishment like a need or attitude. Often mistake of them was a poor breakfast and too opulent dinners. Also hurry during eating time, disconcentration (calling, reading, TV).

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 analyse is possible to implement in life style the salutors, which compensate health risk of the teachers profession – for example voice calmness in teacher´s profession, etc.

## **Body intervention and mental health education strategies**

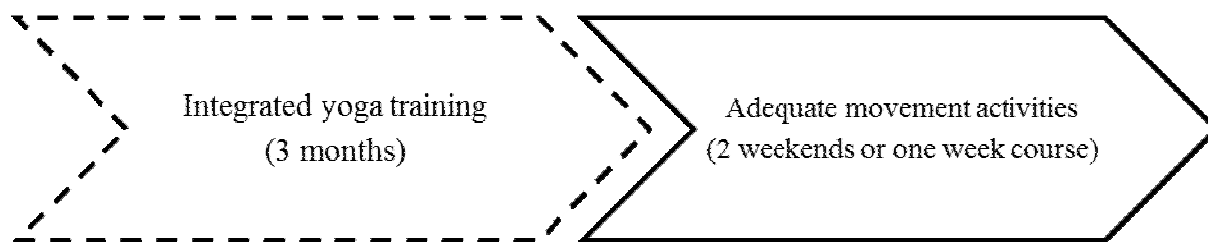
The Continuum of Self transformation in the sense of Health support and Health development proceeds in coherent cycles (we recommend 3month's cycles), when in the first cycle a basic education is realized and after in other cycle(s) is deepened education in sense of independence of the clients on educators. The aim is the complete individual autonomy, when the learner 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 analyse health risks joint to the occupation and to compensate it with adequate salutors.

Special situation was for intervention process in overweight or obese participants. In nowadays the movement insufficiency (hypo kinesis) can be observed in adults as in child age as well. Its psychic symptoms (so called "hypo kinetic syndrome") are impulsivity, irritation, lack of self-control, discomposure and aggressiveness. The movement insufficiency (hypo kinesis) is also one of the main reason of increasing trend of overweight and obesity in teachers. Health complications of the overweight and obesity are numerous and influence negatively on the quality of professional and personal life (picture 2).

On the base of 2 phases adequate movement regime, induced changes in self-control and in self-esteem, in first through the intervention yoga training program for teachers with overweight, leaded in daily home practicing (3 months), and after through the coherent adequate movement activities (2 weekends, one week course). Physical condition presents a key base to competent teachers work. To define terms of adequate movement regime and adequate movement activity generally was an important postulate and premise in our research (picture 3).



Picture 5 Scheme of algorithm of 2phases adequate movement regime

Adequate means to be adequate to the age, to the personal skills, to the individual needs etc. The base is created on the well-being, joy, play and creativity. That means to move and in the same time experience well- being and joy. To move and play we can alone or with a partner. Different movement activities, adequate to the individual skills, inclinations and interests and suitable implemented in daily life, 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 are playing: 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 „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 movement 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 by teacher in normal daily life and active life style according individual specifics and needs. It is very important if adequate movement regime concludes outdoor activities. Adequate movement activity connected with outdoor has a strong effect on resilience in physical, mental, social and spiritual context in teacher's health.

## CONCLUSIONS

In adequate movement regime is the base of perfect teacher's professional performance connected with resilience to burnout in teachers and their health support generally. 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 one does not compare skills and force with others, but more to excel, to realize self. If the adequate movement regime is practiced with friends, colleagues from the teacher profession is upgraded in unforgotten experiences fixed friendships and relations in staff.

Expert teams from STRESSLESS project and PACZion project conduct an extensive physical and mental/emotional health check-up with all participants, which is repeated several times in the course of the project. Between the half-yearly evaluations in a self-responsible way and with a free choice of places and times, the participants are required to make use of the suggested prevention and intervention measures offered by the listed network partners (e.g. medical facilities – such as medical doctors, osteopaths, physiotherapists, health resort environments, psychologists, massage therapists, but also job-related support options, e.g. supervisors, educational, psychological/social work facilities), but of course if required can always consult with experts.. Ability to cope with professional stress, to be educated towards professional satisfaction in terms of Work – life balance, to improve the quality of life, those are the foremost objectives of the projects. Number of sicknesses is decreased and the joy of being a teacher is boosted. From strictly economic point of view, health expenses are significantly lowered and premature retirement is reduced. Presented projects oriented on teachers' health are significantly supported and promoted by the ministries of education of participated countries. Considering the studies mentioned above on teaching success and its

dependency on the teacher's personality, an investment in teachers' health would pay off the most for the pupils entrusted to us who could then enjoy better classes thanks to a more balanced, stable and happier teacher community in a positive school climate.

According Comenius recommendations for all educationalists including parents we return to the humanistic mission of teacher profession when harmony development of person can be initiated successfully only in an intentional socialisation process with harmony person of educator's. Comenius says: „We are obliged to protect body from illnesses and injury, in the first place, because it is the abode of soul, and it is only one, after its ruin soul must immediately moves from world. Secondly, idem body is created not only to be abided, but to be the instrument of intelligent mind, without it we cannot anything to hear, anything to see, anything to speak, anything to do, not even to think. Therefore if intellect breaks, visualization capacity will break and limbs of body are affected and spirit alone is injured ...“

## LITERATURE

- ❖ KORNATOVSKÁ, Z. Needs Analysis of Teachers in a View Context of Education Institutions Managers within EU STRESSLESS Project.
- ❖ KREJČÍ, M. et al. (2010): *Adequate movement regime and bio-psycho-social determinants of active life style*. České Budějovice: JU.
- ❖ KREJČÍ, M., KORNATOVSKÁ, Z., KOKEŠ, R. PACZION - S radostí zůstat učitelem. Váš osobní průkaz zdraví. České Budějovice: JU, 2009.
- ❖ MICHAL, J. (2009) Analýza obsahu pohybovej aktivity a motívov k športovaniu u vysokoškolákov. In: *Kinantropologica Volume 10. č. 2/09*, České Budejovice: 2009, s. 88-94. ISSN 1213-2101
- ❖ STEMBERGER, V., KNJAZ, D., RUPCIC, T. (2009). Comparison between Slovenian and Croatian students and their knowledge about healthy food and their eating habits. *14<sup>th</sup> annual congress of the European College of Sport Science. Oslo/Norway, June 24 – 27, 2009. Book of abstracts*. Edited by: Loland, S., Bo, K., Fasting, K., Hallen, J., Ommundsen, Y., Roberts, G., Tskolakidis, E. p. 448
- ❖ STEMBERGER, V. Teachers' health, occupation diseases of teachers and the quality of physical education. In Krejci, M. et al.: *Adequate movement regime and bio-psycho-social determinants of active life style*. České Budějovice: JU, 2010.

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**SUMMARY**

Teachers present professionals who are exposed to the influence of daily stress elements and a burnout syndrome. The burnout syndrome is usually defined as a loss of motivation in a professional area when the person feels bad and is mentally and physically exhausted. There are several stages, it is not an abrupt event but it is a gradual process. Needs Analysis provided in the 9 EU countries (e.g. Belgium, Czech Republic, Greece, Latvia, Netherlands, Portugal, Slovenia, Switzerland, United Kingdom) in the indicators “Work engagement”, “Burnout”, “Stress”, “Work life conflict” confirmed the presence of the symptoms from burnout syndrome among investigated teachers and alerted to the fact that stress is mostly present. This study points out that the information on the manifestations of burnout syndrome is unquestionably included among the knowledge directed at efficient prevention.



# ATTITUDES OF BOYS SPORT'S FOOTBALL CLASSE TO PHYSICAL EDUCATION AND SPORT

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**KEY WORDS:** football, attitudes, physical and sports education, sports classes.

## INTRODUCTION

Sport has long ago one of interest activity the general population. With the gradual development of the individual to develop the sports industry. One of the most popular sports in the world is football. Football derives from its collectivity, emotions and uncommon options for each player to apply the diverse physical and mental characteristics and abilities within the collective games. Football is now with us and the world one of the most popular sports games and team sports because of the financial is simplicity. Completion of the peak athletic performance for a large measure of self-denial player and football coach for the regular teacher efforts to work on his performance in the early ages.

## PROBLEM

Children's sport is very important educational activity, which together hand in hand out teachers of physical and sports training, senior interest activities in schools, athletic trainers, team leaders and parents. At the end should be at a complex personality, which enabled the sport especially wonderful childhood full of friends, fun and intense anachronism. Sport plays an important role in the implementation of after-school youth, in which children experience the heady moments of triumph, bitter defeat, learn independence, responsibility, sense of purpose and respect for each other. Children's sports one of the basic leisure activities that help to prevent negative social phenomena.

What are the attitudes of boys sports classes focusing on football for the physical and sport education. They will be more positive attitudes than students called in sports man like ordinary classes, or will be pupils from sports classes overloaded contrary motion in sports activities and long-term sports training and attitudes in turn will be less positive.

Football (in English football, foot = foot ball = ball) is a collective ball game, which is the most popular team sports in the world. According to a survey organized in 2001, the international football federation FIFA, soccer plays regularly at least 240 million people in over 200 countries. The reason for its popularity are simple rules and minimal demands on equipment. In addition to the turf football there are other mutations of this popular game: indoor soccer, mini football and others. Carried out according to certain principles and codes of a fixed organization. The roots of football dates back to ancient times. Gradually became the most popular sport on the planet. First reports of ball games have come of 3 millennium BC l. . Ball games loved the Mayans and Incas. In the early 19th century, football was played in English schools. Lost spontaneity, the game was organized and became the means of education. On the territory of Slovakia began playing football in 1892 - the 1896th. Early reports are just from central Slovakia. In FC was founded in 1893 Banská Bystrica and then gradually emerged football clubs in Bratislava, Prešov, Košice, Trnava, Trenčín, Vrútky, Lučenec, Zvolen etc.

Soccer has grown beyond schools gradually moved into the clubs, which have clearly increased. Requirements for the current soccer is growing steadily. Audience must be attractive, attractive and efficient in terms of expected results.

According Boroš - Ondříšková - Živčicová (1999) attitudes are relatively permanent features of the individual to express his opinion (positive or negative) to a field actually reflect not only the basic cognitive orientation, but also the value system of man and his effort the focus. In this sense, attitudes are a factor that strongly influences the behavior of the individual. Attitude object can be anything a person registered or which is engaged in mind. Poliach (2003) states that attitudes significantly affect the conduct of everyday life situations. Attitudes are also in many closely related and personal values with knowledge, experience and motivation.

Stance, according to Hartl (2004) and Kosová - Kasáčová (2009) evaluating the relationship expressed tendency to react stable way to objects, people, situations and oneself. Predetermine the knowledge, understanding, thinking and feeling. This is a relatively stable trend positively or negatively respond to certain stimuli.

People are not born with attitudes - attitudes as such are not innate to man. Creating life experiences, from about the third - the fourth year of life (Kubáni, 2004). Value orientation is produced already at the early age of the child during its primary socialization, which is the world unbend innate sense of values and begin to get familiar with the values of their social

environment. Each individual on a system or structure creates attitudes in himself in direct interaction with people, with society, with its institutions.

The issue of the survey of attitudes of pupils to school physical education in primary and secondary schools in the past dealt with such. Antala - Dorošová (1996), Görner - Starší (2001), Bartík (2005, 2006, 2007a, 2007b, 2009), Vladovičová - Novotná (2005), Bartík - Mesiarik (2009, 2011) even .. In the Czech Republic as it were. Rygl (2003a, 2003b), Gorna (1997, 1998). Attitudes of university students deal with the Šikula (1992) and Michal (2002). In the adult population in the Czech Republic for example. Zich - Ungr (1995).

Football training is taught in sports classrooms and sports like other objects has its own curriculum. It is implemented mainly in sports, according to the focus of sports classes. For the majority of football on the football field and in the winter in the gym.

Sports classes are designed for the systematic sports training sports talented students. Activity in them is focused on the optimal development of the physical assumptions of students in specific sports industry and increase their athletic performance. In sports classes are taught according to the modified curriculum primary or secondary school. Teaching takes place in the subject of sports training.

Subject sports training courses in the range of 4-8 hours per week. In one sport class includes students one or more sports industry. Classes according to the curriculum generally divided into groups, and where there are more than a sport, or class are boys and girls Sports class primary and secondary schools are part of the top sport in the Slovak Republic. The curriculum for the classes with extended teaching of sports training focused on football as a binding document for the sports training of teachers. Generally, imply the objectives, content and scope of the curriculum for each age group athletes and for each school year. Sports training teachers to serve the development of curricula and training plans for the sports class.

Football training is provided in the form of sports training, camps and participating in regular sporting competitions organized by the SFA for the ages. As part of sports training is the selection process, theoretical training, recovery and periodic testing. Sports training usually takes place within 12 to 18 lessons per week depending on age category and performance level of students - the players. In sports training, during the major holidays are also involved new boys or newly recruited students before entering the school sports classes.

Sports classes focusing on football classes are designed to create optimal conditions for the progressive sports training physically gifted and talented young people with regard to obtaining good exercise habits and physical activities in compliance with all principles of youth sports training.

In response to a continuous training process implemented during the various ages - grade school, the general objective of this age group of students lay the foundation for future high-performance sport in youth teams age, junior and adult categories, focusing on a high level of general and special physical performance, create permanent positive attitude to football.

## OBJECTIVE

The goal was to identify and analyze the attitudes of pupils 8th vintage sports classes focusing on the school football J. Alexy Zvolen to school physical education and sports. Another objective was to determine the attitudes of pupils are regular classes (excluding sports specialization) 8 classes at other elementary schools in the district Zvolen and compare them with the attitudes of pupils 8th vintage sports classes focusing on football. Finally, we also wonder whether pupils from sports hockey class will be given to multi-year specialized sports training on the contrary a negative view of PSE and more indifferent and negative attitudes toward sports and physical education as students in regular classes.

## METHODOLOGY

Research examining the file in question attitudes to school sport and physical education and sports were boys eighth grade class focused on sports training - soccer in elementary J. Alexy 1941 / 1 in Zvolen (16) and normal boys of class 8 classes at primary schools in the district Zvolen (226). Overview of the number of respondents participating in the research are presented in Table 1.

Table 1 Number of students participating in research surveys on the issue of attitudes toward physical education and sport

Schools	Primary school J. Alexy Zvolen	All primary school in district Zvolen
Class	Football Class	Normal Class
Number of boys	16	226

Boys 8th vintage sports classes focusing on the school football J. Alexy Zvolen in the school year 2011/2012 played top Slovak football club football competition in City football club Zvolen in his age category and the autumn, namely that in the mid-grade competition

were in the intermediate table to 5 the spot. In the previous year 2010/2011 ended up seventh in the overall the spot.

The main research method was attitudinal questionnaire for students second grade school - for pupils fifth and 9 grades of primary schools by Sivák et al. (2000). Contains 51 items, and it consistently for 17 with a focus on cognitive, emotional and conative component of attitude. Maximum number of points that can be obtained respondent is 102 points. Attitudinal questionnaire is designed to detect specific declarative approach to physical education activities, and school sports and physical education and sport. The questionnaire focuses on the cognitive, emotional and conative component of attitude and intensity of attitude towards school physical education and sport determines the overall gain points in all three components of attitude. The pupil takes his opinion on each item in the record sheet answers underline one of the options.

The cognitive component of attitude - is closely related to mastery of specific and general knowledge of physical culture, hygiene, healthcare, namely elementary theoretical foundations of Sports training. Emotional component of attitudes - emotional component of attitude, it is this component is considered in this age to be very important in developing attitudes to physical education. Conative component of attitude - it's about the student activity, its active participation in physical activities. This is particularly the will to conduct kinetic operations and engage in active work.

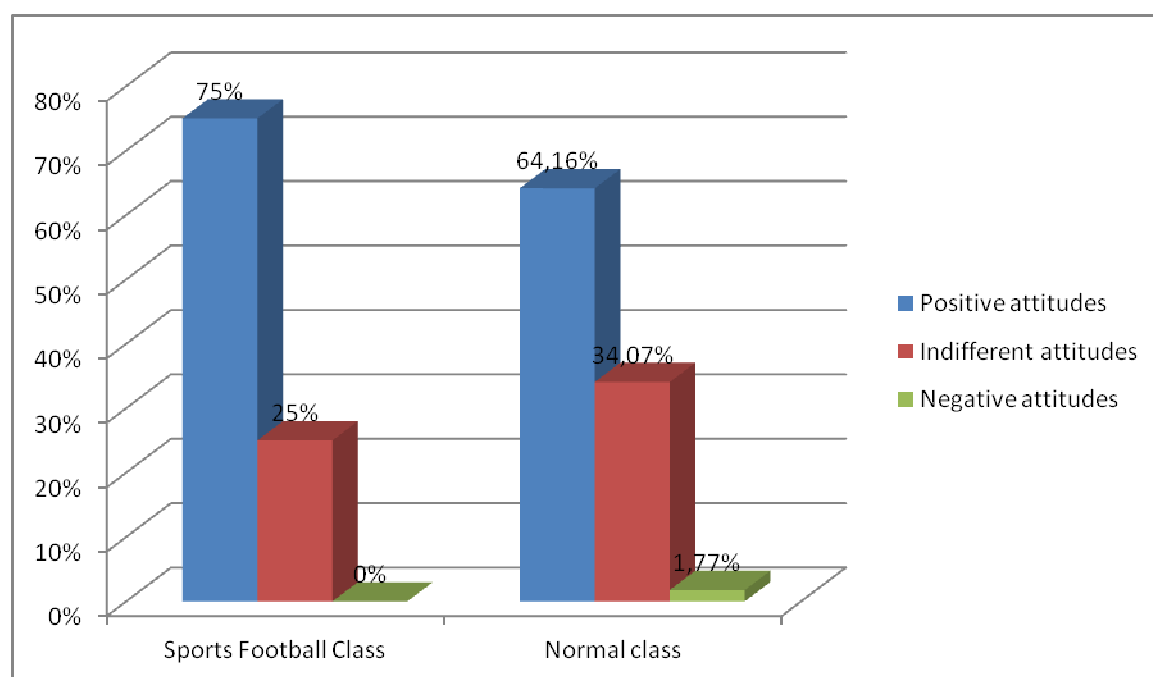
In evaluating the results, we used the nonparametric Wilcoxon test to detect statistical significance of differences in the level of positive attitudes.

## RESULTS

Results of analysis of questionnaires to determine orientation attitudes boys in sports and physical education indicates for better clarity in Table 2 and Picture 1.

Table 2 Comparison of attitudes of students orientation 8th vintage sports classes focusing on football at primary school J. Alexy 1941 / 1 in Zvolen pupils 8th so normal classes in other primary schools in the district Zvolen

Orientation of attitude	Primary school J. Alexy Zvolen	Old primary school in district Zvolen
	Football class	Normal class
Positive	12 75 %	145 64,16
Indifferent	4 25 %	77 34,07 %
Negative	0 -	4 1,77 %
Total	16	226



Picture 1 Comparison of orientation attitudes of students 8th grade class sports with a focus on football in primary school J. Alexy Zvolen pupils 8th so normal classes in other primary schools in the district Zvolen

Of the 16 boys eighth grade class sports with a focus on football in primary school J. Alexy Zvolen showed 75.00% (12) boys a positive attitude toward physical education and sports, indifferent attitude of 25.00% (4) boys and has not shown a negative attitude or a boy.

These findings are confirmed by non-standardized interviews with four teachers of physical education and sports at this school who are also the years of football coaches who have consistently reported that boys from the sport of hockey classes show greater interest in the hours of physical and sports education as boys and girls regular classes.

Based on these results we can say that sports training, which on that primary school as a compulsory physical education and sport are reflected positive attitudes of pupils to sports football class on their attitudes toward physical education and sports. Students sports football classes for 2 the stage of primary schools have a school education program in the weekly teaching schedule included seven hours of physical education and sports. Compared with the State education programs have overstated the number of hours TSV five lessons. Training at the football stadium are carried out 4 times a week, Tuesday to Friday. Length of training unit is 90 minutes, i.e. two lessons athletic training. Two sessions per week are made in the morning and two afternoon sessions per week in the training process constitutes a subsidy 5 sports training lessons in the school educational program with 225 minutes, which represents the total time allotment for all workouts (no matches) 360 minutes, which is 62,50% of the time allocated for training.

Hours of physical education and sport to be conducted at that school for sports and usual class in case of favorable weather in autumn and spring months, usually on the outside grass and asphalt school playground or in the nearby natural environment. In case of inclement weather, then most in the school gym in the school gym. Sports training in the sport of football classes are conducted throughout the year on the football field the local football club City football club Zvolen. Youth soccer teams are also 2 football fields with natural grass, a football pitch with artificial grass and a playground with artificial grass with the dimensions specified for mini football.

The boys are into sports football classes in that school football coaches levied active in sports football club MFK Elected continuously since the first up to 4 class, but a full complement of sports football class is made to the selection by 5 class, and later as the final version still mainly in the 6th and 7 the classroom. Boys in those sports football classes are collected mainly from districts Zvolen, Krupina and Detva.

Table 2 shows the results we have achieved in boys eighth so current class thirteen classes in primary schools in the district Zvolen, including primary school J. Alexy 1941 / 1 Zvolen where they are established sports football class. In mainstream classes in the attitudinal questionnaire showed a positive attitude toward physical education and sports

64.16% (145) boys, indifferent attitude of 34.07% (77) boys and negative attitude of only 1.77 % (4) boys.

By comparing the results achieved in the survey orientation and attitudes toward physical education sport in our research for students 8th grade football sports class in elementary school J. Alexy Zvolen with the results of pupils 8th so years regular classes in thirteen elementary schools in the district Zvolen we can say that the boys were sporting soccer classes for 10.84% more positive attitudes, while the 9.07% less indifferent attitudes toward physical education and sports as boys from the regular classes.

The difference in the quality of positive attitudes between the two groups of boys sports football and the so-called current class thirteen classes in primary schools in the district Zvolen we have verified the statistical non-parametric Wilcoxon test at 5% level of statistical significance. Based on the results of that test, we can say that this difference is not statistically significant when  $p=0,1905$ , this means  $p>0,05$ .

## CONCLUSION

Based on our findings we conclude that the quality of management training in the sport's sport classes in relation to quality that are made PSE can lead to positive attitudes towards physical education and sports. We found that boys of football sports classes showed more positive attitudes toward physical education and sports as students regular classes.

Although these results can not be given the large group of boys to generalize, we wanted to research carried out show that the long-time quality of management training in the sport of football sports classes in primary schools with links to the local football club can be for students except sports growth of individuals or entire team in team sports have a positive impact and to create positive attitudes towards physical education and sports.

Sports classes in primary schools have their only justification for the development of Slovak sports, but also for school physical education and sport, and therefore their conservation and promotion should be in the interests of all those directly or indirectly involved. The generalization of research results is necessary to carry out research on a larger scale, with more subjects and more territory. Similar studies should help to improve the situation well in terms of creating positive attitudes not only to physical and sports education in schools, but also to lay the foundations for lifelong positive relationship of individuals to physical activities and sports in general.



## LITERATURE

- ❖ ANTALA, B., DOROŠOVÁ, S. 1996. Postoje žiakov pohybovo podpriemerných a pohybovo nadpriemerných ku školskej telesnej výchove. In *Telesná výchova a šport*. ISSN 1335-2245, 1996, roč. 6, č. 4., s. 8 - 10.
- ❖ BARTÍK, P. 2005. Postoje žiakov 2. stupňa základnej školy k telesnej výchove. In *Acta universitatis Matthiae Belii, Zborník vedeckovýskumných prác*, č. 9. Banská Bystrica: UMB, 2005. ISBN 80-8083-161-0, s. 158 - 164.
- ❖ BARTÍK, P. 2006. Postoje žiakov 1. stupňa ZŠ k Telesnej výchove a pohybovým aktivitám v regióne Čadca. In *Sborník referátů z 6. mezinárodního vědeckého semináře „Efekty pohybového zatížení v edukačním prostředí tělesné výchovy a sportu“*. Olomouc: FTK UP, 2006. ISBN 80-244-1366-3, s. 46.
- ❖ BARTÍK, P. 2007a. Postoje žiakov k telesnej výchove na 1. stupni ZŠ na vybraných školách v Banskej Bystrici. In *Telovýchovný proces na školách, Recenzovaný zborník vedecko - výskumných prác*. Banská Bystrica: PF UMB v spolupráci s klubom TV UMB a Regionálnej pobočky SVSTVŠ v Banskej Bystrici, 2007a. ISBN 978-80-8083-501-9, s. 46-56.
- ❖ BARTÍK, P. 2007b. Postoje žiakov 5. a 9. ročníkov na vybraných ZŠ k telesnej výchove. In *Optimální působení tělesné zátěže a výživy 2007 s podtitulem Kinantropologické dny MUDr. V. Souška, Sborník příspěvku ze XVI. Ročníku interdisciplinární konference s mezinárodní účastí*. Hradec Králové: PF Univerzity Hradec Králové v spolupráci s Ústavem telovýchovního lékařství LF UK FNHK a Rehabilitační kliniky Fakultní nemocnice Hradec Králové, 2007b. ISBN 978-80-7041-513-9, s. 210 - 216.
- ❖ BARTÍK, P. 2009. *Postoje žiakov základných škôl k telesnej výchove a športu a úroveň ich teoretických vedomostí z telesnej výchovy v intenciách vzdelávacieho štandardu*. Banská Bystrica: FHV UMB Banská Bystrica, 2009. 132 s. ISBN 978-80-8083-764-8
- ❖ BARTÍK, P., MESIARIK, P. 2009. Postoje žiakov deviateho ročníka základných škôl v stredoslovenskom regióne k školskej telesnej výchove a športu. In *Telesná výchova a šport*. ISSN 1335-2245, 2009, roč. 19, č. 1, s. 7-9.
- ❖ BARTÍK, P., MESIARIK, P. 2011. Vplyv záujmovej školskej telesnej výchovy a športu na formovanie pozitívnych postojov žiakov k pohybovým aktivitám. In *Exercitatio corporis - motus - salus = Slovak journal of sports sciences: slovenský časopis o vedách o športe*. Banská Bystrica: FHV UMB, 2011. ISSN 1337-7310, roč. 3, č. 1, s. 97-104.
- ❖ BOROŠ, J., ONDRIŠKOVÁ, E., ŽIVČICOVÁ, E. 1999. *Psychológia*. Bratislava: Iris, 1999. 270 s. ISBN 80-88778-87-5.

- ❖ GÓRNA, K. 1997. Vztah chlapců a dívek středních škol olomouckého a katowického regionu k vyučovacím jednotkám tělesné výchovy. In *Telesná výchova a sport mládeže*. ISSN 0323-0449, 1997, roč. 63, č. 5., s. 41 - 43.
- ❖ GÓRNA, K. 1998. Deklarace zapojení do rekreační pohybové aktivity, vědomosti z oboru tělesné kultury a vlastní hodnocení pohybových dovedností studentů na gymnáziích. In *Tělesná výchova a šport*. ISSN 1335-2245, 1988, roč. 8, č. 1, s. 14-18.
- ❖ GÖRNER, K., STARŠÍ, Jaroslav. 2001. *Postoje, vedomosti a názory žiakov II. stupňa ZŠ na telesnú výchovu*. Banská Bystrica: UMB, Fakulta humanitných vied, 2001. 162 s. ISBN 80-8055-565-6.
- ❖ HARTL, P. *Stručný psychologický slovník*. Praha: Portál, 2004. 311 s. ISBN 80-7178-803-1.
- ❖ KOSOVÁ, B., KASÁČOVÁ, B. *Základné pojmy a vzťahy v edukácii*. Banská Bystrica: PdF UMB, 2009. 161 s. ISBN 978-80-83-525-5
- ❖ KUBÁNI, V. 2004. *Všeobecná psychológia*. Prešov: FHPV PU Prešov, 2004. 90 s. ISBN 80-8868-257-7.
- ❖ MICHAL, J. 2002. Názory, postoje a vzťah študentov UMB k telesnej výchove, športu a pohybovým aktivitám. In *Acta universitatis Matthiae Belii, Telesná výchova a šport*, vol. 4, č. 4. Banská Bystrica : UMB, 2002. ISBN 80-8055-727-6, s. 50 - 55.
- ❖ POLIACH, V. 2003. *Základy psychológie osobnosti*. Žilina, EDIS pre PF UMB, 2003. 74 s. ISBN 80-8070-050-8.
- ❖ RÝGL, P. 2003a. Neradostný pohled na tělesnou výchovu. In *Telesná výchova a sport mládeže*. ISSN 1210-7689, 2003a, roč. 69, č. 2., s. 43 - 46.
- ❖ RÝGL, P. 2003b. Negramotnost v tělesné výchově. In *Telesná výchova a sport mládeže*. ISSN 1210-7689, 2003b, roč. 69, č. 3., s. 40 - 42.
- ❖ ŠIKULA, T. 1992. Názory a postoje študentov Právnickej fakulty UK na výučbu telesnej výchovy v nových podmienkach štúdia za roky 1989 - 1990 a 1990 - 1991. In *Telesná výchova a šport*. ISSN 1335-2245, 1992, roč. 2, č. 3., s. 8 - 12.
- ❖ VLADOVIČOVÁ, N., NOVOTNÁ, N. 2005. Športové záujmy rómskych žiakov 1. stupňa základnej školy. In *Acta universitatis Matthiae Belii, Zborník vedeckovýskumných prác*, č. 9. Banská Bystrica : UMB, 2005, ISBN 80-8083-161-0, s. 173 - 179.
- ❖ ZICH, F., UNGR, V. 1995. Postoje české veřejnosti k tělesné výchově a sportu. In *Telesná výchova a sport mládeže*. ISSN 0323-0449, 1995, roč. 61, č. 3., s. 1 - 8.

## **SUMMARY**

The paper presents results of research to determine the attitudes of boys sports classes focusing on ice hockey for the physical and sport education and compares them with the results of boys the same age group in primary schools in the district Zvolen. The boys of the sport class with a focus on hockey expressed as compared with boys of unsportsmanlike classes more positive and less at the same time indifferent and negative attitudes to physical education and sports. However, this difference was not statistically significant at the 5% level of statistical significance.

# ANALYSIS OF MULTI-ANNUAL ENDURANCE ABILITIES LEVEL OF YOUNG BIATHLETES IN DECADE 2001 - 2011

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**KEY WORDS:** analysis, endurance abilities, multi-annual, young biathletes.

## INTRODUCTION

Endurance is defined as ability to perform kinetic activity or to deal the certain motive tasks longer time without the loose of efficiency (Moravec, 2007; Měkota, 2005). Dovalil et al. (2002) comprehend endurance abilities as group of assumes to perform kinetic activity longer time on certain level.

Sedláček, Lednický (2010), Moravec et al. (2007) and Čillík (2004) share the opinion that depending on the duration and intensity of physical activity is different in energy requirements and the way how they are secured. Endurance ability is done primarily on the activation of the oxidative (aerobic) energy system. Aerobic endurance is based on the increased activation of slow muscle fibers and to a lesser extent, the fast glycolytic muscle fibers. An important role has also lactate (anaerobic) energy system for short-term endurance but also in medium endurance. Anaerobic energy share decreases rapidly with time duration of load and may affect the performance changes of intensity for example the load intensity, finish spurt, change the line profile and so on (Měkota, 2005).

Čillík (2004) characterize run as the natural human locomotion, in which the physical activity involve large muscle groups of the legs, loads the respiratory, cardio-vascular and metabolic system. The level of endurance capacity limit functional abilities, mainly cardiovascular, respiratory, energy stocks (supply of energy resources to working muscles) and run economic efficiency (Moravec et al., 2007).

Sedláček, Lednický (2010) and Dovalil et al. (2002) refer long-term persistence as a general endurance. Special perseverance is reflected in specialized sports activities (e.g. in biathlon sticks tapping).

According to the amount of muscle involved in endurance activities, we talk about general or local stamina (Sedláček, Lednický, 2010). Cross-country freestyle is used by biathletes (Paugšchová, 2004). More appropriate for measuring the endurance capacity in biathlon would be the Test of endurance running on cross country skies / roller skies.

12 minutes running test is an indicator of aerobic endurance. The biathlete tries to run over this limit the greatest distance. Sedláček, Antala et al. (2008) claim, that this type of run is also good indicator of overall health. The authors also point to the fact that performance is largely affected by bodyweight.

In newer studies (Ruiz et al., 2008; Davies et al., 2006; Flouris et al., 2005; Cooper et al., 2005) authors diagnose endurance abilities by *20 m multistage shuttle run test* (beep test), which indirectly (and not quite accurately) determine the maximal oxygen uptake. In Slovakia, this type of endurance run is associated with the concept - *Eurofit*, which represents a unified test battery of motor skills. Motor skills, including endurance are explored by many authors Sedláček, Lednický (2010), Mojžiš (2009), Sedláček, Antala et al. (2008), Moravec et al. (2007, 2002, 1996, 1990), Měkota (2005), Kasa (2000) and many others.

In laboratory conditions researchers uses treadmill test or bicycle ergometer test for exact diagnosing of respiratory and cardio-vascular system. Physician calculates from the results of maximal oxygen uptake and heart rate the level of anaerobic threshold. Most valid testing of biathletes is to use remote diagnostic utilities (gas and metabolic analysis systems - Cosmed K4b<sup>2</sup>, heart rate monitors – Polar, Garmin and blood pressure monitor – Holter and so on) to measure outside the laboratory in a natural environment on cross country skies / roller skies. The study is part of VEGA 1/0409/10 Biorhythms and sport performance.

## **AIM OF STUDY**

The aim of the study is to analyze the dynamics of the level of endurance abilities in young biathletes in three youth categories and to reveal effectiveness of sports training in the preparatory period in ten years period.

## **MATERIALS AND METHODS**

We analyzed the three age groups of young biathletes in ten years period (table 1): ZiB (12-13 years old), ZiC (14-15 years old) and DiA (16-17 years old). Biathletes were included in the age groups by the year of birth. In current years were included to diagnostics mainly those probands who were upper-classed in the overall ranking. Biathletes were at the performance level from 1<sup>st</sup> to 3<sup>rd</sup> performance class.

Total number of young biathletes in 10 years period in three categories was 277. In ZiB category, there were 86 probands, 107 probands in ZiC category and 84 biathletes in DiA category. Probands are members of biathlon clubs, respectively departments of talented youth in Banská Bystrica, Breza, Brezno, Čadca, Čierny Balog, Dolný Kubín, Liptovský Hrádok, Osrbliie, Podbrezová, Prešov, Revúca and Vyhne. Biathletes were regularly participated in tests of General physical performance.

Table 1 Distribution of biathletes into the categories according to year of born (in brackets the number of probands in category)

<i>year/ category</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2011</i>	<i>Σ'01-'11</i>
<b>ZiB</b>	'88 '89 (n=6)	'89 '90 (n=6)	'90 '91 (n=8)	'91 '92 (n=17)	'93 '94 (n=10)	'94 '95 (n=9)	'95 '96 (n=7)	'96 '97 (n=7)	'98 '99 (n=16)	n=86
<b>ZiC</b>	'86 '87 (n=14)	'87 '88 (n=8)	'88 '89 (n=12)	'89 '90 (n=12)	'91 '92 (n=14)	'92 '93 (n=15)	'93 '94 (n=9)	'94 '95 (n=9)	'96 '97 (n=14)	n=107
<b>DiA</b>	'84 '85 (n=9)	'85 '86 (n=7)	'86 '87 (n=7)	'87 '88 (n=7)	'89 '90 (n=11)	'90 '91 (n=7)	'91 '92 (n=16)	'92 '93 (n=8)	'94 '95 (n=12)	n=84

Data were gathered from Slovak Biathlon Association (SBA). Research was realized by ex post facto method. General physical performance tests organized by SBA are held regularly in autumn (September - October). In the years of 2005 and 2010 testing did not take a place. Tests were performed at the athletic stadium with cinder substrate in the years of 2001 - 2004 in Brezno and the period from 2006 to 2011 at the stadium with cinder substrate FHV UMB in Banská Bystrica.

Endurance abilities status of biathletes we investigated by the following test (Měkota – Blahuš, 1983):

Cooper test – 12 minutes run (test of running endurance) was realized in 400 meters athletic stadium with cinder substrate. From the high position start on sound signal the probands ran as many meters as possible in 12 minutes timeout. After that period, probands remained to stand in place and waited for the examiner. The experiment was recorded to the nearest 1 m.

The quantitative methods we used for basic descriptive characteristics of the performance values: the arithmetic mean ( $\bar{x}$ ) and standard deviation (SD). When interpreting

the results, we used qualitative methods that can determine the causal relationships of phenomena studied. We used the analysis, synthesis, induction and deduction.

## RESULTS

On the basis of analysis we can conclude that the level of endurance abilities of young biathletes is in time dynamics. Table 2 shows the arithmetic mean values of 12 min endurance run test in each category in decade from 2001 to 2011.

### Category ZiB

In the category of 12-13 years old boys, we recorded the highest average figure of performance in 2001;  $2950 \pm 159$  m ( $n=6$ ), on the other hand, the lowest performance was found in 2011 an average value  $2671 \pm 206$  m ( $n=16$ ). The highest variance in performance was observed in 2002 ( $SD=234$  m), the lowest variance in performance was observed in 2006 ( $SD=58$  m). When comparing the number of subjects (table 1) and achieved average endurance level (table 2), we find that a lower number of participants have achieved superior performance in general and vice versa. In overall, the highest individual performance was recorded in 2004, the value of 3382 m. Blue dot line shows the trend line, indicating an overall decline in average of endurance abilities (picture 1).

**Table 2** The average performance of subjects in each category ( $\bar{x} \pm SD$  in meters)

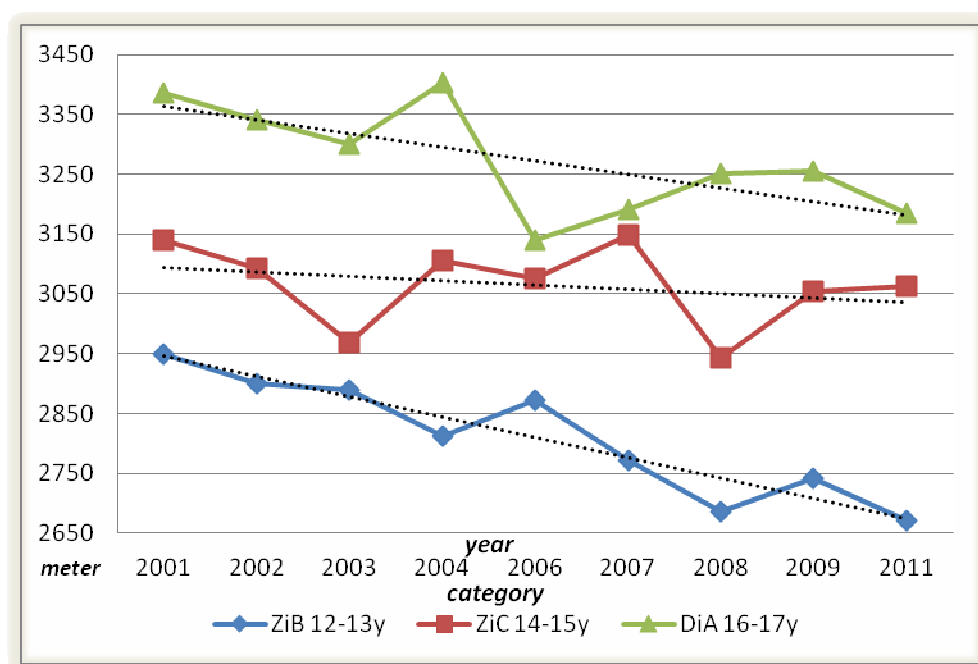
year/ category	2001	2002	2003	2004	2006	2007	2008	2009	2011
<b>ZiB</b>	$2950 \pm 159$	$2900 \pm 234$	$2889 \pm 189$	$2812 \pm 233$	$2873 \pm 58$	$2773 \pm 185$	$2687 \pm 166$	$2742 \pm 117$	$2671 \pm 206$
<b>ZiC</b>	$3141 \pm 182$	$3092 \pm 231$	$2969 \pm 179$	$3107 \pm 184$	$3075 \pm 195$	$3147 \pm 157$	$2942 \pm 205$	$3053 \pm 158$	$3063 \pm 185$
<b>DiA</b>	$3385 \pm 181$	$3341 \pm 261$	$3300 \pm 141$	$3404 \pm 106$	$3139 \pm 220$	$3191 \pm 269$	$3250 \pm 284$	$3256 \pm 176$	$3186 \pm 168$

*Explanations:* ZiB (12-13 years old), ZiC (14-15 years old) a DiA (16-17 years old)

### Category ZiC

In the category of 14-15 years old boys, we recorded the highest average figure of performance in 2007;  $3147 \pm 157$  m ( $n=17$ ) and 6 meters less in 2001 an average value  $3141 \pm 182$  m ( $n=14$ ). On the other hand, the lowest performance was found in 2008 an average  $2942 \pm 205$  m ( $n=9$ ). The highest variance in performance was observed in 2002 ( $SD=231$  m), the lowest variance in performance was observed in 2007 ( $SD=157$  m). If we compare ratio of performance level vs. number of subjects in the ZiB category with the ZiC category, we find that argument (of the category ZiB) does not apply ZiC category that higher

power is in indirect proportion to the smaller number of subjects. This means that in ZiC category, the frequency of subjects and their performance is not in indirect proportion. In overall, the highest individual performance was recorded in 2004, the value of 3402 m. Red dot line shows the trend line, indicating a partial decline in average of endurance abilities (picture 1).



Picture 1 The average performance of biathletes in each category

### Category DiA

In the category of 16-17 years old boys, we recorded the highest average figure of performance in 2004;  $3404 \pm 106$  m ( $n=7$ ), on the other hand, the lowest performance was found in 2006 an average  $3139 \pm 220$  m ( $n=11$ ). The highest variance in performance was observed in 2007 ( $SD=269$  m), the lowest variance in performance was observed in 2004 ( $SD=106$  m). In overall, the highest individual performance was recorded in 2008 with the value of 3648 m. Green dot line shows the trend line, indicating an overall decline in average of endurance abilities (picture 1).

### CONCLUSION AND RECOMMENDATIONS

The level of endurance abilities from year to year declines. This is an alarming finding. In all three categories were identified over a period of 10 years fall in aerobic abilities, this is



most apparent in the category of 12-13 years old pupils. Causes of the decline is likely related to lifestyle change, which was also observed in non-sporting youth. This may be due to total hypokinetic of population due to less need of movement (improved socio-economic conditions, children's computer games). On the other hand, it is please to find that the number of biathletes in the youth categories in 2011 increased. It could be because of Olympic medals in past Winter Olympic Games in Vancouver as motivation aspect (Anastasia Kuzmina and Pavol Hurajt), more info about biathlon in press and many other reasons.

The cause of the decreasing level of endurance abilities can be found in the lack of summer endurance training. We recommend involve non-specific, but mostly specific training exercises:

Paugschová, et al. (2008) recommends the following exercises:

#### **Non-specific training exercises**

- ride on roller skates, scooters, bicycling,
- motion games in various conditions (stadium, gym, fields),
- sport games for more than 60 min,
- swimming, swimming under water, aerobic,
- canoe touring, water sports, hiking, ice-skating,
- development of reflective skills in endurance expression.

#### **Specific training exercises**

- cross-country skiing / skiing on roller skies without rifle by classic and free-style technique, imitation exercises,
- athletic run (focused on training a special speed) with or without load,
- low or middle-speed run,
- fartlek run (30-90 min),
- sections run for special endurance,
- complex training (shooting after imitation exercises, shooting after run; run on XC skies or roller skies),
- uphill run.

Concurs with the empirical experience of Moravec et al. (2007) and measurements of XC skiers, where the knowledge base provides the possibility of intra-individual control of endurance training:

- in conjunction with an adequate heart rate,

- with the level of lactate,
- exploitation of maximal oxygen uptake ( $\text{VO}_2 \text{ max}$ ).

## LITERATURE

- ❖ COOPER, S-M., et al. The repeatability and criterion related validity of the 20 m multistage fitness test as a predictor of maximal oxygen uptake in active young men. In *Br J Sports Med*, ISSN 14730480, 2005, vol. 39, n. 4.
- ❖ ČILLÍK, I. *Športová príprava v atletike*. Banská Bystrica : FHV UMB, 2004. 128 s. ISBN 80-8055-992-9.
- ❖ DAVIES, R. C., ROWLANDS, A. V., EASTON, R.G. The prediction of maximal oxygen uptake from submaximal ratings of perceived exertion elicited during the multistage fitness test. In *Br J Sports Med*, ISSN 14730480, 2008, vol. 42, no. 12. p. 1006-1010.
- ❖ DOVALIL, J. et al. *Výkon a tréning ve sportu*. Praha: Olympia, 2002. 331 s. ISBN 80-7033-760-5.
- ❖ FLOURIS, A. D., METSIOS, G. S., KOUTEDAKIS, Y. Enhancing the efficacy of the 20 m multistage shuttle run test. In *Br J Sports Med*, ISSN 14730480, 2005, vol. 39, no. 3.
- ❖ KASA, J. *Športová antropomotorika*. Bratislava : Slovenská vedecká spoločnosť pre telesnú výchovu a šport, 2000. 209 s. ISBN 80-968252-3-2.
- ❖ MĚKOTA, K., BLAHUŠ, P. *Motorické testy v tělesné výchově*. Praha : SPN, 1983. 336 s.
- ❖ MĚKOTA, K., NOVOSAD, J. *Motorické schopnosti*. Olomouc : UP Olomouc, 2005. 175 s. ISBN 80-244-0981-X.
- ❖ MOJŽIŠ, M. *Úroveň všeobecnej pohybovej výkonnosti biatlonistov v prípravných obdobiach ročných tréningových cyklov 2001/2002 – 2008/2009* [Bakalárska práca]. Banská Bystrica : FHV UMB BB, 2009. 55 s.
- ❖ MORAVEC, R. *Telesný, funkčný rozvoj a pohybová výkonnosť 7 – 18 ročnej mládeže v ČSFR*. Bratislava : Slovenské telovýchovné nakladateľstvo, 1990. 284 s. ISBN 80-70-96-170-8.
- ❖ MORAVEC, R., et al. *Eurofit: Telesný rozvoj a pohybová výkonnosť školskej populácie na Slovensku*. Bratislava: Slovenská vedecká spoločnosť pre telesnú výchovu a šport, 2002. Druhé vydanie. ISBN 80-89075-11-8.
- ❖ MORAVEC, R., et al. *Eurofit: Telesný rozvoj a pohybová výkonnosť školskej populácie na Slovensku*. Bratislava: VSTVŠ, 1996. 181 s. ISBN 80-967487-1-8.
- ❖ MORAVEC, R. et al. *Teória a didaktika výkonnostného a vrcholového športu*. Bratislava : FTVŠ UK, 2007. 240 s. ISBN 978-80-89075-31-7.

- ❖ PAUGSCHOVÁ, B. *Teória a metodika športového tréningu v biatlone*. Banská Bystrica : FHV UMB, 2004. 160 s. ISBN 80-8055-8-1.
- ❖ PAUGSCHOVÁ, B., KOBELA, P, FUSKO, T. *Učebné osnovy športovej prípravy v biatlone*. Banská Bystrica : SZB, 2008. 34 s. ISBN 978-80-969988-6-9.
- ❖ RUIZ, J. R. et al. Artificial neural network-based equation for estimating  $VO_{2max}$  from the 20 m shuttle run test in adolescents. In *Artificial Intelligence in Medicine*, 2008, vol. 44, no. 3. p. 233-245.
- ❖ SEDLÁČEK, J., ANTALA, B. et al. *Hodnotenie telesného rozvoja a motorickej výkonnosti žiakov v procese kurikulárnej transformácie výchovy a vzdelávania*. Bratislava : ABL PRINT, 2008. 138 s. ISBN 978-80-89257-12-6.
- ❖ SEDLÁČEK, J., LEDNICKÝ, A. *Kondičná atletická príprava*. Bratislava : SVSTVŠ, 2010. 168 s. ISBN 978-80-89075-34-8.

## SUMMARY

The article elaborated and analyzed a set of three youth categories of young biathletes. Total number of young biathletes in 10 years period in three categories was 277. Endurance performance is one of limited factors of successfulness in biathlon. More appropriate for measuring the endurance capacity in biathlon would be the test of endurance running on cross country skies / roller skies. Most valid testing of biathletes is to use remote diagnostic utilities in environment.

The purpose of the study was to alert that level of endurance abilities from year to year declines. On the other hand, it is please to find that the number of biathletes in the youth categories in 2011 increased. In the paper, we also recommend to involve specific and non-specific training exercises in preparatory period for advanced endurance performance.

# **ATTITUDES OF PUPILS AT THE BEGINNING AND END OF THE SCHOOL YEAR ON A SELECTED PRIMARY SCHOOL IN THE TOWN OF SPIŠSKÁ NOVÁ VES**

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**KEY WORDS:** attitudes, physical education and sports, pupils, questionnaire.

## **INTRODUCTION**

In physical education and sport, as in professional sphere, one of the priority of value orientations, is closely linked to performance and success with its quality. It develops depending on the success of sports spontaneity of students from their natural positive attitude to sport, and sporting, you can create a favourable atmosphere of sporting activity, sports interests, optimal conditions, attitudes, opinions, feelings of belonging, formation of dominance knowledges, but also the polls supporting sport.

Physical education is no longer the traditional subject, which leads a student to healthier living. At the same time can also be a tool in the fight against obesity and overweight, because the number of children who have problems with overweight and obesity is growing. However, the problem is not in satiation. The main cause of overweight and obesity of children is the lack of movement.

Physical education, sports and youth physical activities are an important part in the process of socialization, which sense is being targeted to assist young people in their life path. With the socialization and the education sector will directly link the key questions of all areas of life of children and youth. Influence of physical educators, psychologists, educators and peers, family, leisure, contribute to the shaping of attitudes towards physical education, moral, ethical, aesthetic, spiritual, positive even civil values (Stupák, B., 2009).

## **PROBLEM**

The attitudes have their own psychological function in the psychic of man – contribute to maintain mental equilibrium that eliminates the anxiety, reinforce the value itself, serve as

an acceptable justification for unacceptable behavior, help justify and explain their own selfishness, help keep endangered self-esteem, etc. (Oravcová, 2004).

According to Nunnally (1978), "attitude" refers to a state of mind or feelings about particular social or physical objects such as significant people, social institutions, or physical activity. Identifying attitude as an important part in the role and perceived importance of physical education dates to research into the attitudes of female university students and various aspects of their physical experiences.

Period of a child and youth is believed to be the most optimal time in terms of forming stable attitudes towards sport. Therefore, there is an important position of physical education in the system of education. In the scope of physical education can systematically influence development of motoric skills of children and youth, mainly in developmental period, which is prone to have a sensitive impact on physical impulses (Macková, 2003).

Kavalíř (2004) verified in their research, not just attitudes towards school physical education and sport among secondary school pupils, but went further and deals with the values and motives in general, but also the values and motives, which lead to set in motion the activities of secondary school students. For the first few places are generally placed such values such as friendship, family, health, safety, freedom, joy of life, love. The opportunity to play sports is placed on the 16. place.

Bartík, Mesiarik (2009) exploring attitudes of pupils in the primary school level to the physical education and sport, the Banská Bystrica region. They found that for more than 60% of the respondents prevail indifferent attitudes.

From foreign authors is an interesting scientific study of Stewart (2005) from the United States that with respect to building positive attitudes towards physical education and sport in accordance with the results from other studies recommended to teachers of physical education and coach of sporting disciplines use different forms and methods of action in that field, it is necessary to respect the sexual differences between boys and girls (the girls more than boys appreciate selfimprovement as the victory feeling that boys prefer), recommends that you also take into account the cultural and social environment.

## **OBJECTIVE**

The objective of the research was to determine the level of attitudes of pupils at primary school for physical education and sport at the beginning and end of the school year in the city of Spišská Nová Ves.

## METHODOLOGY

The research we carried out during the school year 2010/2011 at Komenského school Spišská Nová Ves. The research sample consisted of 41 pupils who have followed the teaching of physical education and sports in the range of 2 hours per week.

Material and technological equipment of latter school Komenského in Spišská Nová Ves has been on a good level as well. In the school area, there is situated a multifunction playground, soccer playground, two gymnasiums.

An essential source for generation of data was an attitude questionnaire listed in Sivák, J. et al..(2000) in the publication ' an education standard of physical education for the second degree of primary school ', which was approved by the Ministry of education of the Slovak Republic.

The questionnaire includes 51 items and focuses on the growth, emotiv and konativ component of the position.

The students give their opinion to each item underlining one of the options in the answer sheet. The maximum number of points for the whole questionnaire is 102 points.

The intensity of attitudes towards physical education determines the total profit points, namely:

- negative attitude from 0 to 34 points,
- indiferent attitude from 35 to 68 points,
- a positive attitude from 69 to 102 points.

## RESULTS

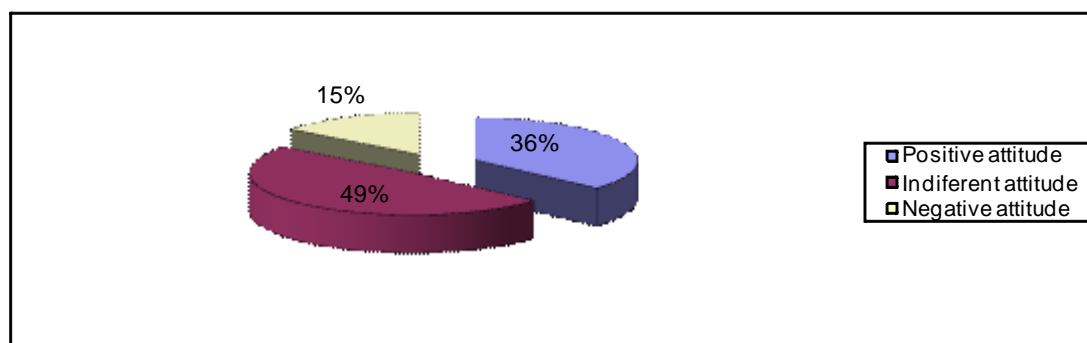
We have processed the results of the questionnaire of physical education and sport of school pupils of the 7. grade selected elementary school Komenského in Spišská Nová Ves according the responses to the questions in the questionnaire.

We have handed over the attitude questionnaire in number 41 pieces in the beginning and the end of the school year to the pupils of Komenského school in Spišská Nová Ves.

In the analysis of individual questionnaires we have reached the following conclusions: in the beginning of the school year of 41 respondents of 7. grade selected primary school in the town of Spišská Nová Ves has expressed 15-37% of the respondents a positive attitude to physical and sports education, the indiferent attitude reflected 20-48% of the pupils, 6-15% of the respondents have the negative attitude to physical and sports education .. (Picture 1).

Table 1 Results of the questionnaire at the start of the school year

Pupils	41
Positive attitude	15
Indiferent attitude	20
Negative attitude	6

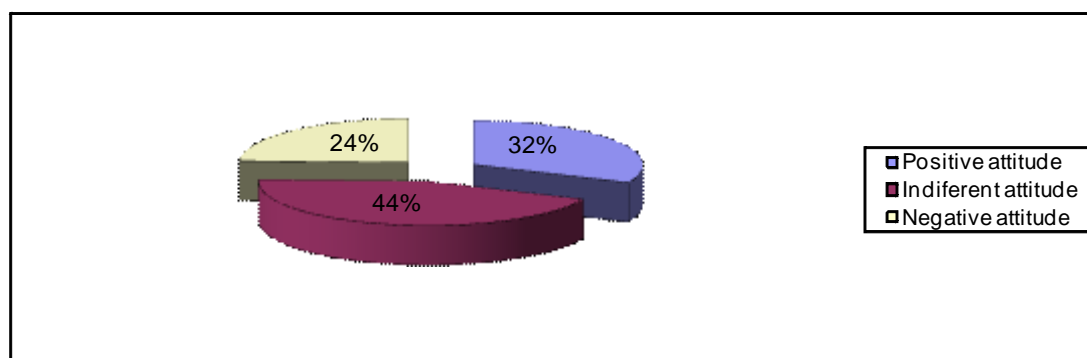


Picture 1 The percentage of the results of the questionnaire at the start of the school year at Komeského in Spisšká Nová Ves.

At the end of the school year from 41 respondents of the primary school 13 respondents-32% expressed a positive attitude to physical and sports education the indiferent stance reflected 18 respondents-44% and the negative attitude to physical and sports education expressed 10-24% of the respondents. (Picture 2).

Table 2 Results of the questionnaire at the end of the school year

Pupils	41
Positive attitude	13
Indiferent attitude	18
Negative attitude	10



Picture 2 The percentage results of the questionnaire at the end of the school year at Komeskeho in Spisšká Nová Ves.

## CONCLUSION

On the basis of the results we have obtained by using a standardized questionnaire survey of our attitude, we can not conclude: We have more positive attitudes at the end of the school year than in the beginning. A total of about 5% of the pupils have deteriorated a positive attitude towards the end of the school. From a total of 15% of the respondents who had a negative attitude to physical and sports education, the percentage rose to 24% at the end of the school year.

On the basis of the results we have gained, we especially advise the exploration of new and non-traditional sporting and mobility activities for pupils, that would diversify hours of physical and sports education in a playful manner, contribute to a positive attitude toward physical education and sport in general. We recommend the use of innovative methods improving the forms and methods of work, which will enhance the process of school physical education and sport.

## LITERATURE

- ❖ BARTÍK, P. 2009. *Postoje žiakov základných škôl k telesnej výchove a športu a úroveň ich teoretických vedomostí z telesnej výchovy v intenciách vzdelávacieho štandardu*. Banská Bystrica: Univerzita Mateja Bela, Fakulta humanitných vied, Banská Bystrica, 2009. 131s. ISBN 978-80-8083-764-8.
- ❖ BARTÍK, P.-MESIARIK, P. 2009. Postoje žiakov deviateho ročníka základných škôl v stredoslovenskom regióne k školskej telesnej výchove a športu. In *Tel. Vých. Šport*, 19, 2009, 1 s 4-6. ISSN 1335-2245.
- ❖ KAVALÍŘ, P. 2004. Hodnotové preference a participace v pohybových aktivitách. In *Tělesná výchova a sport mládeže*, roč. 70, 2004, č. 2. ISSN 0323-0449, s. 44 - 48.
- ❖ MACKOVÁ, Z. 2003. *Šport ako duševný zážitok*. Bratislava: UK, 2003, ISBN 80-223-1816-7.
- ❖ NUNNANY, J. C. 1978. *Introduction to psychological measurement*. New York McGraw Hill. 1978.
- ❖ ORAVCOVÁ, J. 2004. *Vývinová psychológia*. Žilina :EDIS, 2004. ISBN 80-8070-335-3.
- ❖ SIVÁK, J. et al. 2000. *Vzdelávací štandard z telesnej výchovy pre 2. stupeň základných škôl*. Bratislava: MŠ SR, 2000. 31 s. Schválilo MŠ SR dňa 6. júla 2000 pod číslom 1085/2000-41 ako vzdelávací štandard pre II. stupeň základnej školy s účinnosťou od 1.9.2000.



- ❖ STEWART, C. 2005. Should boys and girls be coached same way. (Mohou chlapci a děvčata být trénováni stejným způsobem? Staženo z [www.coachesino.com](http://www.coachesino.com) v květnu 2005. In *Telesná výchova a sport mládeže*, roč. 71, 2005, č. 8. ISSN 1210-7689, s. 27 - 29.
- ❖ STUPÁK, B.2009: *Le temps libre des jeunes et le milieu social (dépendance dans le cadre des familles socialement défavorisées)*. In: MICHE, F.: Nouveaux trends dans le domaine des Sciences humaines et naturelles. Fribourg: Assotiation internationale.

## SUMMARY

In our work we present the results of carried research out by monitoring the elementary school in town Spišská Nová Ves. The aim of the task was comparing of pupils' attitudes toward physical education and sport in the beginning and at the end of the school year in the elementary school with regular lesson of physical education and sport. There were 41 pupils participating in the research in town Spišská Nová Ves.

The results of the research was finding that pupils attitudes toward physical education and sport improved comparing to the attitudes at the beginning of the school year.

# INFLUENCE OF PERIODS ON A MOTION EFFICIENCY OF FEMALE STUDENTS OF UMB IN BANSKÁ BYSTRICA

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**KEY WORDS:** periods, university female students, motion activity.

## INTRODUCTION

Life is an admirable gift of nature which we get from it. It depends only on every person what his life, its content and value will be. Sport and motion activity represent the specific area of human activity. Regular sports and recreational activity lead to the healthy way of life. Absence of the natural motion with the increasing age cause civilization diseases as the obesity, cardiovascular illness and diabetes are. Psychological resistance in everyday life goes down as well. Regular sports activities lead to an improvement of psycho-motoric function of the (a) human body and also to an aesthetic appearance of the female students who study at the university.

## PROBLEM

Health is the value which contributes to better life quality including university students. We agree with Kompan (2003) about the general characteristics of the university students who are specific group of population aged from 18 to 25 years. It is important for this group of population to consolidate an obtained relation to the physical activity and also to enhance the theoretical knowledge in the use of leisure, sports and recreational activities. The most important characteristic features of university students are substantial changes in the life of an individual which are mostly connected with the changes in the ranking values of a person, in the lifestyle, gradual independence and in the way how to use their free time. During the studies in this group of inhabitants the amount of psychical and physical stress raises what contributes to increased fatigue. That is why students have opportunities to use the different forms of physical activities which provide the stability of mentation and eliminate adverse effect of nervous tension.

It is known from many researches that there is a strong correlation between the physical activities in the free time and academic success. People with higher education try to develop more effort to do sports activities in their free time. They are aware of the importance of physical activity for their health. Sports and recreational activities in their free time create kind of form of their lifestyle. Lower educated people have less interest in sports activities in their free time and in order to consolidate their health they make mistakes which begin in their (daily) regime and end with disinterest in physical activities.

Michaela Bimpi-Dresp (2007) states that during the period we can do any kind of sports, it depends only on us. Physical activity has a relaxing and calmativ effect on many girls and women. During the period women take part in physical activities differently. There are some who train unlimited, but it is usually only a light training. Activities of endurance and strength are limited. In the case of younger athletes training is stopped for 1 or 2 days or the training is reduced only on warm-up, improvement of techniques etc. Most women try to solve this problem by themselves. Many of them realize the less they train the less difficulties they have. During the Physical Education a teacher do not force girls or women to do physical activities, but he/she has no objection if they want to do them. It is just a question of social tact and aesthetics than the health hazard. Women who do not do any sports activities are in risk that causes functional defect, obesity, diseases of blood circulation and so doctors strongly recommend them to do physical activities regularly, during their whole life. Women should start with their physical activities at the primary school and in the higher grades they should confirm in it. Later they should increase the training intensity and capacity. If you train regularly, the period can not be a barrier for you. Maybe it will be necessary for you to change your training plan slightly. During the period women should care about their relaxation and should not train very hard.

Gynecologists recommend appropriate motion and light exercises. Hard sport performances or exhausting trainings are not recommended especially during the first days of period that are accompanied by spasms, stronger bleeding or unpleasant pain. A week before your period you maybe do not feel very well and you do not want to do any exercises, especially if you suffer from PMS. Do not worry and train. Do not give up physical activities because in these days training is so effective especially in burning fat. Train cardio, spinning or play tennis. A week after a period is also very positive. Certainly you feel new energy. This week is ideal for loosing your weight. Because of lower estrogen level in your body, you should mainly concentrate on relaxing exercises as for example yoga or callanetics. Higher level of tiredness is characteristic feature in the middle of the period therefore you should try

to do exercises that make you “explosive” as dance, aerobics or combat sports. If you do not want to skip you should try pilates or yoga. Very important is to obey your body and its actual needs. Every period or every cycle is different. Many factors as for example tiredness, stress, psychic and your daily menu can influence the period.

(<http://www.prebaby.estranky.cz/clanky/menstruacia/menstruacia> )

Researches which have been made in this area (Baisová, 2009, Izáková, 2010 etc.) show long-lasting decline of an interest in physical activity of university female students.

The contribution is part of grant task VEGA 1/0409/10 “Biorhythms and Sport Performance”.

## **AIM OF RESEARCH**

The main aim of the work was to find out the impact of physical activity on the menstrual cycle of Matej Bel University female students in Banska Bystrica.

## **TASKS OF RESEARCH**

In order to fulfill our aim we provided the following tasks:

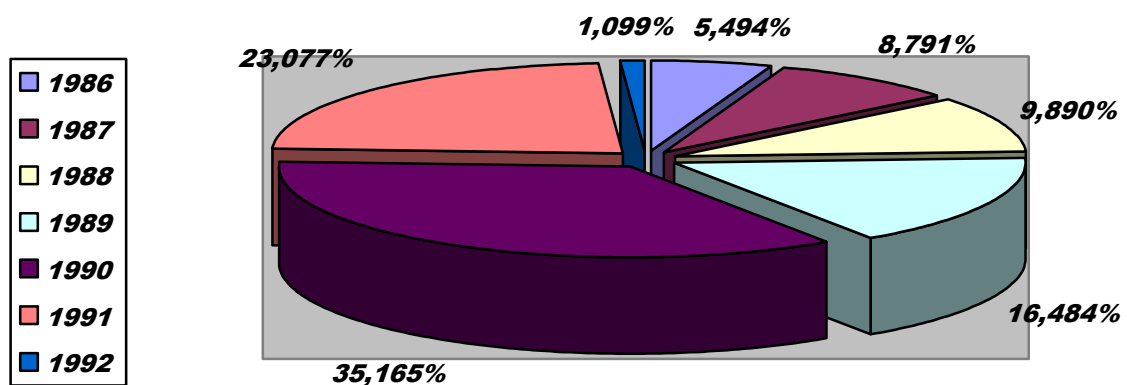
1. Through the inquiry find out the attitudes and opinions of university female students towards the physical activity during their periods.
2. To analyze the students’ answers and provide conclusions (for practise) for university female students towards the physical activity during period

## **METHODOLOGY**

The research sample consisted of 91 (100%) university female students who have different approbation subject as the Physical Education (PE). Female students attended aerobics within the project Sport for All. The inquiry consisted of 12 questions and all participants responded anonymously. Research has been made during the summer semester 2011. Averaged age of female students was 21 years. Most of female students (participants) attended 2<sup>nd</sup> university year 32 (35,16%), just 2 (2, 19%) of participants were students of 5<sup>th</sup> university year.

Table 1 Birth year of participants

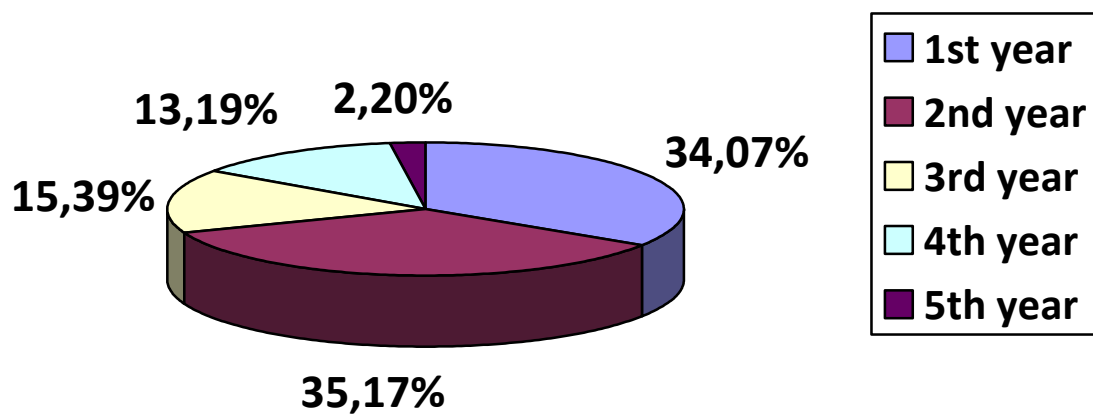
Birth year	n	%
1986	5	5,49
1987	8	8,79
1988	9	9,89
1989	15	16,48
1990	32	35,16
1991	21	23,07
1992	1	1,09
Overall	91	100 %



Picture 1 Birth year

Table 2 Study years

Study year	n	%
1 <sup>st</sup> year	31	34,06
2 <sup>nd</sup> year	32	35,16
3 <sup>rd</sup> year	14	15,38
4 <sup>th</sup> year	12	13,18
5 <sup>th</sup> year	2	2,19
Overall	91	100 %



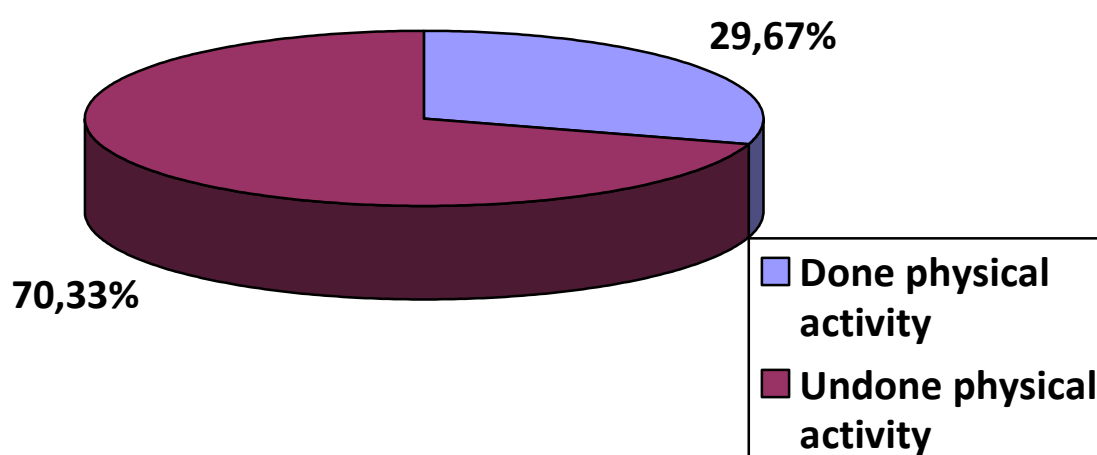
Picture 2 Study year

## RESULTS

We have found out alarming fact. 64 (70, 33%) of all participants do not practice any physical activity and just 27 (29, 67%) participants do physical activity regularly.

Table 3 Doing physical activities in general

	n	%
Done	27	29,67
Undone	64	70,33
Overall	91	100 %



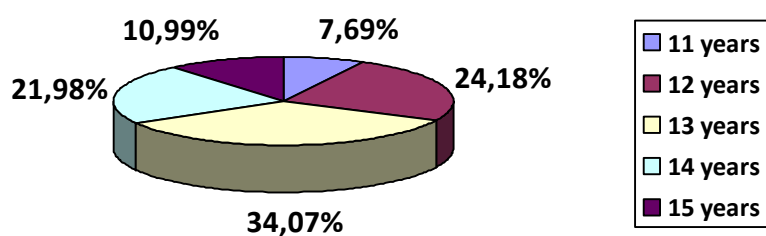
Picture 3 Doing a physical activity in general

Based on some knowledge of practice (Jančoková, 2000) one of the important factor of normal sexual evolution is the age of the participants during their period. After our analysis we came to the following results. Results show that the age of the period of university female students who practiced recreational physical activity is 13 years. From the physiologist point of view we wanted to know whether they have regular or irregular period. 77 (84, 61%) of all female students have regular period and just 14 (15, 38%) have irregular menstrual cycle.

## Characteristics of the period

Table 4 Age of the first period

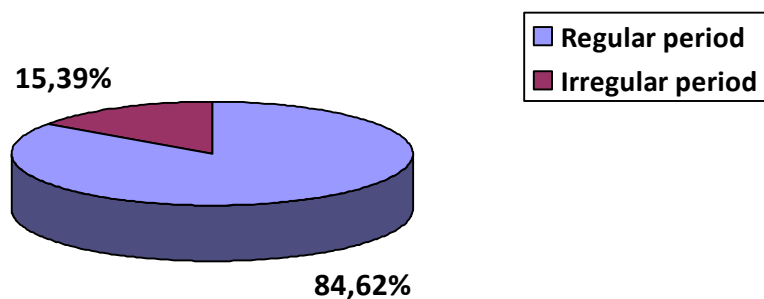
	n	%
11	7	7,69
12	22	24,17
13	31	34,06
14	20	21,97
15	10	10,98
Overall	91	100 %



Picture 4 Age of the first period

Table 5 Regularity of a period

	n	%
Regular	77	84,61
Irregular	14	15,38
Overall	91	100 %



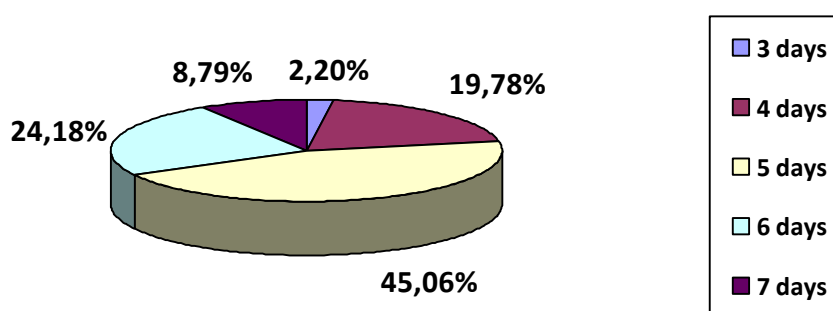
Picture 5 Regularity of a period



Most of the female students 41 (45, 06%) have a 5-days-period and just 2 (2, 20%) female students state that they have a period for 3 days.

Table 6 Duration of a period

	n	%
3 days	2	2,20
4 days	18	19,78
5 days	41	45,06
6 days	22	24,18
7 days	8	8,79
Overall	91	100 %

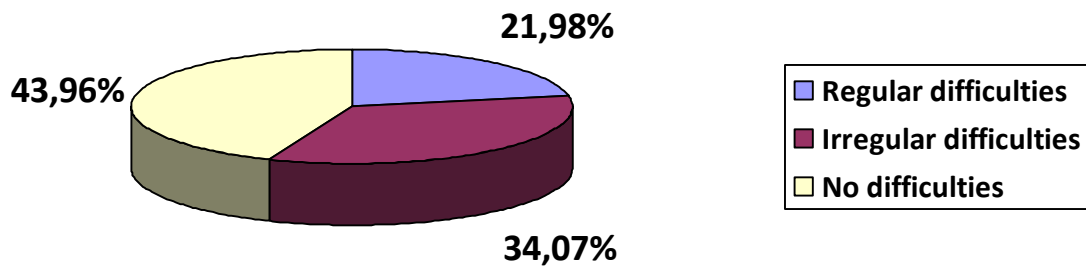


Picture 6 Duration of a period

20 (21, 97%) female students state they have regular difficulties during their period. 40 (43, 95%) participants have no difficulties during the period.

Table 7 Difficulties during a period

	n	%
Regular difficulties	20	21,97
Irregular difficulties	31	34,06
No difficulties	40	43,95
Overall	91	100 %

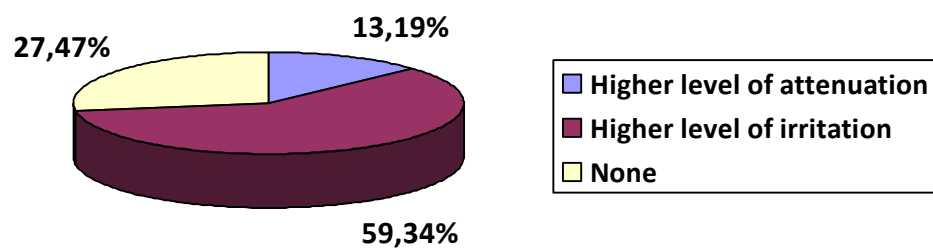


Picture 7 Difficulties during a period

54 (59, 34%) university female students state that PMS syndrome is connected with higher level of irritation, but 25 of them do not state any PMS feelings.

Table 8 PMS feelings

	n	%
Higher level of attenuation	12	13,18
Higher level of irritation	54	59,34
None	25	27,47
Overall	91	100 %

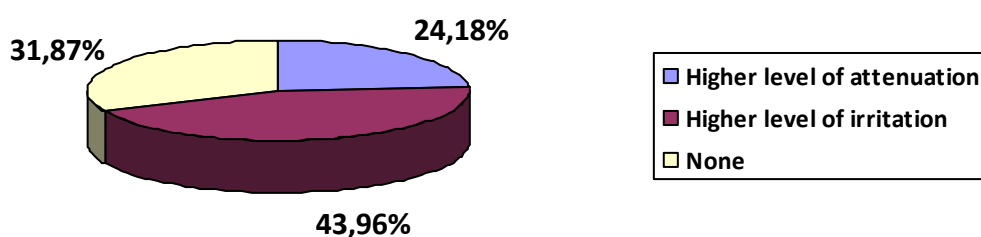


Picture 8 PMS feelings

40 (43, 95%) female students have higher level of irritation during their period and 22 (24, 17%) of them have higher level of attenuation.

Table 9 Period feelings

	n	%
Higher level of attenuation	22	24,17
Higher level of irritation	40	43,95
None	29	31,86
Overall	91	100 %



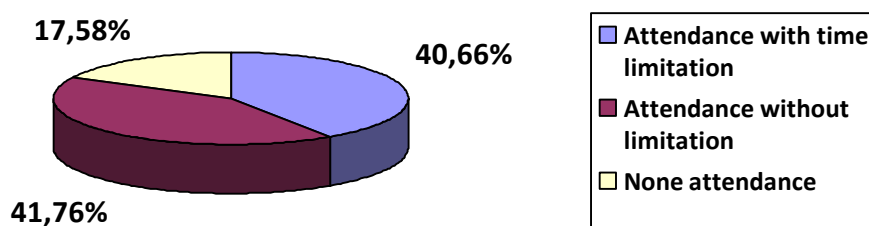
Picture 9 Period feelings

### Assessment of physical performance during a period

38 (41, 75%) participants have no problem to attend aerobics lessons during their period, but 37 (40, 65%) female students attend these lessons only with time limitation.

Table 10 Aerobics lessons attendance

	n	%
Attendance with time limitation	37	40,659
Attendance without limitation	38	41,758
None attendance	16	17,582
Overall	91	100 %

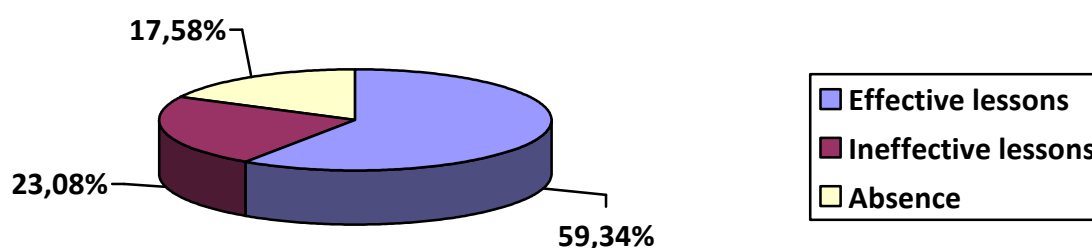


Picture 10 Aerobics lessons attendance

Female participants take part in the aerobics lessons during their period but 54 (59,34%) female students state that lessons are not utilized effectively and 16 (17, 58%) participants do not take part.

Table 11 An effectivity of aerobics lessons

	n	%
Effective lessons	21	23,07
Ineffective lessons	54	59,34
Absence on lessons	16	17,58
Overall	91	100 %

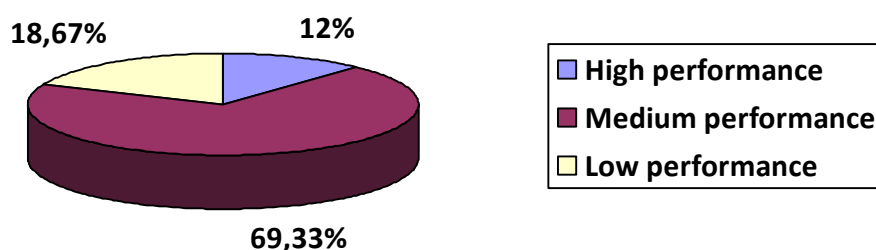


Picture 11 An effectivity of aerobics lessons

Performance of 52 (69, 33%) participants during their period is at the middle level and performance of 14 (18, 67%) female students is at the low level.

Table 12 Students' performances on aerobics lessons

	n	%
High	9	12
Medium	52	69,33
Low	14	18,67
Overall	75	100 %



Picture 12 Students' performances on aerobics lessons

## CONCLUSION

Research has shown that it is very important to do the physical activities regularly. Physical activity should be essential part of daily regime of female students during their periods. On the basis of analysis of results, we can say that 38 (41, 75%) participants do a physical activity also during their periods. This activity helps them to overcome not only physical stress and tiredness, but also to better their performance and to relax themselves. Good organization of daily regime and active relaxation through physical activities can make the life of university female students better and without an unpleasant emotional felling during their periods. Female students who do sports regularly, reduce the risk of psycho – emotional state of menstrual difficulties as our research confirmed.

## LITERATURE

- ❖ BAISOVÁ, K. 2009. Šport a pohyb v hodnotovej orientácii vysokoškolákov Technickej univerzity vo Zvolene. In: Kolektív autorov: Šport a zdravie v hodnotovej orientácii vysokoškolákov. Zborník z vedeckej konferencie k 90. výročiu založenia UK a 90. výročiu vzniku Univerzitného športu na Slovensku. Bratislava: FMFI UK, 2009. s. 40 – 44. ISBN 978-80-223-2706-0.
- ❖ BIMBI-DRESP, M. 2007. *Veľká kniha Pilates*. Bratislava : Svojtko&Co., 2007, 176s.

- ❖ IZÁKOVÁ, A. 2010. Význam pravidelnej pohybovej aktivity vysokoškoláčok pri zdravotných ťažkostiach v období menštruačného cyklu. In Acta Facultatis Humanisticae Universitatis Matthiae Belii Neosoliensis : vedy o športe : zborník vedeckých štúdií učiteľov a doktorandov Fakulty humanitných vied Univerzity Mateja Bela v Banskej Bystrici / vedec. red. Kristína Krnová; zost. Miroslava Rošková ; rec. Pavol Bartík ... [et al.]. - Banská Bystrica : Univerzita Mateja Bela, Fakulta humanitných vied, 2010. - ISBN 978-80-557-0040-3. - s.37 - 43.
- ❖ KOMPÁN, J.: *Vplyv cvičení v posilňovni na rast telesnej zdatnosti vysokoškolákov*. Dizertačná práca. UMB Banská Bystrica, 2002.

## SUMMARY

In the article the author was trying to find out opinions of university female students on executing a motion activity during periods. . Throughout the analysis of gathered results she found out, that university female students don't execute a motion activity in a full range and the hours are being used ineffectively during periods.

# THE VOLLEYBALL KNOWLEDGE LEVEL OF PUPILS ON THE SECOND DEGREE OF BASIC SCHOOLS

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**KEY WORDS:** volleyball, underhand and overhand serve technical mistakes.

## INTRODUCTION

In our paper we present the results of the research in the grant project UGA titled Streamlining the volleyball teaching on the second degree of basic schools, where we were searching the level of pupil's volleyball theoretical knowledge.

After the education transformation and the curriculum reform, which came into the practice on September 1, 2008, there have been several educational changes in the area of physical education. The specialization of physical and sport education has declined from performance education to development of competences of a pupil, formation of his/her values and attitudes (Antala, 2009). On the lesson of physical education (Antala, Labudová, 2008; Bebčáková a kol., 2009) the development of key competences is focused on dynamic, communicational, educational, interpersonal and attitudinal competences. Mentioned competences are closely connected to knowledge, which makes the basics of mentioned educational motional activities and they are a condition of successful practical activity performance. Knowledge is (Průcha, 2003) the result of a pupil's perception, recognition, thinking, storage as well as practical and life experience. At all school curricula, knowledge represents the main category and in accordance with that it is the main object of observation and measurement for educational results. The part of a curriculum is also Content Standard which contains the collection of sport games knowledge which a pupil should know and on their basis he/she should develop abilities and get motional skills (Bebčáková a kol., 2009). Mandigo a Holt (2004) say that one of the basic conditions, when pupils are educated to play a game, is the knowledge of a game whether they understand the game itself and it enables to anticipate the game regularity.

It is necessary to develop lasting and positive relationship to the motional activity at pupils at schools by physical education (Nemec, Frontová, 2008), which should be realized mainly by popular and favorite sport-motional activities. On the basis of work, authors (Webb, 2003; Webb, Pearson, Forrest, 2006) present that using the model called „ Teaching games for understanding“ (TGfU) is possible to obtain wanted aims in sport games where pupils are more attracted to a physical activity and supported to think tactically, make better decisions in a game while they are happy to play a game.

In general, ball games as well as volleyball belong to favorite motional activities according to authors Michal (2002); Kollár (2009); Popelka (2009). Despite the fact, according to authors (Šimonek, 2003; Dobrý, 2006) the level of theoretical knowledge from physical and sport education has been decreasing.

At school physical education it is necessary to get information like the development level of special motional abilities or game activities development (Peráček et al, 2004). Except mentioned abilities we found out also special knowledge at pupils using knowledge test (Zapletalová, Přidal, 1997). At sport games it is necessary to observe the level of motional abilities, skills as well as a cognitive part of a pupil whether he/she understands the way he/she can play and knows its parts (Popelka, 2011).

## **AIM OF RESEARCH**

The aim of the paper was to find out present level of pupil's volleyball theoretical knowledge on the second degree of basic schools.

## **TASKS OF RESEARCH**

1. Creating questionnaire for a given problem and their distribution
2. Analyzing answers of pupils from questionnaires
3. Creating conclusions according to results

## **METHODOLOGY**

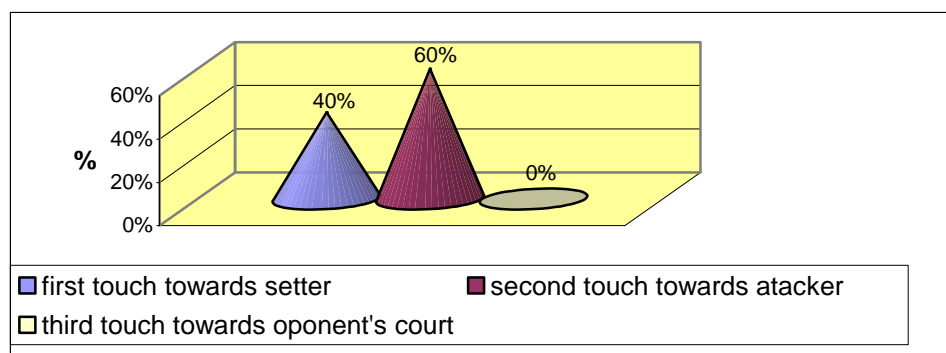
In our paper, we have brought results from theoretical knowledge level at pupils in an observed sample, where volleyball teaching took place without an experimental impulse. For getting data we used a non-standard questionnaire consisting of three parts. In one part, which results we present in the paper, we were interested in the fact whether pupils understood the game and if they were able to realize theoretically correct tactical decisions on the basis of knowledge. The research was realized in the school year 2010/2011 and the



observed sample consisted of 20 boys attending the 8<sup>th</sup> grade at basic school in Ružomberok. Globally, we personally had spread 20 pieces of questionnaires and after their fulfilling we got them back. The boys were 13,4 years old on average. Using basic statistical characteristics we expressed percentage relations.

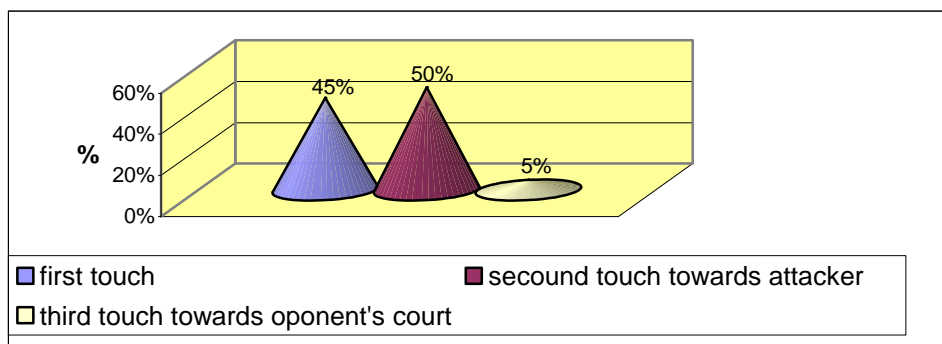
## RESULTS

According to our experience at school physical education, there is played a system with every front player in the zone II as a setter or a system with three setters. That is the reason why we were interested in the fact whether they knew where a spiker playing on the left side of a ground at the net (the zone IV) could stand. The correct answer was found at 65% of pupils' answers. 25% of pupils thought that a feeder plays in this zone and 10% of them thought that a serving player plays there. It means that 35% of pupils do not know the basic system of a game. We suppose, that pupils do not know the basic positions of players, they cannot react on occurred game activities correctly what can confuse them during the game because of having no knowledge due to responsibilities for passing the ball, setting-up, etc. We think that they confirmed also other findings where we wanted to know whether pupils knew the terminology like "passing the ball" and "setting-up" and when to use them. According to the results only 40% of pupils knew what "passing the ball" was and when to use it (Pic. 1).



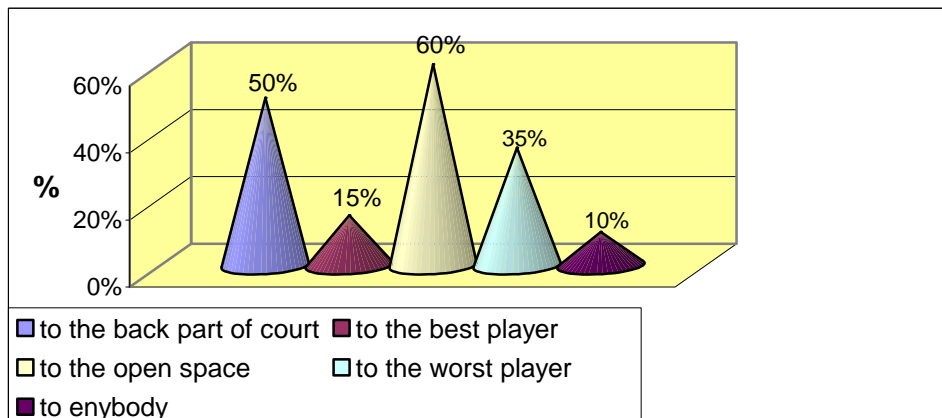
Picture 1 What is pass?

Only 50% of pupils knew that "passing the ball" is the second strike and it is oriented onto spiker (Pic. 2). We think that pupils do not know the difference between "passing the ball" and "setting-up" and they think that they make the same function like in football.



Picture 2 What is set?

In pupil's teams, service fulfils very important role from the strategy point of view. That was the reason why we wanted to know whether they knew where it was the most convenient to serve (Pic. 3). They had the possibility to choose from more correct answers. The most often they chose service into the open space in 60% of cases and 50% of pupils chose the service to the back part of the field as the most convenient. The service onto the weakest player was the decision of 35% of pupils. We think that pupils have enough experience in this tactics.



Picture 3 Where you try service?

Not only activities with but also without a ball fulfill important roles e.g. positions of team-mates at own service (when a team-mate serves). Only 40% of pupils knew that team-mates in front zones face the net, observe activities of an opponent and prepare the block realization. In opposite case i.e. the situation of the position during reception, only 35% of pupils could understand correctly. 65% of them thought incorrectly that all six players make the reception. 40% of pupils answered correctly the question: "which player does not

participate on reception?”. Only 40% of pupils knew that during the own attack blocking other team-mates come closer into a spiker to catch the ball or block the ball. The opposite situation i.e. position of back players during defense, only 50% of pupils could recognize and the position in front zones, only 40% of pupils could recognize. Pupils had better knowledge only in the questions of blocking. In this case 100% of pupils knew that the block was realized above the top margin of a net and 75% of pupils answered correctly that its role was to prevent from the getting a ball over the net. Regarding to these findings we think that pupils do not have enough knowledge about organization of a team play without a ball in the game complex 1 and 2.

## CONCLUSION

Analyzing the questionnaire we got the conclusions that only 40% of pupils know what “passing” is and 50% of pupils know what “setting-up” is and on the basics of these facts we suppose that they do not know when to use these activities. Pupils have good knowledge from serving tactics and also 75% of pupils know basic role of blocking. Pupils are short of knowledge in positions and roles of players in the game complex 1 and 2. Even though the mentioned results represent only the part of the research and it is necessary to compare them with results of experimental sample we suggest teachers to pay more attention to teaching volleyball tactics during game situations with and without a ball through game exercises and game modifications 3:3, 5:5, etc.

## LITERATURE

- ❖ ANTALA, B. 2009 Telesná a športová výchova v základných a stredných školách v SR po prvom roku transformácie vzdelávania. In Slovenský školský šport, SAUŠ a MŠ SR, Bratislava, 2009. s. 54 – 63. Dostupné na: <<http://skolskysport.sport-konferencia.sk/files/zbornik.pdf>>
- ❖ ANTALA, B.; LABUDOVÁ, J. 2008. Kurikulum telesnej a športovej výchovy pre vyšší sekundárny stupeň vzdelávania. In *Telesná výchova a Šport*, roč. 18, 2008, číslo 2, ISSN 1335-2245, s. 4 – 7.
- ❖ BEBČÁKOVÁ a kol. 2009. Učebné osnovy z predmetu Telesná a športová výchova pre ISCED 2. In *Športový edukátor*, roč. 2, 2009, číslo 1, ISSN 1337-7809, s. 4 – 28.
- ❖ DOBRÝ, L. 2006. Souvislosti výkonu s duševním růstem mladých sportovců. In *Tělesná výchova a sport mládeže*, roč. 72, 2006, č. 2, ISSN 1210 – 7689 s. 18 – 24.

- ❖ KOLLÁR, R. 2009. Názory študentov telesnej výchovy na výučbu športových hier. In: *Exercitatio Corpolis – Motus – Salus*, roč. 1, 2009, číslo 1, ISSN 1337-7310, s. 131 – 137.
- ❖ MANDIGO, J. L., HOLT, N. L. 2004. Reading the game. Introducing the notion of games literacy. In *Physical and Health Education Journal*, vol. 70, 2004, no. 3, ISSN: 1498-0940, s. 4-10.
- ❖ MICHAL, J. 2002. Názory, postoje a vzťah študentov UMB k telesnej výchove, športu a pohybovým aktivitám. In *Acta Universitatis Mathiae Belii Telesná výchova a šport*, Vol. 4., No. 4. Banská Bystrica: PF UMB 2002. ISBN 80-8055-727-6, s. 50-55.
- ❖ NEMEC, M., FRONTOVÁ, L. 2008. Poznatky z vyučovania športovej hry futbal na 2. stupni základných škôl v meste Banská Bystrica [online]. In *Hry 2008*. Sborník referátu z 8. mezinárodní vedecké konference. Plzeň : Západočeská univerzita, 2008 [cit. 2011-11-20], s. 77-83. Dostupné na: <<http://www.zcu.cz/fpe/ktv/cinnost-ktv/>>
- ❖ PERÁČEK, P. a kol.. 2004. *Teória a didaktika športových hier I*. Bratislava : Peter Mačura – PEEM, 2004. 184 s. ISBN 80-89197-00-0.
- ❖ POPELKA, J. 2009. Záujem študentov KTVŠ FHV UMB o športové hry. In *Mladá veda*, roč. 1, 2009, ISBN 978-80-8083-857-7, s. 151-157.
- ❖ POPELKA J. 2011. Úroveň vedomostí z volejbalu žiakov na II. stupni základnej školy v Ružomberku. In *Telesná výchova, šport, výskum na univerzitách : medzinárodná vedecká konferencia*. Bratislava : Slovenská technická univerzita, 2011. ISBN 978-80-227-3403-5. s. 162-168.
- ❖ PRŮCHA, J., 2003. *Pedagogický slovník*. Praha : Portál, 2003. 322 s. ISBN 80-7178-772-8.
- ❖ ŠIMONEK, J. 2003. Inovačné tendencie v školskej telesnej výchove. In: *Telesná výchova a šport*, roč. 13, 2003, č. 1, ISSN 1335-2245, s. 2-3.
- ❖ WEBB, L. 2003. Implementation of Net/Wall Games in an American Urban Middle School. In *Reflections on Practice. Proceedings of the 2nd international conference: teaching sport and physical education for understanding*. [online]. [Cit. 2011-11-19]. Dostupné na: <<http://www.conferences.unimelb.edu.au/sport/proceedings/PROCEEDINGS.pdf>>
- ❖ WEBB, P., PEARSON, P., FORREST, G. 2006. Teaching Games for Understanding (TGfU) in primary and secondary physical education. [online]. [Cit. 2011-11-19]. Dostupné na: <<http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1075&context=edupapers>>

- ❖ ZAPLETALOVÁ, Ľ., PŘIDAL, V. 1997. *Didaktika volejbalu*. Bratislava: Peter Mačura, 1997. 108 s. ISBN 80-967692-1-9.

## SUMMARY

In this paper author present the results of the research in the grant project UGA, where he was searching the level of pupil's volleyball theoretical knowledge on second degree of basic schols. Analysis by the questionnaire we found out, that pupils best knowlede is about smash 80%, set 75% and ace 70%. Pupils do not have a knowledge about diferent forms of volleyball game and have a small knowledge how correctly execute basic individual techniques, but with out deep knowledge of problem.

# **FREQUENCY COMPARISON OF SPORTS AND PHYSICAL ACTIVITIES OF UNIVERSITY STUDENTS IN SOCIALISM AND NOWADAYS – CROSS SECTIONAL STUDY**

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**KEYWORDS:** motion activity frequency, sports skills, technical university, university students, cross sectional study.

## **INTRODUCTION**

A Life Pace accelerates all the time in the Czech Republic, as in the whole world. A level of living in society and a people's education are increasing and the next possibilities are opening for utilization features of each person. All of these positive phenomena are bringing also a certain danger. Such as, among other things, a consumer lifestyle with a wrong way of living, a society commercialization, an increasing mental strain, a disturbed living environment and also higher demands of human factor quality overall. A part of mental work always increases which of course faces to a physical load decrease of organism in most of people and consequently to a decrease of physical condition (Valjent, 2010). This sedentary lifestyle often continues in time after work when this unilateral activity should be compensated by an active motion (Kukačka, 2009). In this context Toffler (1992) speaks about an over stimulation phenomenon. It is happening at least in three various levels: sense, cognition and decision.

## **THEORETICAL BACKGROUND**

A regular physical activity stays, henceforward, as an important factor of health support. It serves as a musculoskeletal prevention, decreases a risk of coronary and cardiac diseases, hypertension, diabetes, osteoporosis, obesity and colon cancer (Vuori, 1995; Jones et al., 1998). About 40 % of children and youth have suffered, first of all due to sedentary lifestyle by some type of health weakening at the turn of the millennium (Bouchard et al., 1988; Baranovski et al., 1992; Sekot, 2004). Therefore, to make the population of the whole nation

to do sports is one of the top priority tasks of every intelligent government (Government of the Czech Republic, 2000; Ministry of Education, Youth and Sports, 2009). Exact numbers of a motion activity in various social groups or the whole nation often differ. Differences could appear from a usage of different methodology than its reality (Slepičková, 2009). However, most of the notable scientists in the area of sports social sciences agree on some facts. From an adolescence stage “*a frequency of motion activity performing*” decreases by age in a common population (Haase et al., 2004; Hendry et al., 1993; Jansa et al., 2005; Sak, Saková, 2004; Scheerder, Vanreusel, 2005; Slepičková, 2009; Tammelin, 2003). Špaček (2008) even qualified this phenomenon as that with every age of five years decreases the number of people doing sports approximately by quarter. Women practice on the average less than men (Teplý, 1990; Frommel, 2001; Špaček, 2008). A motion activity frequency unequivocally depends on education; town dwellers are also doing more physical activities. People with a university education are doing physical activities several fold more than people with a primary education (Teplý, 1990; Špaček, 2008). Also fitness has a downtrend in Czech youth as well as abroad (Pate et al, 1995; Riddoch et al, 1998; Bunc et al, 2001).

During last 30 years were implemented several researches on this theme in the Czech Republic. Interestingly, most of studies speak about a lesser motion activity frequency in comparison with the past time. Teplý and Adamec (1980) were implementing their study on the file of 962 people older than 15 years by quota method in the year 1979 and they had said that almost everyone till 30 years old, in a broad sense, was involved in physical education. Number of hours dedicated to physical education is at an average above 400 hours annually in youth till age of 17 years; in the 18 to 39 years old population it is about 300 hours and after 40 years old the number is decreasing under 200 hours and stabilizing, in principle, on the same values also as after 50 and 60 years old. On the question, if they were performing a physical education, sports and hiking now more or less against to 5 years ago people had answered as following: more – 8.2 %; rather more – 10.7 % (in principle more, so overall – 18.9 %); same – 24 %; rather less – 24.4 %; less – 32.7 % (in principle less, so overall – 57.1 %).

After, Teplý (1990) performed again in his dissertation thesis in the representative file of 2054 people of age from 10 to 59 years old and have found an overall connection to motion activities in 70 – 80 % of this population. Most of the file was only an irregular activity with small time range, with low intensity and energy intensity. Only in 30 % the activity could have in motion mode regulation represented more significant role. Just 13 % from the file performed activity within the range which was of that time regarded in accordance with the

soviet norms as the optimal (8 hours of physical activity per week); that was possible to understand as the activity of developing or training character only in 15 – 17 % of adults. The characteristic feature was a predominance of unorganized over organized forms. In physical education classes about 12 % men and 6 % women were exercising.

Studies performed at the turn of the millennium have found; a regular motion activity as a part of life in approximately 30 % of Czech adults; about 20 % were sometimes doing sports and the rest included a sport in their regime only fitfully or 20 % not at all (Zich, Ungr, 1995; Slepíčka et al., 2001). Some of researches have featured the participation slightly higher (e.g., Government of the Czech Republic, 2000; Rychtecký, 2006).

From a report about Conception of State Assistance of Sports in the Czech Republic (Ministry of Education, Youth and Sports, 2009) is said that “present lifestyle is characterized by a decrease of number of implemented motion activities (decrease of 30 % in the last ten years)”.

Here is needed to make a mention that similar conclusions are possible to read from prestigious international authors: a motion activity frequency decreases from an adolescence by age (Haase et al., 2004; Hendry et al., 1993; Scheerder, Vanreusel, 2005; Tammelin, 2003); a difference of physical activity between boys and girls respectively men and women for the benefit of a male folder (Caspersen et al, 2000; Koivula, 2000; Michal, 2002; Michal, 2009; Sallis, 2000; Trost et al, 2002; Van Mechelen et al, 2000). It has been found out that boys or men in general are doing more physical activities especially in the case of their interest of performance or professional sport. However, in adolescence time is found that a decrease of motion activity in girls is significantly lesser. If girls and women were already doing sport then their interest used to be significantly lasting.

Krejci (2010) indicates that only right movement stereotypes are the base of well-being during movement activities. Right movement stereotypes lead to spontaneity in movement processes, which is very important for the catharsis effect, e.g. for the neuropsychic stress. Unfortunately neuropsychic stress is part of present life style. Demands for the long concentration, orientation in much information and quick reactions in nowadays present a base of optimal performance in the school environment and out of school too. Movement stereotypes, if are relaxed, lead to mental relaxation. It is important for motivation of youth to return to the physical activity again and again.

An overall long term fall of motion activity in Czech population in the last 30 years, however, it does not confirm Špaček (2008) who compared social status in years of 1984, 1991 and 2007 in context of *Leisure Time Spending With the Intention of Sport Activities*. The



analysis used data from three representative survey sampling in adult population of the Czech Republic. Data were from researches of Class and Social Structure 1984 (n = 10231), Social Structure Transformation 1991 (n = 1872) and ISSP 2007 Leisure Time and Sport (n = 1222). A raw view of physical activities of the whole population shows an activity growth (in the whole contribution of people is distinguished that if ever in their own leisure time is performed at least a sport or a physical activity or is not). In 1984, 28 % of men and 13 % of women (from the group of age 20 to 69 years) were sometimes performing physical activities in their leisure time whilst in 1991 there was already 47 % of men and 38 % of women. Sports participation has not been dramatically changed during the next tracking period. In the year 2007 sport participation has been found in 54 % of men and 36 % of women.

We could speak about similar trends in a context of university youth. Most of the recent researches have proved a drop of motion activity frequency and functional fitness of university population (e.g., Sýkora, Kunz, 1989; Štefáníková et al., 2003) which is shown in a general age period between 18 to 29 years of the whole population (Teplý, Adamec, 1980; Teplý, 1990). However, at the present time are also detected research studies which found out a motion activity growth in youth during the university education period – namely in the Czech Technical University in Prague and also in Faculty of Medicine Masaryk University (Valjent, 2010; Nádvorníková, 2006). Valjent (2010) in his conclusions features that students of CTU dropped a competitive sport during studies but the frequency of their activity was increasing of more than 10 %. Therefore he taken the liberty to edit a general thesis about a motion activity decreasing by age with the definition: “a motion activity frequency from adolescence decreases in principle; however, as an exception could be an university education period, a middle adulthood (age of 30 – 45) and also a period to retire” (Valjent, 2010). Krejci (2009) mentions that sport training is not easy to combine with study program. Potential problems in the study period can create distress. It without adequate psycho-hygienic compensation can create „mental block“ and open the way to risk life style of youth with increasing of affinity to alcohol consumption and to smoking.

The following study – a lifestyle comparison of university students from 1975 and from 2008 – will be exceedingly interesting also that it deals with a lifestyle comparison of university students in two different political systems. One turning point has become the so called “Velvet Revolution” which happened on November 17, 1989. Therefore the data of the year 1975 still come from a real socialism age whilst data of the year 2008 already come from an independent age of the market capitalism. Jansa et al. (2005) characterized the first period in term of physical education as a social structure where collectivism was the ruler directed by

state and organizations concerned as its conversion levers. In a changed post revolutionary period was instead of collectivism preferred a pragmatic individualism which has brought an inception possibility of “subjects managed from the inside”.

## **THESIS TARGET**

The target of this submitted study is the comparison of a motion activity frequency by several selected indicators and also the sports skills level in university students of years 1975 and 2008, i.e., in two different political systems.

## **METHODOLOGY**

### **Research Files Characteristics**

The research file of the year 1975 had 800 participants of second to fifth CTU grade and was determined by usage of quota control characters: faculty, grade and gender. Students were in age of 19 – 25 years, from that were 693 boys (86.6 %) and 107 girls (13.4 %).

The research file of the year 2008 were created by 1221 CTU students. From that were 947 male students (77.6 %) and 274 female students (22.4 %) in age of 20 – 28 years. They were originated from the all county of the Czech Republic including also Slovakia (3.7 %) and foreign (0.4 %). Students of the research file constituted 25.84 % of the basic file. The file was a quasi representative, i.e., it had represented the basic file of higher CTU grades in a logical sense, not in a statistic sense (Zich, 2005). A sufficient size of the selected file allows gained results guardedly generalized to the basic file – all CTU students (Blaikie, 2003; Hnilicová, 2004).

### **Used Techniques**

An empirical research was implemented by a non invasive descriptive determination with the usage of a quantitative diagnostic method – a questionnaire investigation.

In sociological sciences there used to be a very complicated comparative process in the case of a low compatibility for the content delimitation of individual items (Jansa et al., 2005). That case is completely neglected in this study because both files used practically identical questions and answers. The questionnaire has been standardized by Bém (1975) and due to comparison has been taken over for study in the year 2008. Both studies have passed a reliability test by the repeated measurement test – retest method in pilot studies; after in the year 2008 with a result of the Spearman’s coefficient value between 0.53 – 0.94.

Data analysis was performed in the year 1975 on the computer Odra 1304 with the usage of FORTRAN language; after in the year 2008 through the usage of static programme system SPSS version 14.0. For the differences determining between male and female students inside individual files and between male and female students in both files in individual indicators was used an “Effect Size” (Blahuš, 2000; Soukup, Rabušic, 2007), here has been implemented by a percent points difference.

Values for the effect size evaluation were determined in advance by basis of Zich (2005) who is stating that about differentness between classes is possible speaking without a big risk once the difference is greater than 5 % in this matter:

### **Effect Size**

Under 5 %	- low (sociologically unrecognized)
5 – 9.9 %	- middle (sociologically recognized)
Over 10 %	- expressive
Over 20 %	- essential

### **For clearness is attached the used question of both concepts and answer options:**

A. How often have you been performing these activities individually and outside of a university in the last year?

- performance of hiking and walks
- performance of jogging
- performance of cycling
- performance of swimming
- performance of ice skating
- visiting of a fitness centre (gym)
- performance of trips to a nature (tent, chalet, cottage)
- performance of downhill ski in winter

Answers: Not at all	Regularly	Irregularly	Seldom
	(more than 10 times per year)	(more than 10 times per year)	

. How could you:

- ride on bicycle
- ice skate
- downhill ski
- swim

Answers:	Well	Just a little bit	I cannot
	(100 m effortless)	(50 m with an effort)	(I cannot swim even 20 m)

## RESULTS AND DISCUSSION

### A. Frequency Comparison of Selected Motion Activities

Results obtained by data analysis are placed in following tables

Table 1 - Hiking and Walks

Answers	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	25.5	35.4	14.6	19.6	-9.9	-5.0	10.9	15.8	Expressive	Expressive
Irregularly	42.9	44.6	47.0	48.6	-1.7	-1.6	-4.1	-4.0		
Seldom	25.7	17.7	23.5	21.5	8.0	2.0	2.2	-3.8		
Not at all	5.9	2.3	14.9	10.3	3.6	4.6	-9.0	-8.0	Middle	Middle

Explanations:

D 1- difference between boys and girls of 2008 from a view of boys

D 2- difference between boys and girls of 1975 from a view of boys

D 3- difference between boys of both time periods from a view of the year 2008

D 4- difference between girls of both time periods from a view of the year 2008

ES 1- an effect size between boys in various time periods

ES 2- an effect size between girls in various time periods

Completely surprising and very persuasive at the same time is the high difference in all indicators of this motion activity for the benefit of present university students. The significant effect size is created by the difference in hiking and walks of boys (10.9 %) and also of girls (15.8 %) in both files, middle effect size (next only the abbreviation ES) by the difference in the class “not at all” (9 % and 8 %). This result is a little bit incomprehensible especially from the reason that there are incomparably more possibilities for various sports activities in nowadays; it could seem that by the reason of fewer sports options it was not possible to do something different than hiking and walks 30 years ago. As it seems this hypothesis has not come true.

Inside of both two files is then confirmed a presumption that girls still and all more perform hiking and walks; the difference in the “regular” is 9.9 % respectively 5 %; in class was “not at all” confirmed a static difference.

Table 2 - Jogging

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	11.5	8.9	8.2	16.8	2.6	-8.6	3.3	-7.9	Low	Middle
Irregularly	22.8	21.4	28.6	16.8	1.4	11.8	-5.8	4.6		
Seldom	23.0	25.8	23.8	21.5	-2.8	2.3	-0.8	4.3		
Not at all	42.7	43.9	39.4	44.9	-1.2	-5.5	3.3	-1.0	Low	Low

In results of this motion activity is seen that data of the most tracked indicators are statically low in their own differences. An exception here forms the group of 1975 file which is more active than other groups. These girls not only surpass in jogging regularity their boys – peers for 8.6 % but also surpass girls of the file 2008 for 7.9 % (ES middle). In a way thus implement the hypothesis said in the last indicator of lower selection in sports branches in the prerevolutionary time.

Table 3 - Cycling

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	26.5	22.1	7.5	8.4	4.4	-0.9	19.0	13.7	Expressive	Expressive
Irregularly	37.4	47.6	32.4	16.8	-10.2	15.6	5.0	30.8		
Seldom	25.3	21.0	21.0	31.8	4.3	-10.8	4.3	-10.8		
Not at all	10.8	9.3	39.1	43.0	1.5	-3.9	-28.3	-33.7	Essential	Essential

From the results is totally perceptible and expectative that present university students are significantly surpassing their colleagues of the prerevolutionary era. Differences in regular cycling between files is possible to place in the effect size “expressive” (19 and 13.7 %), in class “not at all” then even to the ES “essential” (28.3; respectively 33.7 %).

These results are entirely logical. Early were between people less bicycles and less sport shops, advertisements and also less cycle tracks. Since now is excessively more of these aspects; the cycling is in between population and also in between university students more extended. Earlier had perhaps just the one positive aspect, on roads were fewer cars.

Table 4 - Swimming

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	16.4	22.9	14.1	27.1	-6.5	-13.0	2.3	-4.2	Low	Low
Irregularly	36.1	37.3	49.1	36.5	-1.2	12.6	-13.0	0.8		
Seldom	31.0	28.0	24.8	22.4	3.0	2.4	6.2	5.6		
Not at all	16.5	11.8	12.0	14.0	4.7	-2.0	4.5	-2.2	Low	Low

In swimming of tracked indicators were not founded any static differences. This means that frequency of swimming was retained on average of university students. Contrariwise, differences were found inside of both files when girls were swimming always more often than boys. Present university female students were doing regular swimming more than boys for 6.5 % and that was same as 33 years ago when it was by 13 % more for girls.

Table 5 - Ice Skating

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	8.1	12.9	3.3	2.8	-4.8	0.5	4.8	10.1	Low	Expressive
Irregularly	22.0	31.7	13.9	10.3	-9.7	3.6	8.1	21.4		
Seldom	29.5	29.9	24.5	21.5	-0.4	3.0	5.0	8.4		
Not at all	40.4	25.5	58.3	65.4	14.9	-7.1	-17.9	-39.9	Expressive	Essential

From the results is evident that in this indicator were found considerable differences between both files and also inside of both files. In regular ice skating were not found any static changes between boys; between girls was found the ES expressive (10.1 %) for the benefit of present female university students. In the class “not at all” is possible to speak about the essential ES in the difference between boys (17.9 %) while non ice skating people are less between present students and difference between girls climbed up on respectable 39.9 % again for the benefit of smaller sample non ice skating of present female university students. Between boys and girls of individual files is possibly seen the difference between “not at all ice skating” when in the file of the year 1975 girls are dominating (7.1 %) and in the file 2008 contrariwise boys are dominating again (14.9 %).

I think that both differences could be explained quite logically. In the present time are built more artificial ice areas than before the velvet revolution and also there is regularly held public ice skating. That is why was found more frequent ice skating in the present file. Present

girls are ice skating more than boys because they are connecting sports, social and also aesthetic liking to ice skating. In the year 1975 boys were still more often ice skating than girls because of the conception that ice skating was also popular from playing the ice hockey on the ice covered ponds.

Table 6 - Fitness Centre Visiting (Gym)

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	22.0	12.5	5.6	7.4	9.5	-1.8	16.4	5.1	Expressive	Middle
Irregularly	15.2	11.8	16.0	12.1	3.4	3.9	-0.8	-0.3		
Seldom	16.9	17.0	23.1	14.1	-0.1	9.0	-6.2	2.9		
Not at all	45.9	58.7	55.3	66.4	-12.8	-11.1	-9.4	-7.7	Middle	Middle

In the all tracked indicators of this indicator is possible to note a greater frequency in the present university students and mostly also in the boys. In the regular working out of boys were found the expressive ES (16.4 %) while detecting of a difference; in girls is it the middle effect size (5.1 %). In the category “not at all” is possible to find a lower frequency in the present boys and girls (9.4 respectively 7.7 %).

By focus on the difference between boys and girls in both files, except regular working out in the file 1975, the boys are always more frequently working out. Detected results are also very logical. Before the velvet revolution on our area were built up only gyms for organized sportsmen and mostly for different sport branches. This was changed for real after the year 1989 when public fitness centers grew “like mushrooms after the rain” in terms of free enterprise in the field of sports and health.

Table 7 - Trips to a Nature (Tent, Chalet, Cottage)

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Regularly	27.7	31.0	17.2	11.2	-3.3	6.0	10.5	19.8	Expressive	Expressive
Irregularly	30.3	37.3	30.9	32.7	-7.0	-1.8	-0.6	4.6		
Seldom	33.5	26.2	33.6	28.0	7.3	5.6	-0.1	-1.8		
Not at all	8.5	5.5	18.3	28.1	3.0	-9.8	-9.8	-22.6	Middle	Essential

In this indicator is again valid that in the all tracked indicators are more active present male and female university students. In regular trips of boys is evaluated the ES as the expressive (10.5 %); same as in girls (19.8 %). Also in the category “not at all” was found in

boys ES middle (9.8 %) and in girls is it even ES essential (22.6 %). During the tracking of differences between boys and girls of individual files it is possible to say that between present boys and girls are no differences; boys were doing trips to a nature regularly with the difference of 6 % and not at all with the difference of 9.8 % in the file 1975.

It is necessary to add that these results are very hard to explain. It was not proved by a known theory about lifestyle in the socialism when most of people during weekend and also on holidays were going on their chalets and cottages to escape of political and social incompetencies of that era and forgot on it by activity on their estate in a natural environment.

Even conversely, now university students more often make trips to a nature. Thereby, it is most probable that the quick and intensive present lifestyle effects a mental side of personality and now more often asks for a weekend relaxation in the nature or in the country.

## B. Comparison of Selected Sport Skills

Table 8 - Cycling

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Well	91.7	90.1	94.2	78.5	1.6	15.7	-2.5	11.6	Low	Expressive
A little bit	7.8	8.8	4.8	17.8	-1.0	-13.0	3.0	-9.0		
Not at all	0.5	1.1	1.0	3.7	-0.6	-2.7	-0.5	-2.6	Low	Low

Skills in cycling were shown as very similar in the three subgroups of both files. The group of girls in the file 1975 greatly exceeds this average when “well cycling” can only 78.5 % from them. That presents the expressive effect size in relation to girls of the file 2008 (difference is 11.6 %) and also in comparison to boys of the file 1975 (difference 15.7 %). Other differences are not statically expressive.

From mentioned relations is possible to understand that before the Velvet Revolution the group of girls – female university students had not so positive relation to sport as the boys. On boys of the file 1975 is possibly seen that to buy a bicycle was not a problem nor even to ride it in that era.



Table 9 – Ice Skating

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Well	43.9	55.5	58.4	51.4	-11.6	7.0	-14.5	4.1	Expressive	Low
A little bit	40.3	35.7	32.1	33.6	4.6	-1.5	8.2	2.1		
Not at all	15.8	8.8	9.5	15.0	7.0	-5.5	6.3	-6.2	Middle	Middle

From the results it is possible to analyze fairly big and interesting differences between files. Differences in category “well” between boys of both files are determined by the previous identified rules as the expressive effect size for the benefit of boys in the file 1975 (14.5 %), similarly as in the category “not at all” – middle ES (6.3 %). Between girls was found out the difference only in category “not at all” – middle ES for benefit of girls in the file 2008. Interesting are relations between boys and girls of individual files. In the file 2008 girls are better in this sport skill when for 11.6 % more of them can ice skate “well” and contrariwise after for 7 % less of them cannot ice skate “at all”. In the file 1975 is it just the opposite; for 7 % more boys can ice skate “well” and for 5.5 % more girls cannot ice skate “at all”.

It can be only explained that present female university students essentially prefer this motion activity more than boys. We can suppose that it helped to this present “boom” of roller skates especially between girls. In earlier time it was most probably by big popularity of ice hockey between boys; contrariwise and in addition the roller skates were not existed. Regrettably, most probably girls also did not use public ice skating on stadiums (these were also less than in the nowadays).

Table 10 – Downhill Skiing

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Well	58.9	62.1	43.1	31.8	-3.2	11.3	15.8	30.3	Expressive	Essential
A little bit	26.5	25.4	49.2	48.6	1.1	0.6	-22.7	-23.2		
Not at all	14.6	12.5	7.7	19.6	2.1	-11.9	6.9	-7.1	Middle	Middle

Also in this sports skill are evaluated considerably different results. Between boys in the category “well” was analyzed essential ES (15.8 %) for the benefit of present university students; in the category “not at all” it is contrariwise – middle ES (6.9 %) for the benefit of boys in the file 1975. Between girls it turned afterwards to a wholly unambiguously benefit of

the present female university students – in the category “well” it is about the essential ES (30.3 %) and in the category “not at all” it is the middle ES (7.1 %). Between boys and girls of the file 2008 was not statically found any difference; in the file 1975 were boys essential better again – well downhill skiing were able to perform 11.3 % more of them than girls and not at all could not downhill ski by 11.9 % less. These results are now already in accordance with the past sports skills.

While evaluating these results it can be stated that boys most probably took effect the social conditions in the sense that in the prerevolutionary era the basic schools, high schools and universities were organized obligatory ski classes for their students. In nowadays the ski classes in all types of schools are also held but are not obligatory and all children are not attending them due to financial reasons. Therefore boys of the file 1975 indicated less than boys of the file 2008 in the category “not at all”. These results should have been also analyzed in girls but this has not happened. Here probably starts the supposition that the CTU girls of the year 2008 are a very skilful group by a view of sports skills. From all their results implies that they are very obliging with regard to sports activities.

Since in nowadays are far better technical conditions for downhill skiing, it logically results that present university students can downhill skiing “well” in a larger scale. Even if downhill skiing is considerably financial expensive, most probably they find finance for it.

Table 11 – Swimming

	Boys 2008	Girls 2008	Boys 1975	Girls 1975	D 1	D 2	D 3	D 4	ES1 (D3)	ES2 (D4)
Well	74.4	75.0	87.7	80.4	-0.6	7.3	-13.3	-5.4	Expressive	Middle
A little bit	23.5	23.5	11.1	15.0	0.0	-3.9	12.4	8.5		
Not at all	2.1	1.5	1.2	4.6	0.6	-3.4	0.9	-3.1	Low	Low

In swimming were found essential differences between files. Differences in the category “well” between boys of both file are characterized as the expressive effect size for the benefit of boys in the file 1975 (13.3 %), in the category “not at all” was no of difference expressive. Between girls alike as in the boys was detected the difference in the category “well” – middle ES for the benefit of girls in the file 1975 (5.4 %); in the category “not at all” results were not evidential. In the file 2008 was not detected any difference between boys and girls; in the file 1975 can well swim for 7.3 % boys more than girls.

Here are shown, more than in downhill skiing, social differences of both politic systems by the view of investment to physical activities in youth. In the prerevolutionary era, videlicet were built an indoor swimming pool, where most of the youth got through swimming classes already from the nursery schools or in the basic schools. In the nowadays that is still happening but it depends only on the willingness of educational institution operator.

## CONCLUSION

On the basis of previously defined measure of an effect size we traced up that an active lifestyle of students has significantly changed during an era of 33 years and with a transition of two very different political systems. According to most known studies and also by the generally valid social opinions it could be expected that a motion activity frequency and also a measure of individual sports skills of youth will decrease as time goes on. However, that is a misconception and this social opinion was not proved at all.

In selected motion activities was found out that in most tracked indicators was a higher frequency in the file of present university students (hiking and walks, cycling, ice skating, fitness centre visiting, trips to a nature); in less cases were indicators statically non significant therefore same (most of differences in jogging and swimming); wholly rarely and only in one case were found higher frequencies in the file 1975 (girls jogging).

An explanation why this result occurred could be by these three points:

1) It is about a sport branch mainly belonging to individual sports. It could have been expected that earlier students were interested rather in collective sports of ball character which did not show for an evaluation in this study.

2) In the question we ask for motion activities performed outside of school and individually. It is possible that earlier students preferred a sport managed by athletic units or in school. But against that is Teplý (1990) in the literature of that era.

3) In university students, as in narrower and specific group of people, the general theory about gradually decreasing of motion activity in society does not apply. About them is generally known that they are very conscious and learned about their health, physical and aesthetic fund which they take care far more than other social groups. None of general social drops of a motion activity then has an effect on them, most probably also by this study it acknowledges that they are doing sports up to several fold often than people with a lower education (Špaček (2008)).

In the field of sports skills the results are not unequivocal at all. If I had displayed the rate between detected differences of both files in sports scores the result would be the draw 5:5.

More students were able to “well” ice skate by 14.5 %; by 6.3 % less students were “not at all” able to ice skate; by 6.9 % less students were “not at all” able to ski; by 13.3 % more male students and by 5.4 % more female students were able to “well” swim 33 years ago.

More female students are able to “well” ride on bicycle by 11.6 %; by 6.2 % less female students are “not at all” able to ice skate; by 15.8 % more male students and by 30.3 % more female students are able to “well” ski; by 7.1 % less female students are “not at all” able to ski in nowadays.

In this analysis were proved social processes at elapsed time. In the past regime attention was more paid on collectivity and mass therefore we found in larger amount of indicators in the file 1975 lesser values expressed as I cannot “at all”. In the present time is preferred individual care and development therefore we found in a greater measure in the file of students 2008 bigger values expressed as I can “well”. It indicates also about considerable consciousness of present university students in the sense of sports and physical education activity benefits for individuals and also about a higher social development in the field of sports services.

Another interesting finding is also the difference between boys and girls in individual files. In the frequency of physical activities also of sports skills was a large difference between boys and girls 33 years ago whilst in nowadays the difference either has wiped out or girls sometimes surpass boys. We could talk about earlier and certain “girls’ backwardness” in the sense of social, sports and motion education; also as sometimes startling “exceptionality” of the present CTU female students. It is seen that the present technical female students excel not only by their intellectuality for technical subjects but also by an enthusiasm for so important thing as it, e.g., physical condition, health and habitus.

## LITERATURE

- ❖ BARANOWSKI, T., BOUCHARD, C., BAR-OR, O., BRICKER, T., HEATH, G., KIMEZ, SY., MELINA, R., OBARZANEK, E., PATE, R. & STRONG, WB. (1992). Assessment, prevalence and cardiovascular benefits of physical activity and fitness in youth. *Medicine and Science in Sport & Exercise*, 24 (6): 237–247.

- ❖ BÉM, J. (1975). *Analýza tělocvičné aktivity posluchačů ČVUT, ubytovaných v kolejích na Strahově, se zaměřením na jejich účast a postoje v denní a víkendové pohybové rekreaci*. Závěrečná zpráva subdílčího výzkumného úkolu č. VII.- 13- 4/61b. Praha: SvF ČVUT.
- ❖ BLAHUŠ, P. (2000). Statistická významnost proti vědecké průkaznosti výsledků výzkumů. *Česká kinantropologie*, 4 (2), 53- 71.
- ❖ BLAIKIE, N. (2003). *Analyzing Quantitative Data*. London: Sage. ISBN 0761967591.
- BOUCHARD, C., SHEPARD, R.J., STEPHENS, T. et al. (1988). Exercise, fitness and health: the consensus statement. (eds), *Exercise, Fitness and Health* . Human Kinetics, Chicago, IL.
- ❖ BUNC, V. (2006). Energetická náročnost pohybových aktivit a její využití pro ovlivňování tělesné hmotnosti. In Vobr, R. (ed). *Disportare 2006*. České Budějovice: Pedagogická fakulta Jihočeské university.
- ❖ CASPERSEN, C J., PEREIRA, MA. & CURRAN, KM. (2000). Changes in physical activity patterns in the United States, by sex and cross-sectional age. *Med. Sci. Sports Exerc.*, Vol. 32, No. 9, pp. 1601-1609.
- ❖ FROMMEL, K. (2001). Tělesná výchova a sport v systému vzdělávání a výchovy v počátku tisíciletí. *Česká kinantropologie*, 5 (1), 39- 47.
- ❖ GOVERNMENT OF THE CZECH REPUBLIC (2000). Národní program rozvoje sportu pro všechny. Usnesení vlády č.17 ze dne 5.ledna 2000. Retrieved February 12, 2009 from <http://www.msmt.cz/sport/narodni-program-rozvoje-sportu-pro-vsechny>.
- ❖ HAASE, A., STEPTOE, A., SALLIS, J.F. & WARDLE, J. (2004). Leisure-time physical activity in university students from 23 countries: associations with health beliefs, risk awareness, and national economic development. *Preventive Medicine*, 39 (1), 182-190. ISSN 00917435.
- ❖ HENDRY, B., SHUCKSMITH, J., LOVE, J. & GLENDINNING, A. (1993). *Young People's Leisure and Lifestyles*. London: Routledge. ISBN-10: 0415043506.
- ❖ HNILICOVÁ, H.(2004). Dopad společenských změn po roce 1989 na kvalitu života lidí v ČR. In Hnilicová, H.,(Eds.). *Kvalita života- Sborník příspěvků z konference konané 25.10.2004 v Třeboni*. ISBN 80- 86625- 20- 6.
- ❖ JANSA, P., KOCOUREK, J. & VOTRUBA, J. (2005). "Sport a pohybové aktivity v životním stylu české dospělé populace (18- 61 a více let)." pp. 7-82. In.Jansa, P., Kocourek, J., Votruba, J., Dašková, B.(Eds.) *Sport a pohybové aktivity v životě české populace*. Praha: FTVS UK. ISBN 80- 86317- 33- 1.

- ❖ JONES, DA., AINSWORTH, BE. & CROFT, JB. (1998). Moderate leisure- time activity: who is meeting the public health recommendations? A national cross sectional study. *Archives of Family Medicine*. 7 (May/June), 285- 289.
- ❖ KOIVULA, N. (1999). Sport participation: differences in motivation and actual participation due to gender typing. *Journal of Sport Behavior*, 22(3), 360- 376.
- ❖ KREJČÍ, M. (2009) Factors of mental health and problematic of the psycho - training. In: *New Challenges and Bridging Cultural Gaps in Sport and Exercise Psychology*. Marrakesh: MASP, pp. 148 – 153. ISBN 978073607.
- ❖ KREJČÍ, M. et al. *Adequate movement regime and bio-psycho-social determinants of active life style*. České Budějovice: JU, 2010. ISBN 978-80-7394-239-7.
- ❖ KUKAČKA, V. (2009). *Zdravý životní styl*. České Budějovice: Jihočeská univerzita. ISBN 978- 80- 7394- 105- 5.
- ❖ MICHAL, J . (2002) Názory, postoje a vzťah študentov UMB k telesnej výchove, športu a pohybovým aktivitám. In: *Acta Universitatis Matthiae Belii. Telesná výchova a šport, Vol.4, No.4*, Banská Bystrica: PF UMB, 2002, s. 55-55. ISBN 80-8055-727-6
- ❖ MICHAL, J.: Analýza obsahu pohybovej aktivity a motívov k športovaniu u vysokoškolákov. In: *Kinantropologica Volume 10. č. 2/09*, České Budejovice: 2009, s. 88-94. ISSN 1213-2101
- ❖ MINISTRY OF EDUCATION, YOUTH, AND SPORTS. (1999). Koncepcie státní politiky v tělovýchově a sportu v České republice. Usnesení vlády č.2/1999 ze dne 6.ledna 1999. Retrieved December 12, 2009 from <http://www.msmt.cz/sport/koncepcie-statni-politiky-v- telovychove-a-sportu-v-ceske-republice>.
- ❖ NÁDVORNÍKOVÁ, J., (2006). *Zdravý životní styl vysokoškoláků*. Bakalářská práce. Brno: LF MU. 63 stran. Vedoucí bakalářské práce Mgr. Věra Figurová.
- ❖ PATE, RR., BLAIR, SN., HASKELL, WL. et al. (1995). Physical activity and public health. *JAMA*, 273, p. 402- 407.
- ❖ RIDDOCH, CH., MUTRIE, N., PARFFIT, G. et al.(1998). *Young and active? Health Education Authority*, London.
- ❖ RYCHTECKÝ, A. (2006). Monitorování účasti mládeže ve sportu a pohybové aktivitě v České republice. Praha: Univerzita Karlova v Praze, Fakulta tělesné výchovy a sportu.
- ❖ SAK, P., SAKOVÁ, K.(2004). *Mládež na křižovatce*. Praha: Svoboda Servis. ISBN 80-86320-33-2.
- ❖ SALLIS, JF. (2000). Age-related decline in physical activity: a synthesis of human and animal studies. *Medicine & Science in Sports & Exercise*. 32 (9): 1598-1600.

- ❖ SEKOT, A. et al. (2004) *Sociální dimenze sportu*. Brno : Masarykova univerzita. ISBN 80-210-3581-1.
- ❖ SCHEERDER, J., VANREUSEL, B.(2005) Social stratification patterns in adolescent´ active sports participation behavior: a time trend analysis 1969- 1999. *European physical education rewiev*. 11 (1), 5- 27.
- ❖ SLEPIČKA, P., et al. (2001). Společenská reflexe sportu. Projekt MŠMT ČR LS011112416: Praha: UK-FTVS, 2001.
- ❖ SLEPIČKOVÁ, I. (2009). Sociology of Lifestyle. In Slepíčka, P. (eds.) pp. 11- 38. *Sport and Lifestyle*, Praha: Karolinum press. ISBN 978- 80- 246- 1624- 7.
- ❖ SOUKUP, P., RABUŠIC, L. (2007). *Několik poznámek k jedné obsesi českých sociálních věd – statistické významnosti*. *Sociologický časopis/Czech Sociological Review*, 43 (2), 378- 395.
- ❖ SÝKORA, F., KUNZ, I.(1989). Záujmová telesná výchova žiakov stredných a študentov vysokých škol a podiel školy na utváraní vzťahu k nej. *Tělesná výchova mládeže*, 55 (9), 350- 355.
- ❖ ŠPAČEK, O. (2008). Sportování za časů spartakiád- sportování za časů fitcenter. Socioweb 6/2008, rubrika Témata. Retrieved February 12, 2009 from <http://www.socioweb.cz/index.php?disp=temata&shw=310&lst=120>.
- ❖ ŠTEFÁNIKOVÁ, Z. et al. (2003). “Aktuálne poznatky o životnom štýle vysokoškolákov z aspektu kardiovaskulárneho rizika.” *Vojenské zdravotnícké listy* 72 (4), 150- 153.
- ❖ TAMMELIN, T. (2003). Physical activity from adolescence to adulthood and health-related fitness at age 31. Cross- sectional and longitudinal analyses of the Northern Finland birth cohort of 1966. Retrieved April 13, 2009 from <http://herkules.oulu.fi/isbn9514272331/html/index.html>.
- ❖ TEPLÝ, Z. (1990). *Pohybový režim dospělých*. Autoreferát disertační práce. Praha: FTVS UK.
- ❖ TEPLÝ, Z., ADAMEC, Č. (1980). *Hnutí pohybem ke zdraví a jeho odraz v masovém rozvoji tělesné výchovy*. Praha: ČÚV ČSTV.
- ❖ TÖFFLER, A. (1992). Šok z budoucnosti. Praha : Práce. ISBN 80-208-0160-X.
- ❖ TROST, SG., PATE, RR., SALLIS, JF., FREEDSON, PS., TAYLOR, WC., DOWDA, M., & SIRARD, J. (2002). Age and gender differences in objectively measured physical activity in youth. *Med. Sci. Sports Exerc.* 34 (2): 350-355.
- ❖ VALJENT, Z. (2010). Aktivní životní styl vysokoškoláků. Disertační práce. Praha: FTVS UK.



- ❖ VAN MECHELEN, J., TWISK, JWR., POST, GB., SNEL, J. & KEMPER, HCG. (2000). Physical activity of young people: The Amsterdam longitudinal growth and health study. *Med. Sci. Sports Exerc.* 32 (9): 1610-1616.
- ❖ VUORI, I. (1995). Exercise and physical health: Musculoskeletal health and functional capabilities. *Research Quarterly for Exercise and Sport.* 66, 276- 285.
- ❖ ZICH, F. (2005). *Úvod do sociologického výzkumu*. Praha: EUPRESS, ISBN 80- 86754-19- 7.
- ❖ ZICH, F., UNGER, V. (1995). Postoje české veřejnosti k tělesné výchově a sportu. *TVSM*, 61 (7-8 viz Příloha).

## SUMMARY

An active lifestyle of university students has significantly changed during an era of 33 years and with a transition of two very different political systems.

In selected motion activities was found that in most of observed indicators was a higher frequency in the present university students file (hiking and walks, cycling, ice skating, fitness centre visiting, trips to a nature), in fewer cases were indicators statistically non significant and therefore equal (most of the jogging and swimming indicators) and very rarely only in one case was found a higher frequency of the file 1975 (girls jogging).

The results are not at all clear in the area of sports skills, it ended equally. More students were able to “well” ice skate by 14.5 %; by 6.3 % less students were “not at all” able to ice skate; by 6.9 % less students were “not at all” able to ski; by 13.3 % more male students and by 5.4 % more female students were able to “well” swim 33 years ago.

More female students are able to “well” ride on bicycle by 11.6 %; by 6.2 % less female students are “not at all” able to ice skate; by 15.8 % more male students and by 30.3 % more female students are able to “well” ski; by 7.1 % less female students are “not at all” able to ski in nowadays.

In the frequency of physical activities and sports skills was a large difference between boys and girls 33 years ago whilst the difference either has wiped out or girls surpass boys sometimes in nowadays.



# PSYCHOMOTOR EXERCISE ON THE FIRST PRIMARY SCHOOL

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**KEY WORDS:** physical education process, children of younger school age, psychomotor.

## INTRODUCTION

Psychomotor is fundamental to the development of personality, because it expresses the link between perception and survival of the movement and action in social context (Adamírová, 2000).

Novotná, Vladovičová, Slížik (2009) indicate that psychomotor reflects the close link between the psyche - the mental processes - and dexterity - physical processes. Psychomotor is a feeling, perception, thinking and movement, the movement is not possible without the participation of mental or sensory processes.

Cibulková (2009), Michal (2000) Krejčí (2010) describes the characteristics of psychomotor interactions as physical, emotional and educational spheres in relation to their importance for the development of competence in the conduct of an individual in the psychosocial context. According psychomotor symptoms are all physical manifestations, whether striated or smooth muscle, which direct expression of higher nervous activity are integrated into the overall framework of the expression of personality and mental body functions.

The fundamental objective psychomotor personality is put to harmonize site mental, physical, but also social, which is able to act independently, purposeful, planned, controlled, but also approachable and considerate while maintaining their individuality.

In addition to the physical sphere psychomotor emphasis to the area of emotional and mental, and specifically develops social skills and ability to communicate naturally, promotes self-reliance, improves concentration and cognitive development. It is an effective means of learning while using all the senses. It has constructive approach to solving of problems and it develops creativity (Novotná, Vladovičová, Slížik, 2009).

According to the mentioned authors psychomotor as a whole is in addition to cognitive (knowledge, intellectual skills) and affective (emotional area, attitudes, opinions) targets a separate subgroup specific (sub) goals of the educational process.

The main task is to get as much experience, perception of movement in three areas:

- from the body's own (s) own "I",
- of the material (matter and articles),
- from the social.

The first task is to know your body, create a map - diagram of the body, to know its function as a whole and its parts, to understand whole body not only his physical abilities, but also to experience different feelings and emotions, express their movements, to learn to treat with the body and control it and accept. It is essential therefore to get as much experience on your body in terms of physiological, cognitive and emotional, and learn to use them for their self-knowledge, self improvement, but also action. The second task is to study the environment, with objects that surround us, their characteristics, capabilities and uses. Learning to adapt to the subject, but they gradually adapt to your needs and transform them to your advantage. It is essential to regain as much information as they know to incorporate and use it for their own actions. The third task is to know the social environment, people who live in. With the knowledge of himself to learn also to know others and understand their emotions, feelings, wishes, desires and needs. At the beginning of this process, trainees learn to make contacts in the course then communicate, collaborate, gradually build mutual trust, accountability and finally to help others even if suffering advantage for myself. Again, based on the amount of experience to help then display an image of each individual personality. This process is a process biodromal and lasts a lifetime (Novotna, Vladovičová, Slížik, 2009). Funds to be used in the psychomotor, are less common or emerging from the various exercises, games, mime, yoga, acrobatics, but also rhythmic gymnastics or dance. Require all-round teacher training to their role in the school was effective in terms of psychomotor principles.

Novotna, Vladovičová, Slížik (2009) argue that the practice teacher training unit is carefully prepared. Yet in the course of the teacher is not authoritative. Themes of the draft itself, but also flexibly respond to the proposals from practitioners and ensures safety. Teacher characteristics are patience, consistency, but also the ability to empathize with the feelings and needs of practitioners, and must therefore be an ideal teacher competence is not only

quantitative and - a quality at five dimension, but also emotional - social character. According to Chromik (1993) the teacher should meet the following methodological assumptions psychomotor:

- Students convey the feeling that the teacher confidence in their abilities. The teacher should avoid games that give rise to competition and thus comparisons with other pupils.
- Game or other physical tasks should be scheduled so that each student can experience personal success.
- Shy or fearful to give the pupils feel that their decision to accept a teacher.
- There should be frequent praise to become dependent on praise. It is better if the teacher notifies the other performances that can be achieved.
- To give more flexibility and freedom to implement their own ideas of the pupil.
- Try to have a dialogue, not monologue.
- Educator should have a large stack of games and the ability to sense which of them at the moment is best for students.
- Very important is the reliability of teacher and clear boundaries - the feeling of stability.

Based on the principles of psychomotor all pupils according to their abilities, the most active. Their activity is accompanied by its own initiative, independence and creativity. It is best if students have always felt that is actively involved in developing the program and that their ideas and suggestions and take their views respected. Important here is consistency, understanding, cooperation and communication practitioners.

### **Psychomotor process in physical education**

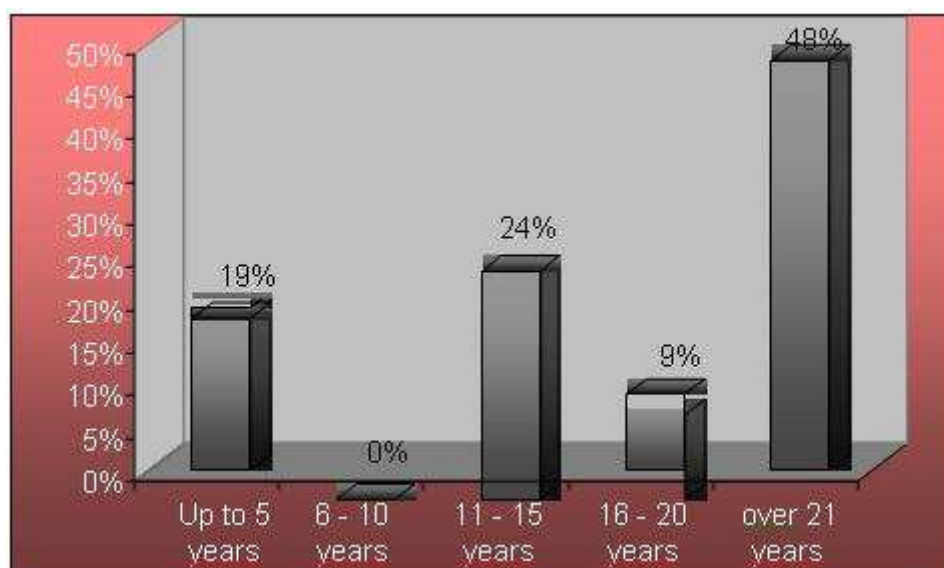
In physical education psychomotor processes can provide a comprehensive physical education program and filling in the whole school and exercise hours for example children with certain types of disability and weakness. Psychomotor exercise unit has a special structure and process.

### **AIM OF WORK**

The aim is to find work that psychomotor games and exercises are to be assigned to teachers teaching physical education in primary education. Also as certain the views of teachers their readiness to teach psychomotor.

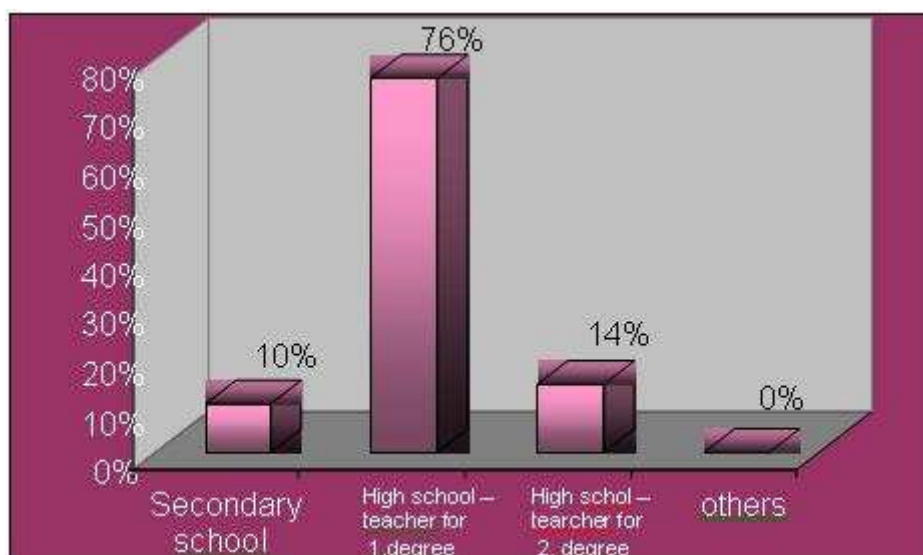
## METHODOLOGY

Characteristics examined the file. As a method of obtaining the data we used the query method - a poll. Poll in our final work was the main method of obtaining information. It contained 10 questions with which we investigated the use of psychomotor status of games and exercises. Survey was anonymous. The research consisted of a set of our first 21 teachers primary school in Banska Bystrica and Žilina. Of the 16 files examined teachers qualified in grade school and three teachers with the qualifications for the second stage of primary school. Two teachers had secondary education (pic. 2). Teachers taught in all grades of First Instance (pic. 3). According to length of service, we studied a set of considered experienced, this means that it consists of teachers with a relatively large length of practice (pic. 1).



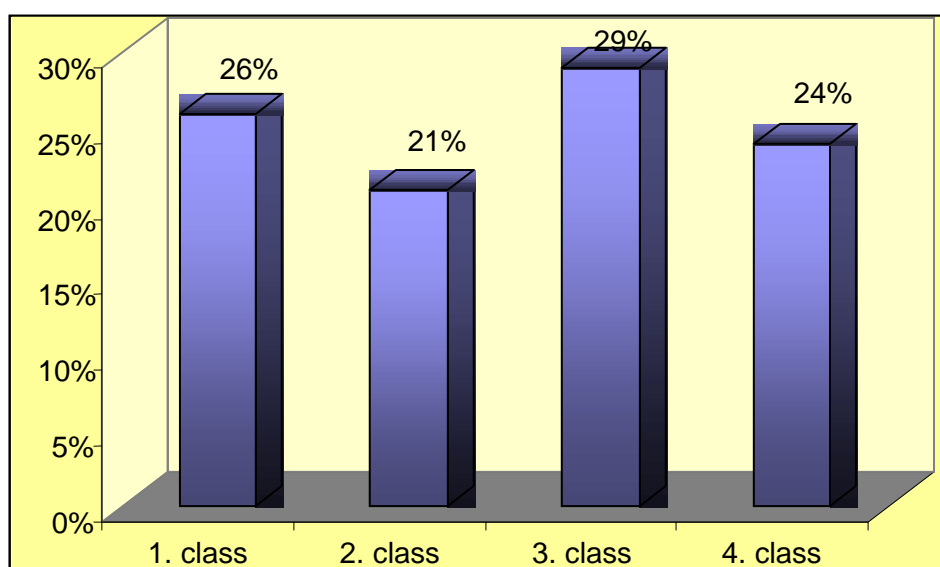
Picture 1 Distribution of files by length of service

The biggest group is consisted of teachers with long experience over 21 years. Under education, we can say that the research consisted of a set of teachers with appropriate qualifications for primary education, where we conducted the survey. Teachers who have qualified for the second stage of primary schools have been focusing on physical education.



Picture 2 Educational attainment of teachers examined the file

According to years of first grade of primary school respondents of our files were fairly evenly spaced. In the first year of teaching 26% of respondents in the second year 21% of respondents in the third year 29% and 24% the fourth year.

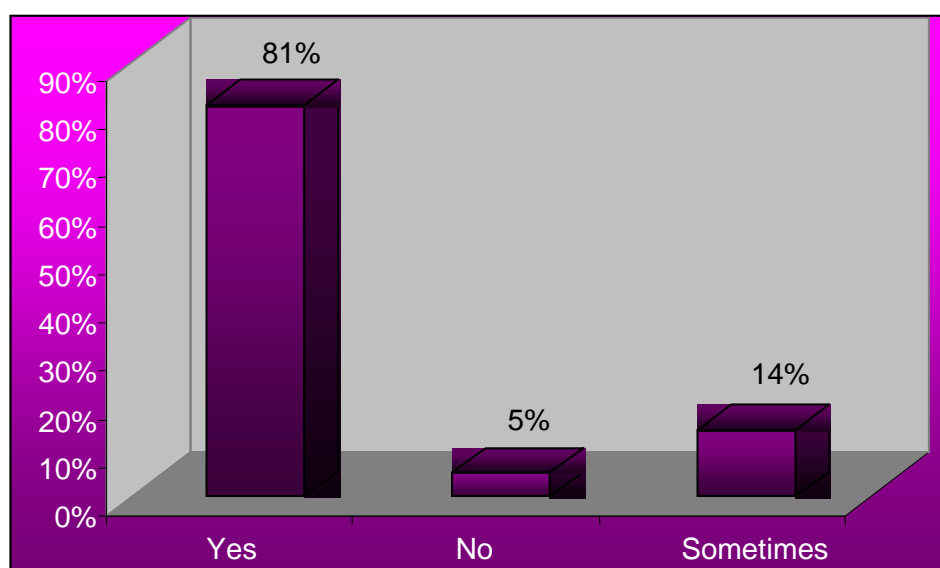


Picture 3 Years in which teachers taught mainly

## RESULTS

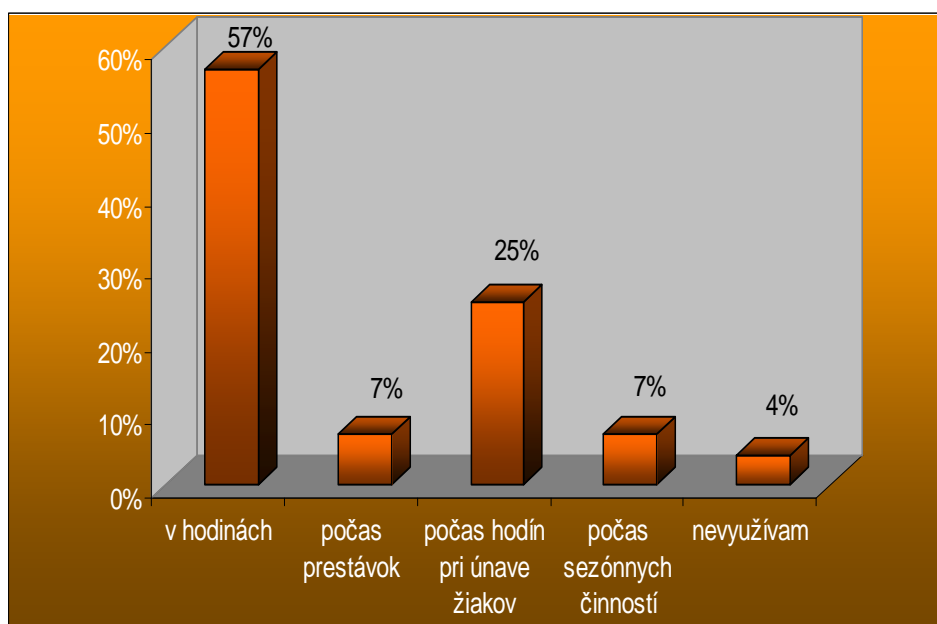
The first item survey we describe the research file. Their analysis is presented in chapter three.

Other items we asked whether teachers teach psychomotor examination file at school. Most respondents (81%) indicated that psychomotor taught. Only one respondent does not address the psychomotor. Respondents' answers to this question are shown graphically in Picture 4.

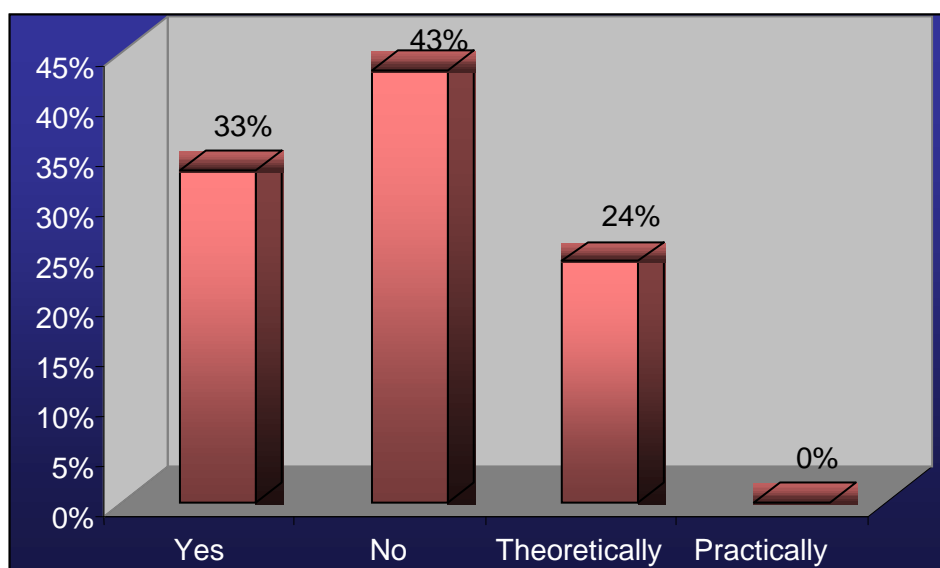


Picture 4 Expressions of respondents to use in psychomotor%

It is encouraging that most respondents made psychomotor activity, because it enriches the teaching of physical education for children of younger school age. Furthermore, we wanted when teachers frequently used psychomotor activity. Analysis and synthesis has shown that it is during the hours of physical education. Thus, it said more than half of teachers' examination of a set (57%). It is gratifying that teachers considered included psychomotor file to other lessons, especially when fatigue pupils. Thus 25% of respondents expressed. Picture 5 graphically illustrates the use of psychomotor activities during their stay in school children.



Picture 5 Use of psychomotor games and exercises in the school

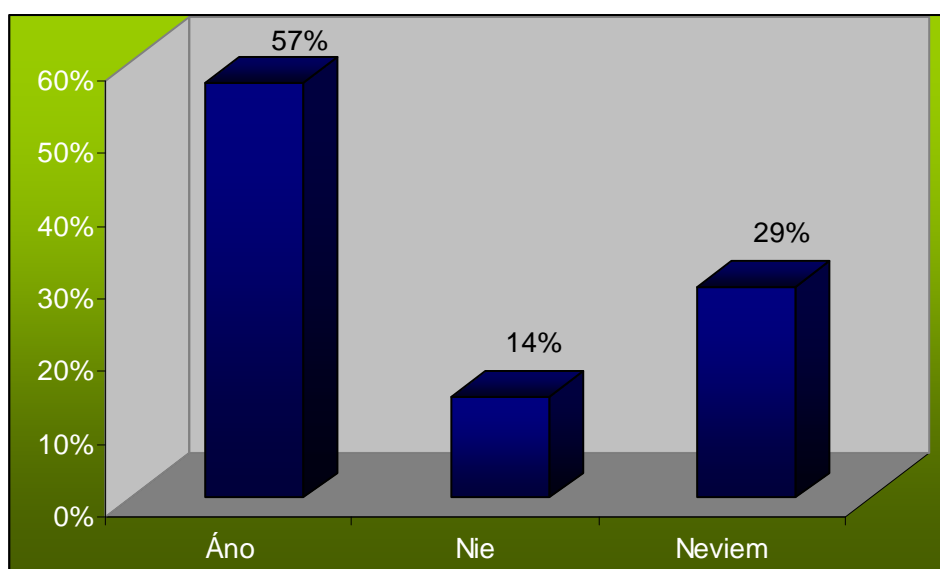


Picture 6 Information on the psychomotor %

When asked whether the respondents to our survey have enough information about psychomotor games and exercises, the majority responded negatively (43%). The answer it seems logical if we compare it with the age structure of the file. Teachers with long experience of 15 years is a matter of fact, during his studies at the university met with psychomotor performance. Could gather their knowledge by studying literature itself, or

through a set of training courses or seminars. Relatively high% of respondents had only theoretical knowledge of the psychomotor (24%).However, it is gratifying that the only practical knowledge obtained none of the interviewed teachers. We believe therefore that the majority of respondents considered the set of practical and theoretical knowledge.

We were also interested in (pic. 7), or have an interest in teachers supplement their knowledge and practical skills in this thematic unit of the state curriculum. Positively, we expressed 57% of respondents. Indifferent to the opinion of interested 29% of respondents consider the high number. Again, here we refer to the age composition of the examined file. We found that teachers with long experience of 20 years has lost interest supplement their education. Lack of interest in training and other activities with a psychomotor showed 14% of respondents.



Picture 7 Interest on teacher seminars and workshops

When asked which implements used in the psychomotor, most replied that the ball(33%), newspapers (7%), rope (7%), tapes and CDs (5%), mats (5%), PET bottles(5% ), scarves (5%), wooden pegs (2%), rings (2%), cups (2%), bear pads(2%) blankets (2%), whistle (2%), puppet (2%) , sticks (2%) no (7%). Up to 10% of surveyed respondents answered that they use musical instruments, what they do not even belong in psychomotor. The last question on the questionnaire was that the psychomotor games and exercises most commonly used. Are most commonly practiced exercises for correct breathing (8%), relaxation exercises and using the mat (8%), ball games (7%),chases (5%), but widely used as



a paper exercise, or in the newspaper that form(6%), while the most popular game is "paper war".

## CONCLUSION

We found that psychomotor is unknown, quite often in schools and most hours of physical education, but also during other lessons in the manifestations of fatigue in students. Children need movement and psychomotor games are very good form, as applied to a wide range of exercises that are focused on the perception of the interaction between mental and motor skills, relaxation, self-acceptance and confidence in our own strength. Children do they love the game very quickly, because for them, creating a pleasant friendly atmosphere, learn to collaborate, strengthen friendships, creating new friendships between the children that were not previously searched in games.

## LITERATURE

- ❖ CIBULKOVA, Z. 2009. Psychomotorické hry a cvičenia detí na prvom stupni základnej školy. Bakalárska práca. Banská Bystrica : FHV UMB, 2009, 42 s. nepublikované.
- ❖ CHROMÍK, M. 1993. Didaktika telesnej výchovy. Bratislava : UK, 1993. 72 – 75 s. ISBN 80-223-0349-6
- ❖ KREJČÍ, M. et al. (2010): *Adequate movement regime and bio-psycho-social determinants of active life style*. České Budějovice: JU
- ❖ MICHAL, J.2000 *Telesná výchova v prírodnom prostredí*. Banská Bystrica: PF UMB, 64s. ISBN 80-8055-348-3
- ❖ NOVOTNÁ, N. – VLADOVIČOVÁ, N. – SLIŽIK, M. 2009. Psychomotorika 1. Banská Bystrica : FHV UMB, 2009. ISBN 978-80-8083-825-6
- ❖ NOVOTNÁ, N. – BLAHUTKOVÁ, M. – OTTMAROVÁ, E. 2007. Hry s netradičným náčiním. Banská Bystrica : PF UMB, 2007. ISBN 978-80-8083-395-4
- ❖ Štátny vzdelávací program, Telesná výchova Príloha ISCED 1 1. verzia. Bratislava: ŠPÚ, 2008.

## SUMMARY

This bachelor thesis is aimed at the orientation within the issue of psychomotoric games and exercises by children on the 1st grade of the elementary school. The aim of our thesis is the cognition of the activity of elementary schools and of the possibility of using of psychomotoric games and activities, namely within the theoretical and practical level. The

evidences from a research were got by means of the public opinion poll. In the research we concluded that teachers use psychomotoric exercises and games in their lessons of the physical education. The most used tools are represented by balls. The teachers of the examined set think that the ball games belong to the psychomotoric games. From the psychomotoric activities used within the lessons of physical education the relaxation and respiration exercises are most frequently applied.

## Pokyny pre spracovanie príspevkov

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