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PHYSICAL AND SPORT- RECREATIONAL ACTIVITIES OF FEMALE STUDENTS DURING THEIR STUDY AT THE TECHNICAL UNIVERSITY IN ZVOLEN

BAISOVÁ KARIN

Institute of Physical Education and Sport, Technical University in Zvolen

SUMMARY

The paper orientates on the problematics of the Technical University in Zvolen female students and their attitude towards physical activity and sport-recreational activities and their place in students' everyday life. We focus on these activities of students within their free time and the variety of vocational subjects offered by the Institute of Physical Education and Sport. The interpretation of the research results refers to and is compared with the results of previous research activities from 2011 and 2014 at the Technical University in Zvolen as well as with the research activity of our colleague Valjent (2010) from ČVUT in Prague.

KEY WORDS: Physical activity, sport activity, attitude to sport, reasons for not doing sport, motivation for sport, free time

INTRODUCTION

Physical activity on professional or recreational level should be part of everybody's everyday life. From the point of view of the simplest division we can speak about active, professional level, or recreational one where sport activities are performed regularly or students devote to this activity only occasionally. Our research focuses directly on the latter group of female students. The fact that the interest in physical activity of students has dropped is inevitable. In practice we face reality that many students have part time jobs while studying and have no spare time for doing sport. Our task is to engage maximum number of students to physical activity because if they do not build attitude towards sport during their university study, there will be no space and time to change this situation later.

Valjent (2010) in his research speaks about reasons for not using physical activity in students' free time – as the lack of time. Learning the main reasons for the overall lack of interest we can

offer new solutions and so create conditions for many students to find their own area of interest and so develop every day or regular routine in physical and sport activities.

AIM

The aim of the research in a questionnaire form was to find out the attitude of female students at the Technical University in Zvolen towards physical and sport – recreational activities within their daily routine and study schedule as well as in their free time.

METHODOLOGY

We conducted the research during physical education classes in academic year 2015/2016 focusing on finding the attitude of students at the Technical University in Zvolen towards physical education, sport-recreational activities within their university daily schedule and in their free time. We studied their attitude and interest in vocational subject of physical and sport education and physical-recreational activities in their free time.

We distributed 275 questionnaires out of which 5 were not valid ones due to incomplete respondent's answers. Out of 270 valid questionnaires from the respondents we divided these according to gender to male and female group. In our paper we focus on results from female students of 1st – 5th year of the study at the Technical University in Zvolen with no regard on their study field. 102 female students answered 14 questions, the questionnaires were anonymous. The average age of female respondents was 21.9 years.

RESULTS

Female students at the TU in Zvolen, academic year 2015-16

Table 1 Hierarchy of female students' life values

HIERARCHY OF FEMALE STUDENTS' LIFE VALUES					
1.	Health	4.	Finance	7.	Social appreciation
2.	Education	5.	Friendship	8.	Physical activity and sport
3.	Family	6.	Happiness		

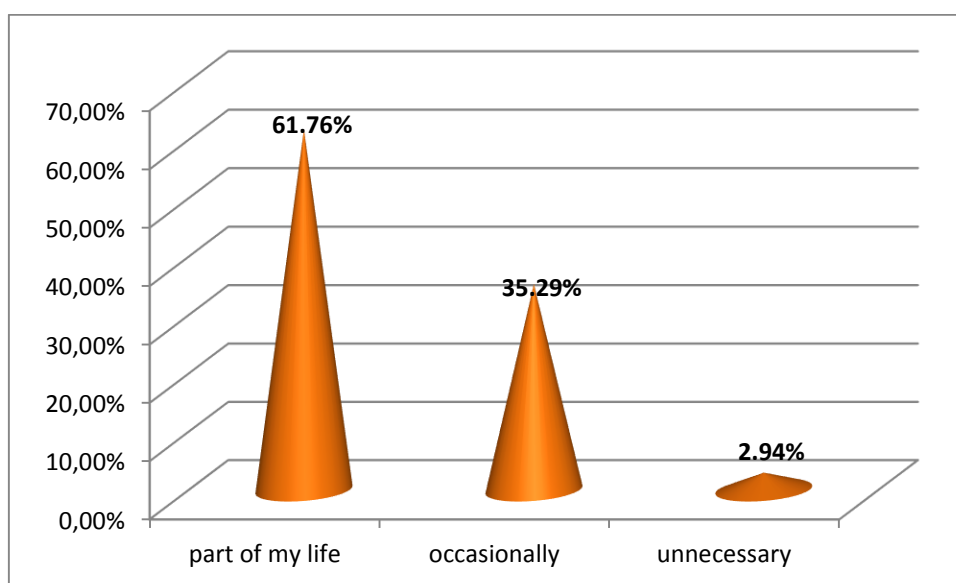
In comparison with the previous research we noted some changes in respondents' answers. Health and family stand in the forefront of all listed life values. But presently education is the most important, more important than family, nevertheless considerable percentage was not confirmed. The reason for such a decision of the female students is probably the fact that family

is their biggest support and they have family backup and home, support, but education represents their future, work opportunity and will greatly influence their further lives.

Following are lower ranking values – finance, friendship and happiness. At the bottom of the table is physical activity and sport so we can state that for female students social appreciation is becoming more important as it used to appear at the bottom of the table in the past.

When comparing the results with male respondents' answers we can find the same ranking compared with previous research in the following order health, family, friendship and education. The most valued is health. Both female and male students are aware of the fact that health is irreplaceable and life necessity not only for everyday students' life but also for future which can be considered as a very positive finding.

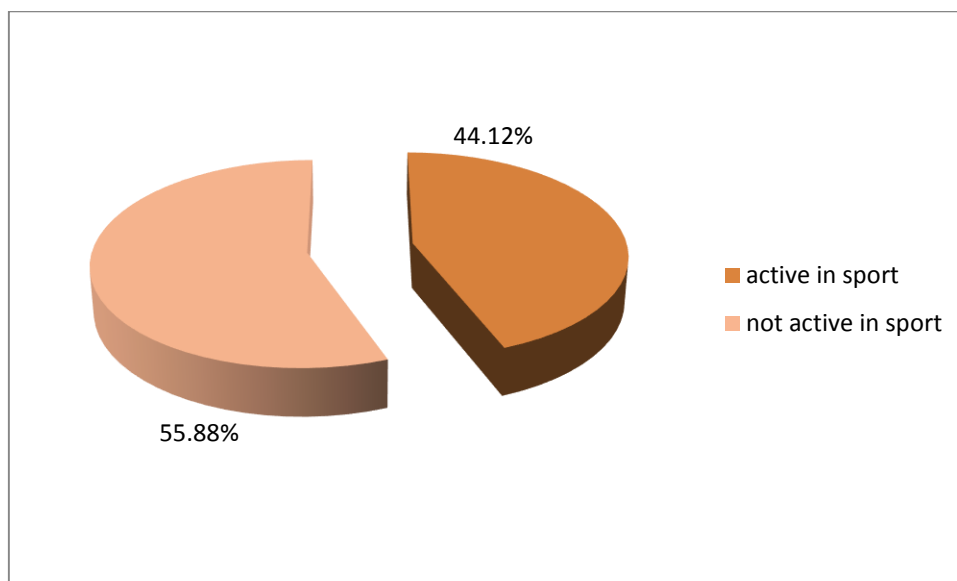
Physical and sport-recreational activities count for 61.76%, which in comparison with previous research means a drop of 8%. When compared with male respondents it also represents lower percentage which can be connected with the fact that physical activity and sport is for female respondents less important in their value hierarchy. 35.29% of the respondents devotes to sport occasionally and for 2.94% of female respondents these activities are not important at all. Positive fact though is that we recorded the lower number of female students for whom physical activity is not important (in 2014 – 3.35%).



Picture 1 Importance of sport and physical activities

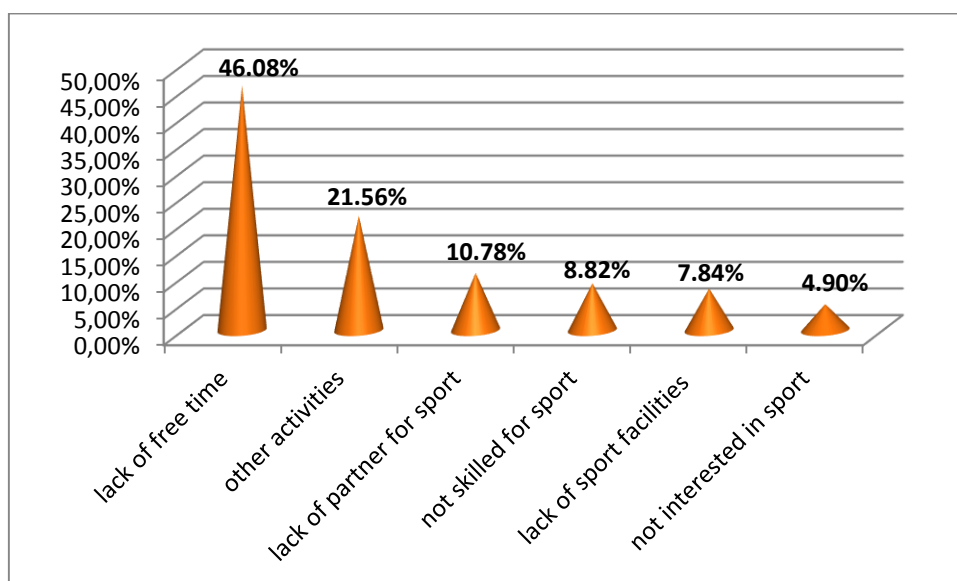
Another question focused on finding out the ratio of active and passive female students in physical and sport activities. 44.12% of female respondents used to do sport activity actively or they still continue in doing so. Another group of female students does not devote to active

physical activity presently or in the past. This group counts for 55.88%, which represents another drop compared with previous years and the number of active female students.



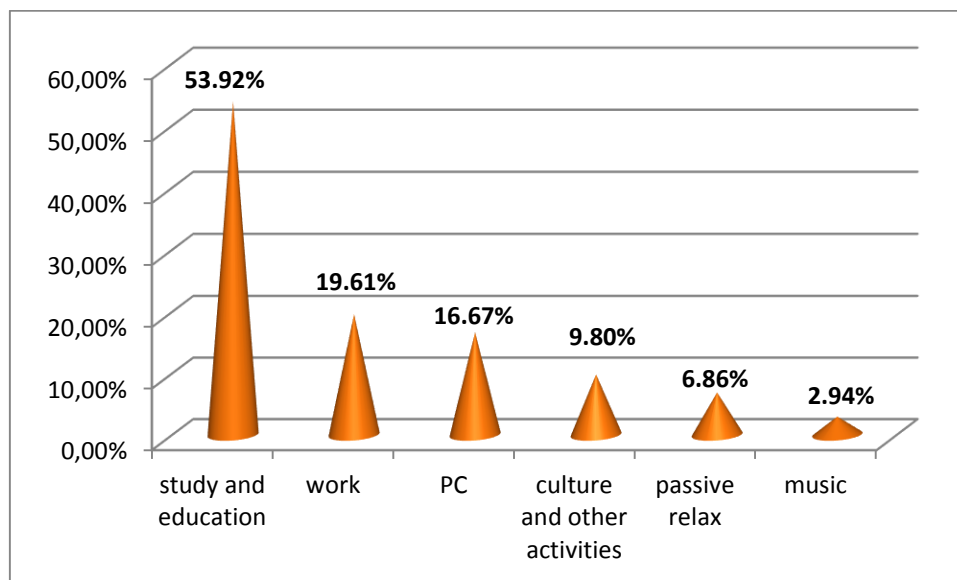
Picture 2 Ratio of active and passive sporting female respondents

Pictures No. 3 and 4 show reasons of female students for not devoting to sport as well as depicting reasons for their passivity in sport activities and the list of activities which prevail sport. Again, the main reason for the female respondents is the lack of free time 46.08%. Free time is mostly consumed by study and education. Following are other mentioned activities and many students also lack partner for sport. More than 8% states that they have no talent for sport and 7% of the asked have no place to do sport.



Picture 3 Main reasons for no sport activity among the female respondents

Except time devoted to study and education almost 20% of respondents work, 16% use free time for working on the PC and almost 10% for cultural activities. There is again a choice of passive relax which in comparison with the last year research grew of about 3%. This form of relax is probably more preferred when compensating mental activity and load.



Picture 4 Activities preferred over physical activity

Many female students have some part time jobs during their studies at the university, but many of them are already employed, which consumes most of their day and free time.

The collected data are very similar to the results of the survey carried out in the Czech Republic, which was published by Valjent (2010). Czech respondents list lack of free time and having no sparring partner for doing sport activities as the biggest drawbacks. This is probably the general trend in student life, where sport activities are replaced by other activities – mostly by making money, devoting to learning and education.

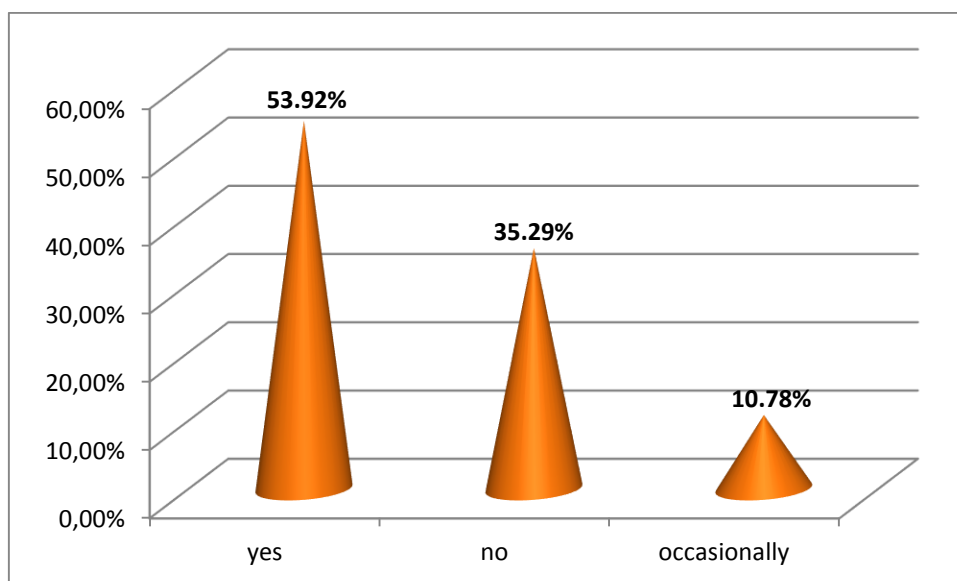
In question where female students were explaining the main reason for choosing the subject Physical Education as an optional study subject, we have noticed (in comparison with data from 2011 and 2014) a very positive trend. Physical activity and sport are presently part of life for 58.82% of the respondents, which is in comparison with 8.5% from 2011 and 32.26% from 2014 a significant positive result. Approximately 20% of the respondents see the subject as a suitable activity for spending their free time. Almost 10% voted for the benefit of body forming and they also think that sport as one of suitable ways how to support health and overall physical condition of an individual. Only 9% of the students chose Physical Education to gain credits in their university study. Due to the fact that the previous research listed this reason on higher percentage, up to 18% and the next up to 13%, we can consider this finding as highly

positive. Many of the female students visit classes of Physical Education not only because of the already mentioned reasons but also that they come to class overcoming some physical injury, longer illness, or after giving birth with recommendation to do exercise from their doctors based on various reasons. Such students are offered space and time as well as individual approach and consultancy.

Table 2 Interest of female students in sport within the Physical Education classes at the Institute of Physical Education and Sport

SPORTS PREFERRED WITHIN THE OPTIONAL SUBJECT - PHYSICAL EDUCATION					
1.	Fitness	50.98%	5.	Bouldering	4.90%
2.	Volleyball	15.69%	6.	Floor ball	2.94%
3.	Badminton	14.71%	7.	Aerobics	2.94%
4.	Cross fit	6.86%	8.	Archery, Basketball	1.96%

Considering the wide offer of sports available by the Institute of Physical Education and Sport, female students similarly as male students mostly prefer body building and fitness. Compared with the previous years, when the number was bigger than 50%, we noticed a drop to 34% and presently the interest of female students grew to almost 51%. The present situation can be explained by including new sports to our Physical Education subject portfolio which found their place among the sports and even though they have not such a significant place, among students are rather successful. We mean mostly cross fit and archery. We did not introduce any other sports and therefore fitness among women keeps its first place ranking. Female students consider fitness classes continually popular, mainly because they can choose exercise according to their needs – body building exercise with or without equipment, or to help them form, shape, and strengthen problematic parts of body. They have also a possibility to use bicycle centre, orbitrack, or they visit fitness centre. Within fitness classes they can also do aerobics, Zumba fitness, or other special programmes based on aerobic training, interval or circular training. Volleyball holds the second place. Following are other sports such as badminton, cross fit, bouldering and floor ball.



Picture 5 Physical activities and sport as free time activities

Almost 53% of female students do sport in their free time, even excluding the optional subject activities. There is though also a high percentage of those, who do not do any sport. The numbers are the following. In 2011 and 2014 the results are from 5.19% and 8.67% up to 35.29% of respondents. Occasionally only 10.78% of the respondents devote to some physical activity, which is a rather disturbing factor, since we have recorded a drop of 20%.

CONCLUSION

Our research results showed that female students at the Technical University in Zvolen are interested in regular sporting (more than half of respondents). In general we can describe main reasons for irregular sport activities or the lack of interest as we did in our previous research activities. It seems that effort of students to be at school the shortest time possible and therefore busy schedule in less than 5 working days is visible also in their dis/interest in sport.

Our aim will be to continue in creating new sports which will be for our students more attractive, modernize sport environment and gyms, offer interesting contests and competitions and tournaments or season leagues to attract new students in larger quantities. In reality though there is a continual drop in number of students present not only at physical education classes but also studying at universities, which results in decreasing number of sport activity attracted students.

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ŠPORTOVO REKREAČNÝCH AKTIVÍTY ŠTUDENTIEK POČAS SVOJHO ŠTÚDIA NA TU VO ZVOLENE

SÚHRN

Článok sa orientuje na problematiku postojov k športovo-rekreačným aktivitám a ich miesto v každodennom živote študentov Technickej univerzity vo Zvolene. Zameriavame sa na aktivity študentov v rámci svojho voľného času a rôznych odborných predmetov ponúkaných Ústavom telesnej výchovy a športu. Interpretácia výsledkov výskumu sa týka a je v porovnaní s výsledkami predchádzajúcich výskumných činností z roku 2011 a 2014 na Technickej univerzite vo Zvolene, ako aj s výskumnej činnosti nášho kolegu Valjent (2010) z ČVUT v Prahe.

KEÚČOVÉ SLOVÁ: športové aktivity, postoj k športu, voľný čas

ACTIVE SPORT TOURISM IN BERCHTESGADEN – ONE OF THE MOST IMPORTANT SPORT CENTRES IN GERMANY

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SUMMARY

Berchtesgaden is a well-known tourism and sport center in Germany. Being a one of the most visited German tourist destinations, Berchtesgaden offers many possibilities for practicing recreational sport both in summer and in winter. The aim of this paper is to show the importance of Berchtesgaden as a sport center and the role of sports activity of its tourists. The authors prepared and implemented a special questionnaire in order to examine certain items of sport tourism among respondents. In addition, the webpages of Berchtesgaden and local Tourism Office were proved useful in acquiring the necessary information. The research was conducted in 2015 among 351 adult tourists in Berchtesgaden. The main purpose of visiting Berchtesgaden is to practice sport. The most popular sports in summer are hiking, mountain biking and jogging, whereas in winter predominate alpine skiing, snowboarding and cross-country skiing. The most important motives for practicing recreational sport are fun, health and social experiences. Own studies and other research data confirm the great sports activity of the tourists interviewed both in winter and in summer.

KEY WORDS: Active sport tourism, Berchtesgaden, Germany.

INTRODUCTION

SPORT TOURISM

Berchtesgaden is the one of the most important sport centers in Germany. Due to the numerous world-class winter and summer sport competitions and favourable geographical location and climatic conditions, Berchtesgaden became a very popular sport tourism center among tourists who are interested in the sports events as well as among visitors who want to practice sport. Many tourists combine their active holiday with visiting the sports events. Sport

tourism is one of the most popular forms of tourism nowadays. It means travelling apart from the usual environment for participation in sports events or in order to observe such events. According to Standeven & De Knop (1999, p.12), sport tourism is 'all forms of active and passive involvement in sporting activity, participated in casually or in an organised way for non-commercial or business/commercial reasons that necessitate travel away from home and work locality'. Sport tourism refers to the experience of travel to engage in or view sport-related activities. It is generally recognized that there are three types of sport tourism: sport event tourism (visiting and watching sport event and sport competitions), active sport tourism (practicing sport) and nostalgia sport tourism (visiting the popular sport buildings or meeting sports personalities). Schwark (2006) differentiates between hard and soft definitions of sport tourism. According to him, hard definition means passive or active participation in the sport competitions or events, whereas soft definition means only recreational participations in sports.

According to Freyer (2002, p.22), there are two categories of sport tourists:

- active (amateur, professional or recreational) sportsmen who leave their place of residence and travel to a destination to practice sports,
- passive persons (spectators) who leave their place of residence and travel to a destination, to watch sport events or competitions.
- sports supporters (trainers, officials, physicians, sponsors).

Active sport tourism occurs in following forms of travel (Dreyer, 1995, p.14):

- active holiday (the main objective is physical activity)
- sport holiday (the main objective is practicing different sport disciplines)
- training holiday (the main objective is the preparation for sport competition)
- competition trip (the main objective is the participation in sport competition)

Dreyer (1995) and Berg (2010) emphasize the importance of different motives in active sport tourism, especially physical motivation. Furthermore, health, recreation, fun and interpersonal contacts are also important motives for active sport tourists. Lohmann (2002, p.179) claims that sport is very important for tourists who want to achieve:

- health
- physical and psychical fitness
- satisfaction
- contact with nature
- other factors.

According to Dreyer (1995) and Schwark (2006), favorite forms of sport are also motives for sport activity on holiday. These are 'classic' sports which can be classified into seven sport categories such as:

1. Nature sports
2. Net games (badminton, tennis, squash)
3. Gymnastics and strength training
4. Asian culture of human motion
5. Team sport games
6. Athletics
7. Heavy athletics.

The most popular sport disciplines among sport tourists are: hiking/trekking, cycling, surfing, diving, golf, tennis, skiing, snowboarding, sailing, climbing, water skiing, fitness training, jogging, horse riding, table tennis, swimming as well as trend and extreme sports such as free climbing, paragliding, sky diving, bungee jumping, wakeboarding, canoeing, rafting, balloon riding etc.(Opaschowski, 2000), whereby Hadzik (2014) emphasizes an important role of natural area, sport infrastructure as well as the trainers and sport instructors in active sport tourism.

Dreyer (1995) shows an economic sense of active sport tourism as it is connected with some sport offers such as golf, tennis, aquatics, skiing, etc. Furthermore, he presents a market model of sport tourism with the following points:

- Travel destination
- Tourist and sport infrastructure
- Tour operators and travel agents
- Accommodation facilities
- Modes of transport.

BERCHTESGADEN AS A SPORT TOURISM CENTRE

Berchtesgaden is an alpine municipality located in the Bavarian Alps in the southeast of Bavaria. It lies at an altitude of 572 metres above sea level near Germany's third-highest mountain Watzmann (2713 m above sea level). Berchtesgaden has 7,881 inhabitants and it is one of villages of the district Berschtesgadener Land.



Picture 1 Berchtesgaden with the Watzmann Mountain

Source: www.berchtesgaden.de [18.06.2016]

Berchtesgaden is a state-recognized climatic health spa resort and a very popular summer and winter sport resort. It is one of the most visited touristic destinations in Germany and due to numerous sport events, Berchtesgaden is categorized as very important centre of top sport and sport tourism in Germany (Feulner, 1986). The only National Park in the German Alps with its varied landscapes and over 230 km long hiking paths is to be found in the Berchtesgadener Land. Berchtesgaden is also an important health tourism region in Germany. Especially wellness tourism has become increasingly popular in this region in the recent years (www.tourismus-berchtesgaden.de).

As can be seen in Table 1, in the last five years, tourism in Berchtesgaden has developed considerably. This mainly applies particularly to category the number of visitors and overnight stays. In 2014, for the first time the number of visitors in Berchtesgaden exceeded 500,000 people. In 2015, Berchtesgaden has also reached for the first time over 2.3 million overnight stays – the most since 2011. Furthermore, it is noteworthy that on average the tourists stay in Berchtesgaden about five days.

Table 1 Characteristics of tourism in Berchtesgaden in the years 2011 to 2015

Year	2011	2012	2013	2014	2015
Visitors	437,267	469,899	473,898	485,163	518,233
Overnight stays	2,183,884	2,274,155	2,257,919	2,231,274	2,315,599
Duration of stay (days)	4.99	4.84	4.76	4.97	4.47

Source: Tourism Office, Berchtesgaden, 2016

As shown in Table 2 the most popular time of stay in Berchtesgaden are summer months. This village is most visited in August (89,058 visitors) and in July (78,214 visitors). The popularity of this period is reflected in the number of overnight stays in Berchtesgaden.

Berchtesgaden is also very important winter sport center as it is visited by many tourists during winter season, especially in December (28,624 visitors) and in February (26,219 visitors). However, it should be emphasized that the summer months are more popular than the winter months among visitors in Berchtesgaden.

Due to favourable natural, geographical and climatic conditions, Berchtesgaden is one of the most important centres of recreational sports in Germany. There are many possibilities to practice sport both in summer and in winter. These include nature areas as well as the numerous different sports facilities. In the spring and summer months, the most popular are following sports: hiking, mountain biking, climbing, water sport, sport games, running etc. In winter, particularly alpine skiing and snowboarding are the most favoured. In the region of Berchtesgadener Land, there are numerous ski slopes and more than 200 km well-prepared snow hiking paths. Furthermore, Berchtesgaden offers many possibilities for other winter sports such as sledging, ice skating, ice hockey, curling, cross-country skiing and snow tours (www.tourismus-berchtesgaden.de).

Table 2 Characteristics of tourism in Berchtesgaden in 2015

Month	Visitors	Overnight stays	Duration of stay (days)
January	19,481	103,940	5.34
February	26,219	124,550	4.75
March	17,663	73,848	4.18
April	24,349	4,266	3.87
Mai	49,941	190,354	3.81
June	58,504	260,520	4.45
July	78,214	365,505	4.67
August	89,058	426,472	4.79
September	62,456	302,141	4.84
October	47,656	200,087	4.20
November	16,068	54,991	4.42
December	28,624	118,925	4.15
Total	518,233	2,315,599	4.47

Source: Tourism Office, Berchtesgaden, 2016

AIM

The aim of this paper is to show the active sport tourism in Berchtesgaden– one of the most important German sport tourism centre as well as the possibilities and forms of practicing sports by tourists who spend their holidays in this region. The following questions were formulated:

1. What are the purposes to travel to Berchtesgaden?
2. What kinds of sport do the tourists practice?
3. What motives make the tourists practice recreational sports?
4. What is the frequency of practicing sports?
5. How do respondents evaluate the possibilities for practicing sports in Berchtesgaden?

METHODOLOGY

The research was conducted in Berchtesgaden among 351 adult tourists in two groups. In the first group, there were 186 persons (97 men and 89 women) who were investigated in the summer of 2015. The respondents from the second group were investigated in the winter of 2015. There were 165 respondents (86 men and 79 women). The main research method was a questionnaire, which was prepared and used by the authors. Also the official web sides of Berchtesgaden and its Tourism Office as well as appropriate literature, were also used for the purpose of this article.

RESULTS OF THE RESEARCH

As shown in Table 3, for the majority of respondents the main purpose of the trip to Berchtesgaden is practicing sport. Other purposes play insignificant role for tourists during their stay in Berchtesgaden.

Table 3 Purposes of the visit in Berchtesgaden (n=351)

The purpose	Percentage
Sports activity	84
Visiting the family/friends	9
Business trip	4
Other	3

Source: own studies, 2015

Based upon the results presented in Table 4, it can be ascertained that the most important motives for determining the practice of recreational sports among all subjects are: fun, health and social experiences that can be understood as a wish and possibility of practicing sport together and establishing contacts. Furthermore, relaxation is an important reason for half of the respondents, and only 28 percent of them prefer risk as a motive for sports activity.

Table 4 Motives of sports activity* (n=351)

Motive	Percentage
Fun	89
Health	72
Social experiences	64
Relaxation	49
Risk	28

* multiple-choice answers, sum of % is >100 Source: own studies, 2015

The results in Table 5 apply only to respondents who were investigated in the summer of 2015. The most popular kind of sport is hiking which was chosen by 69% of surveyed tourists. Around half of the respondents prefer mountain cycling and jogging as their favorite forms of sports activity. Furthermore, Nordic walking (as a new trend), swimming as well as the different games are also popular among the tourists in Berchtesgaden. Some of them prefer dangerous sports such as climbing (16%) and paragliding (12%). This confirms the choice of risk as a sport motive among some respondents (Table 4).

Table 5 Summer sports practiced by tourists in Berchtesgaden* (n=186)

Kind of sport	Percentage
1. Hiking	69
2. Mountain cycling	54
3. Jogging	48
4. Nordic walking	43
5. Swimming	37
6. Tennis	33
7. Golf	28
8. Team sport games	24
9. Climbing	16
10. Paragliding	12

* multiple-choice answers, sum of % is >100 Source: own studies, 2015

The results in Table 6 apply only to respondents who were investigated in the winter of 2015. As expected, winter sports, such as alpine skiing (67%), snowboarding (51%) and cross-country skiing (47%) are the most popular forms of sports activity among tourists in Berchtesgaden. One third of the respondents prefer snow hiking and ski tours as favorite kind of sport. Furthermore, some tourists who stay in Berchtesgaden in winter practice ski mountaineering, as a new winter alpine sport discipline.

Table 6 Winter sports practiced by tourists in Berchtesgaden* (n=165)

Kind of sport	Percentage
1. Alpine skiing	67
2. Snowboarding	51
3. Cross-country skiing	47
4. Snow hiking	36
5. Ski tours	32
6. Ice stick shooting	27
7. Skating	24
8. Sledging	22
9. Ice hockey	15
10. Ski mountaineering	9

* multiple-choice answers, sum of % is >100 Source: own studies, 2015

The results in Table 7 confirm that the visitors are very active while sports, especially 22% of them with more than six hours per day. One third of them are active between two and four hours per day and one quarter between four and six hour sports activity per day.

Table 7 Duration of sports activity of tourists in Berchtesgaden (n=351)

Duration (hours per day)	Percentage
More than 6 hours	22
4-6 hours	26
2-4 hours	32
1-2 hours	12
Less than 1 hour	8

Source: own studies, 2015

The respondents had an opportunity to evaluate the possibilities for recreational sports in Berchtesgaden (Table 8). The majority of them (83%) considered these possibilities to be good and only 6% considered them to be poor. These results confirm that Berchtesgaden is a very attractive tourism centre, especially for visitors who are interested in practicing sports.

Table 8 Opinion of the respondents towards the possibilities for doing sport in Berchtesgaden (n=351)

Possibilities for practicing sport	Percentage
Good	83
Average	11
Poor	6

Source: own studies, 2015

DISCUSSION

Berchtesgaden is a very popular and sport tourism village in the Bavarian Alps. Here come over 518,233 visitors each year and ca. 2.31 million overnight stays are registered. Main reasons are the location in the mountain region and many possibilities to practice sports both in summer and in winter and summer. Furthermore, Berchtesgaden is state- recognized as a health and spa resort. Tourism in Berchtesgaden has developed in the recent years. This applies to categories the numbers of visitors and overnight stays (Tourism Office, 2016). Own research

results confirm that the tourists in Berchtesgaden are very active in sports both in summer and in winter. One third of respondents practice sport between two and four hours per day and one quarter of them need more than six hours per day. The most popular form of sport among tourists who stay in summer is hiking. Furthermore, mountain biking, jogging, Nordic walking and sport games are also popular. Lutz (2002), Lohmann (2002) und Hadzik et.al (2015) present the similar results, especially the great popularity of hiking among tourists in different alpine regions in Germany. In winter, the visitors in Berchtesgaden prefer typical snow sport activities such as alpine skiing, snowboarding, cross-country skiing and snow hiking. The similar results were found by Sawicki (2013, 2014), Schwark (2006) and Weber (2008). According to own research, the most important motives for the recreational sport activity of respondents are fun, health and social experiences. The majority of tourists surveyed consider that the possibilities for practicing sport in Berchtesgaden are good. These results are confirmed by the Tourism Office in Berchtesgaden (2016).

CONCLUSIONS

1. Berchtesgaden is a very important and popular sport tourism destination.
2. The main purpose of tourists to travel to Berchtesgaden is practicing sport.
3. The most popular summer sports is hiking and in winter alpine skiing.
4. The most important motives for sports activity are fun and health.
5. Most of tourist examined in Berchtesgaden prove sport activity between two and four hours per day.

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ŠPORTOVÉ AKTIVITY A TURISTIKA V BERCHTESGADENE - JEDNOM Z NAJDÔLEŽITEJŠÍCH ŠPORTOVÝCH CENTIER V NEMECKU

SÚHRN

Berchtesgaden je známe turistické a športové centrum v Nemecku. Je jedným z najnavštevovanejších nemeckých turistických destinácií, Berchtesgaden ponúka veľa možností pre prevádzkovanie rekreačného športu v lete aj v zime. Cieľom tohto článku je ukázať dôležitosť Berchtesgaden ako športového centra. Autori pripravili a realizovali špeciálny dotazník s cieľom posúdiť niektoré položky športového cestovného ruchu medzi respondentmi. Výskum bol vykonaný v roku 2015 medzi 351 dospelými turistami v Berchtesgadene. Hlavným účelom návštevy Berchtesgaden je prevádzkovanie športu. Medzi najpopulárnejšie športy v lete patrí pešia turistika, jazda na horskom bicykli a jogging. V zime prevládajú alpské lyžovanie, snowboarding a beh na lyžiach. Najdôležitejšie motívy na precvičenie rekreačného športu sú zábavné, zdravotné a sociálne skúsenosti.

KLÚČOVÉ SLOVÁ: Aktívne športovú turistiku, Berchtesgaden, Nemecko.

SELECTED PERSONALITY CHARACTERISTICS OF COMPETITORS IN THE TOP ACROBATIC SKIING AND SNOWBOARDING

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SUMMARY

The goal was through TCI-R (Cloninger, 1999) Cloninger's questionnaire temperament and character to ascertain the level of selected personality characteristics chief of competitors in acrobatic skiing and snowboarding. The group consisted of two top competitors aged 21 and 31 years, during ski season 2014/2015 represented the Slovak Republic at the top of world events in the discipline Slopestyle. The first test took place on 2/10 2015 Dr. psychological clinic. M.Š. in Liptovský Mikuláš, in the clinical setting. All obtained results were compared with each other and evaluated. Among racer we saw different character and temperament traits that are relevant Cloninger's questionnaire.

KEYWORDS: skiing, snowboarding, personality traits, temperament

INTRODUCTION

In the present is snowboarding and acrobatic skiing one of the most progressive developing sports. Snowboarding and acrobatic skiing have become a big phenomenon, that must be respected by everyone, who do winter sports. Over time it has strengthened its position and it can't be considered only as new supplement or youth's entertainment, how it was in its beginning. All age categories have got to like snowboarding and acrobatic skiing thanks to its quite easy adoption, experience from ride and pleasant survival in the natural surroundings. Many authors (Birner and coll., 2012; Pach, 2006; Michal, 2009; Straňavská, 2015) are talking about snowboarding as about such an attractive sport, which has become a favourite winter sport in the short time.

In the present sport, in the trend to serve the best results with maximal efforts, usually happens that by everyday training's amount, which is often higher and higher from one year to another, gets the sportsman's body to its limit, both physical and mental. Because of this we have focused in our work on the compensation of mental peace of mind by our female racers. The organism is able to adapt itself to the certain load, but by a high load it must come to the

right, regeneration too (stretching, active or passive rest, compensatory exercises, etc.). With this is closely related sportsman's nourishment too (food plan, water intake, right regime). These parts should be closely related in order to come to right power's compensation. The sportsman's performance depends to a certain extent on inherited suppositions too. Every sport branch and discipline places specific demands on the development of coordination abilities (orientation, fast reactions on signals which come from outside, to be able to identify muscular tension and its release) (Svoboda, 2003).

AIM

The goal was to find out the level of selected personality characteristics of top female racers in an acrobatic skiing and snowboarding.

METHODOLOGY

This research has been focused on ascertainment of influence of selected personality characteristics of top female racers in an acrobatic skiing and snowboarding. Two female racers from Slovak skiing association in winter season 2014/2015 attended the research. A racer in snowboarding K.M. (aged 21) and acrobatic skier NS (aged 31). The first testing was on February 10th, 2015 in the psychological ambulance of M.Š. in Liptovský Mikuláš in clinical circumstances. We used a test TCI-r (Cloninger, 1999). Cloninger understands a personality as a stepped system which consists of different measurable psychological temperament's dimensions (novelty seeking, harm avoidance, reward dependence, persistence) and a character (self-control, kindness to cooperate, exceeding of yourself) which enable considering differences between people.

TCI-r (Cloninger, 1999) Cloninger's questionnaire of temperaments and characters is divided as follows:

Novelty seeking /NS/:

- Corresponds to behavioural activation system
- Is an inborn inclination to activate behaviour like investigation of new impulses, inclination to impulsive actions, excessive reward seeking, inclination to lose patience easy and to avoid frustration
- Is distinguished by low activity of a dopaminger system

Harm avoidance /HA/:

- Corresponds to behavioural inhibition system

- Is an inherited disposition towards to inhibition or suppressing of behaviour, what shows as pessimism, fear with tendencies to anticipate future problems, inclination to behaviour avoidance in consequence of fear of insecurity or mistrust to unknown people and inclination to fast exhaustion

Reward dependence /RD/:

- Behavioural system of dependence
- Is an inherited disposition towards to maintaining and continuing with current behaviour
- It shows in such forms of behaviour as oversensitiveness, creating of social relations, dependence on recognition of other people and inclination to react intensively on rewarding impulses

Persistence /P/:

- Represents behavioural system of persistence
- Means resistance towards to frustration and fatigue

Self-directedness /SD/:

- Refers to a perception of "myself" as integrated, meaningful and comprehensive individual
- Is a main determinant of attendance or absence of person's disorder (the self-directedness is lower, the possibility of disorder's attendance is higher)
- Is connected with an ability to identify goals and to work on their achievements, with an acceptance of responsibility for own actions

Cooperativeness /C/:

- Includes social acceptance, empathy, kindness to help, sympathy, honest and frank intentions
- The ones, who cooperate feel that they are an inseparable part of a community

Self-transcendence /ST/:

- Includes a state of consciousness, within the frame of which is everything a part of one group
- In this state exists no individual "Myself", because doesn't exist any significant difference between "Myself" and the rest of the world - the individual is aware of the fact that he is an integral part of the universe and its evolution
- Is the state of an acceptance, an identification or a spiritual unity with the nature (Cloninger, 1999).

RESULTS

As the first we have appraised a representative of snowboarding, K.M.

On the ground of total score of a questionnaire TCI, we have found out lower rate of harm avoidance. It shows as pessimism and waiting for future problems. We may observe fear of insecurity, intensive reactions on awkward situations as well as getting tired fast.

Besides we have noticed a change in an increase of self-transcendence. This dimension is grounded on understanding "Myself" as an integral part of the universe. From this view come out feelings of mystical requisites and patience.

As the second we have appraised a representative of acrobatic skiing, N.Š. and her results in Cloninger's questionnaire. In the total score have come the changes in two ranges only.

First is novelty seeking /NS/. It goes about inherited ground for an exploratory activity, reacting to new situations, impulsive solutions to problems, rapid changes of mood, strong reactions on pleasant impulses and frustration avoidance. Here we have noticed an increase of values.

The second range with different values is cooperativeness /CO/. It is a dimension, which is connected with understanding "Myself" as an integral part of humanity and society. With cooperativeness are connected feelings of requisite, empathizing, conscience and charity. On this place we have noticed decrease of measured values. Other measured values are same as measured values in total score of the first representative.

In the results in the test TCI-r (Cloninger, 1999) we have appraised and compared the same values from Cloninger's questionnaire of temperament and characters of both addressed female racers.

Next, we have explored into details all the changes in racers' behaviour. The change has come in the range impulsiveness /NS2/ versus reflection. A high value in this subdimension means emotional, dramatic, impressive and quick-tempered behaviour. By the racers we have measured a higher value of NS2, what means that it predestines her to quick-tempered behaviour.

The next measured value has been anticipation worry /HA1/ (means worries about future and pessimism). The high values in this subdimension refer to two major tendencies in racers' behaviour. Here we have noticed a decrease, what means lower fear with a tendency to be worried and to wait for injury or failure. This is mostly seen in hazardous, unknown and dangerous situations.

We have noticed a lower value of fear of uncertain /HA2/. The racers prevent tension and anxiety in unknown and shaky situations. People with low score look confidently, composedly, they feel sure in the situations, which others don't like or which others consider as hazardous. It means that they like risking too. They prefer fast rides on the snowboard and ski to a passive spending of free-time.

The next change has been in the range eagerness of effort /PS1/. Here we have noticed a decrease. People with lower values in the score with work begin very slowly, even in the

situations, when it goes about easy work. With higher difficultness increase their unwillingness to work. It means that after using of compensatory exercises in the following period we will be awaiting a higher desire to work (work=training).

The next change in the questionnaire has been in principle /CO5/ (means selfish profits). People in this subdimension are considered as honest, frank and conscientious. In this case we have noticed a decrease, what means that the individual with a low score is described as an opportunist; he is able to do everything for achieving his goals.

In the last range self-forgetfulness /ST1/ we have noticed an increase of values. It follows that the individual with a high value in this subdimension has a tendency to exceed his limits, when he is deeply immersed in a relation or in concentrating on a performing activity (snowboarding/skiing).

CONCLUSION

The results of this work document the level of selected personality characteristics top female racers in acrobatic skiing and snowboarding, representatives of Slovak skiing association in 2014/2015. By comparing the results we have found out that the racers have very similar personality characteristics, even through that although it goes about the same fields oriented on winter sports, are these two sports different. On the ground of total score of a questionnaire TCI-r we have explored similar personality characteristics in harm avoidance /HA/ and a change in increase of self-transcendence /ST/.

How much is the sport training long term, goal-directed, pedagogical process, whose goal is to achieve the best performance. The present level of productivity in snowboarding and skiing requires work with talented individuals only, who are endowed with all conditions to achieving of top performance. Should the snowboarding and skiing training be the most effective, it has to come out from inherited conditions and it has to correspond to physiological characteristic of specialization on selected discipline (Gurský, 2005).

To secure the full effect so developed training system is necessary to adhere to right life regime, nutrition and psychohygiene, as well as psychological preparation, on which is no emphasis in the present period put. These factors influence productivity of snowboard man and acrobatic skier.

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VYBRANÉ OSOBNOSTNÉ CHARAKTERISTIKY VRCHOLOVÝCH PRETEKÁROK V AKROBATICKOM LYŽOVANÍ A SNOWBOARDINGU.

SÚHRN

Cieľom práce bolo prostredníctvom TCI-r (Cloninger, 1999) Cloningerovho dotazníka temperamentu a charakterov zistiť úroveň vybraných osobnostných charakteristík vrcholových pretekárov v akrobatickom lyžovaní a snowboardingu. Súbor tvorili dve pretekárky vo veku 21 a 31 rokov, ktoré počas lyžiarskej sezóny 2014/2015 reprezentovali Slovenskú republiku na vrcholových svetových podujatiach v disciplíne Slopestyle. Prvé testovanie prebehlo dňa 10.02.2015 v psychologickej ambulancii PhDr. Miloša Šlepeckého PhD. v Liptovskom Mikuláši, v klinických podmienkach. Všetky získané výsledky sme navzájom porovnali a vyhodnotili. Medzi pretekárkami sme zaznamenali rozdielne charakterové a temperamentové črty, ktorých sa dotýka Cloningerov dotazník.

KLÚČOVÉ SLOVÁ: lyžovanie, snowboarding, osobnostné charakteristiky, temperament

ATTITUDE OF STUDENTS OF THE TECHNICAL UNIVERSITY IN ZVOLEN TOWARD PHYSICAL AND SPORT-RECREATIONAL ACTIVITIES

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SUMMARY

The paper devotes to the subject of students of the Technical University in Zvolen and their attitude toward physical and sport-recreational activities and its presence in their everyday life. The subject matter of the paper corresponds with the previous research works of the authors Baisová - Kružliak, following the interpretation of the research from 2011 and from 2014. The results are compared with our latest research and present the major part of the following paper.

KEY WORDS: physical activities, sport activities, attitude toward sport, reasons for not engaging to sport, motivation for doing sport

INTRODUCTION

For all young healthy people it is natural to move freely, or to develop their motor skills in sport activities they are particularly interested in. But in our everyday practice we meet with the fact that it is not always so ideal. Young people often do not know or do not want to develop a routine to do regular exercise, which brings along also risk of worse physical or overall health condition. Therefore the main task of specialised physical education pedagogic staff is to motivate them and continually offer variety of physical and sport activities for students at the university level within the classes of physical education, as well as a part of extra curriculum activities.

Physical health is often connected with natural health which means especially ones' subjective perception of their human body. If nothing seriously hurts us, we are more or less content about the proper functioning of our physical systems, which can be understood as ones' own well functioning physical health (Kukačka,2011). Well functioning organism must be physically loaded on regular bases so that the body system works as it was naturally given. Suitable motivation can lead us to the state when exercising becomes pleasure and people do not even realise the importance and how much they have done for their organisms.

From the point of view of university physical education teachers it is an ideal time when with their professional attitude they can influence the forming process of their students' individualities. One of the many motivating factors to obtain this aim (which can be also the change in lifestyle of a university student) is the possibility of many sport and recreational activities both during the classes as well as out of school activities. With their scope of activity they offer a wide variety of sports in which each student can find a suitable one. Sport activities can become students' common necessity in life which creates pre-requisite that they will continue in sport activity also after finishing their studies (Kružliak, 2011). The authors dealing with this subject matter Valjent (2010), Kružliak (2011), Baisová, Kružliak (2015), Michal(2002), Michal (2010), Straňavská (2015) speak about sport activities of university students more in terms of fun, relax, compensation of psychical work by physical one and in terms of active recreation. Their results show that one of the main reasons for not doing physical activities as a part of university students' daily routine is mostly lack of free time even though they consider health to be one of the most important aspects of their lives. Searching for other reasons leading to the lack of interest in regular sport activities we can offer new solutions and so we can create conditions which will be of a motivating character and which will lead to active regular sport activity.

AIM

Using the questionnaire method we wanted to find out the attitude of the students of the Technical University to sport-recreational activities as well as their attitude toward the physical education classes. The obtained data were compared with our previous research carried out at the Technical University in Zvolen.

METHODOLOGY

The research was carried out during the classes of physical education in academic year 2015/2016 and it focused on finding the attitude and interest of the Technical University in Zvolen students in sport-recreational activities, their attitude and interest in optional subject physical and sport education and in physical-recreational activities performed in their free time. Due to the fact that the questionnaires were distributed to students during physical education classes the feedback was 100%. We distributed the total of 270 anonymous questionnaires out of which we excluded 5 questionnaires due to inconsistent answers. Respondents studying from 1st to 5th year at the TU in Zvolen were according to gender divided into two categories male – 168 students and female – 102 students. The aim was to find out their attitude towards physical

movement, sport activities both in their free time as well as within their university study in their optional subject physical education. After collecting and processing the data we were assessing their interest in their selected sport activity, time frame for these activities and their interest in sport which sports they did not find in our list and they would potentially welcome. The average age of the respondents was 21.8 years.

RESULTS

Ranking of value priorities in all three research activities was generally the same. The first and second place rank the same importance that means health and family. The change is in the third place where in contrast with the previous year the respondents ranked friendship. We were surprised by this ranking since young people are becoming more individual as in the past therefore we tend to think that lack of interest in families leads youngsters to meeting and forming communities with peers of the same age and interests which leads to creating strong emotional bonds (table 1).

Table 1 Ranking of value priorities

Rank of value priorities					
1.	Health	4.	Education	7.	Sport
2.	Family	5.	Money	8.	Physical activity
3.	Friendship	6.	Happiness	9.	Appreciation

In the question of the meaning of sport-recreational activities in the life of university students we expected the overall decrease of the interest in these activities which was proved also in the collected responses. Out of 72.14% of positive answers from 2014 if sport-recreational activities are part of my life, only 61.2% respondents reacted in a positive way. There was a considerable increase in number of respondents who consider sport activities not to be necessary from 2.10% - research of 2014 up to present 11.56% (table 2).

Table 2 Importance of sport-recreational activities in lives of students

IMPORTANCE of sport-recreational activities in life		
1.	Part of my life	61.20%
2.	Time-to-time activity	27.24%
3.	No importance	11.56%

When considering the respondents' opinions on active attitude to sport we have to state that the assumption of lower number of students devoting actively to sport proved as true. If we monitored prevailing active attitude to sport activities over a negative one in our previous

research (2014 – 50.65% active attitude, 49.35% passive attitude), presently the ratio is negative 44.16 % to 55.84% (table 3). From other responses we can also find out the shift of main reasons for irregular sport activity.

Table 3 Students' attitude to sport activities

Active sport activity			
YES	44.16 %	NO	55.65 %

As mentioned in the research from 2011 (50.15%) and from 2014 (59.12%) it has also shown the fact, that higher percentage of respondents are interested in other activities rather than regular sport activity – 56.14% respondents (table 4). When selecting other types of answers, nothing changed substantially and the answers copy the previous results while respondents had a chance to choose from more options. Similar results shown also in the research of Valjent (2004), who carried out a similar research on the sample of students at the ČVUT. In his research we can see similar main reasons for not doing sport activity, while 45.9% respondents state, that during their study, they have a problem to synchronise and include physical education into their timetable with other subjects.

Table 4 Percentage ratio of offered possible answers – possibility to choose from a variety of options – Main reasons for sport passivity

Main reasons for sport passivity					
1.	No attraction to sport	21.66%	7.	Sport is not necessary	3.01%
2.	No reason to do sport	7.89%	8.	Prefer other activities	56.14%
3.	No talent for sport	0.11%	9.	Not enough time	28.31%
4.	No supervision	11.24%	10.	No sport sparring partner	5.44%
5.	Financial problem	3.12%	11.	Heath problems	12.34%
6.	No suitable premises	10.71%	12.	Other	6.67%

As in the last research, study – learning reaching 63.41%, is becoming the most significant competitor to regular sport activity (table 5). High percentage ranks for PC work (52.16%),

which proves the information that working with PC and other information technology devices are actually an inseparable part of everyday life not only for young people.

Table 5 Percentage ratio of offered possible answers – possibility to choose from a variety of options – Preference of other activities rather than sport activities

Preference of other activities rather than sport					
1.	Music	8.31%	6.	Reading	5.31%
2.	Other interests	16.19%	7.	Other creative hobbies	9.12%
3.	PC work	54.13%	8.	Social and culture life	2.21%
4.	Watching TV	3.32%	9.	Study - education	63.41%
5.	Passive relax	8.03%	10.	Other	4.77%

In the question of specific physical activities preference there is a tendency for the growing preference in individual sport activities over team ones. At the TU in Zvolen, the major part for male individuals represent power activities – bodybuilding, fitness and cross fit with 61.14%. From team sports among popular belong floorball 15.16% and football 16.21%. For these sports the TU has been organising long term annual tournaments, which were in 2015 joined by over 200 students. Other answers from the given options are comparable with the interest from previous research. To compare our research with one of Valjenta (2004) we can observe that students at the ČVUT prefer in their free time cycling, running - jogging, swimming, fitness exercises, football, hiking, tennis, basketball and volleyball.

Table 6 Percentage ratio of offered possible answers – possibility to choose from a variety of options – Preference of free-time physical activities

Preference of free-time physical activities					
1.	Running – jogging – biking	12.22%	11.	Badminton	9.22%
2.	Hiking – touring by water	17.14%	12.	Tennis	8.41%
3.	Swimming	9.63%	13.	Table tennis	8,30%
4.	Mountain climbing – bouldering	6.53%	14.	Skating - In- line skating	3.31%

5.	Bodybuilding- fitness- CrossFit	61.14%	15.	Hockey –floorball –hockey ball	15.16%
6.	Aerobic – Zumba - dancing	0.95%	16.	Gymnastics – acrobatics	0.02%
7.	Football	16.21%	17.	Skiing- cross-country skiing – snowboarding	11.32%
8.	Volleyball	8.15%	18.	Shooting – archery	1.32%
9.	Basketball	4.16%	19.	Unconventional sports	0.36%
10.	Handball	0.73%	20.	Other	9.56%

The frequency of sport physical activities of students during academic year at the TU in Zvolen also depends on the possibilities for sport activities which correspond with the work of the Institute of Physical Education and Sport at the TU. The institute offers its students a wide range of sports and activities which students can attend. This fact also corresponds with the answers of students on their frequency of sport activities during a workweek. The frequency has not changed, we noticed only small drop in sport activities performed twice a week from 54.13% in 2014 to present 51.16%. On the other hand there was a slight increase in the number of respondents who do not do any physical activities from 9.22% to 13.26% (table 6).

On contrary to previous survey we can see a significant change in the frequency of sport physical activities performed 3 times a week, 9.52% compared to 2011 - over 50.00%. Similarly, with the previous survey the biggest number of respondents does sport activities twice a week 54.13% and 27.13% once a week. The mentioned change in the conditions of the TU in Zvolen can be due to the fact that our students cannot afford to do sport activities more often because of lack of time.

Table 7 Frequency of sport – physical activities

Frequency of sport – physical activities		
1.	Once a week	28.47%
2.	Twice a week	51.16%
3.	Three times a week	7.11%
4.	No activity	13.26%

As main reasons for doing sport activities at the TU in Zvolen, most respondents 49.15% listed, that they do sport to improve the quality of their lifestyle which does not correspond with the previous answers. But once students decided to do sport regularly, this is what they give as the main reason. Same results were also in 2014 (47.35%). Interesting fact is that the number of respondents who chose physical education due to health problems dropped considerably to 6.15%, (2014 with 16.18%) (table 8). This fact does not mean that the TU in Zvolen is attended only by healthy students, but it is based on the fact that we did the research on students who visit regular physical education classes and are without health troubles. Physical education classes for students with health troubles are only in form of swimming, which are due to financing of the communal swimming pool presently unavailable.

Table 8 Reasons for attending physical education at the TU in Zvolen

Reasons for attending physical education at the TU		
1.	Physical activity and sport is part of my lifestyle	49.15%
2.	Suitable for spending brakes in my schedule	8.23%
3.	Obtaining credits for attending physical education classes	9.25%
4.	Body forming and keeping fit	27.22%
5.	Health benefits	6.15%

As we try to offer the same range of sports at the TU in Zvolen, we can state that on contrary to previous research results, the percentage of the interest in various sports has not changed. We also offered such sports which are possible to be performed in our conditions and students are interested in (cross fit and archery) as a part of our regular physical education classes' offer. In the area of out of school physical education activity, students can sign for physical activities courses by the sea or paragliding.

Table 9 Percentage ratio of offered possible answers – possibility to choose from a variety of options – Interest for particular sports offered by the Institute of Physical Education and Sport at the TU

Interest for particular sports offered by the Institute of Physical Education and Sport at the TU					
1.	Volleyball	25.15%	9.	Aerobics	0.96%
2.	Basketball	13.78%	10.	Bouldering	16.89%
3.	Football	54.32%	11.	Hiking	3.55%
4.	Floorball	27.36%	12.	Swimming	11.27%
5.	Badminton	64.28%	13.	Cross Fit	29.88%
6.	Tennis	11.33%	14.	Archery	16.37%
7.	Table tennis	21.39%	15.	Unconventional sports	2.12%
8.	Body building- fitness	86.29%	16.	Adrenaline sports - courses	11.28%

During the research in 2014 we saw the interest in new forms of physical education activities at the TU in Zvolen. We promptly reacted to this interest and the activities became the part of our regular classes offer (table 9). Cross fit and archery found its place among these sports and there is the continual demand for these sports, on the other hand the interest in ballroom dancing dropped and we have not included it in our offer anymore. Ballroom dancing is though available only as a form of course. In the present survey we have listed such areas for which we are able to create suitable conditions and such sport activities which are of students' interest. The biggest interest was in adrenaline sports which due to our capacities can only be offered to students in a course form.

Table 10 Percentage ratio of offered possible answers – possibility to choose from a variety of options – Lacking sport activities at the Institute of Physical Activity and Sport at the TU

What sports do you lack at the Institute of Physical Activity and Sport at the TU		
1.	Dancing sports	11.07%
2.	Rafting	25.11%
3.	Fitness swimming	9.13%
4.	Biking	16.98%
5.	Adrenalin sports	49.17%

6.	Skating	21.88%
7.	Hockey	23.88%

From the point of view of time there are no changes compared to the previous survey, because respondents in both cases prefer to attend physical education classes in late afternoon hours 71.80% (table 11). The interest in evening classes grew to 19.54% due to long and busy timetable at school. To do sport in the morning is interesting only for 1.38% of respondents but nevertheless we are still trying to create suitable conditions also in this period of time especially for body building, bouldering, or badminton.

Table 11 Suitable timetable for physical education classes

Suitable timetable for physical education classes		
1.	Morning	1.38%
2.	Afternoon	7.28%
3.	Late afternoon	71.80%
4.	Evening	19.54%

As for frequency, majority of students 82.44% voted for having physical education once a week (table 12). For those interested in other forms and more frequent physical activity, this is organised in the club form at the Institute of Physical Education and Sport and allows them to exercise on frequent bases.

Table 12 Frequency of physical education classes at the Institute of Physical Education and Sport at TU in Zvolen

Interest in more frequent physical education classes		
1.	More than once a week	8.55%
2.	Once a week	82.44%
3.	According to personal preference	7.28%
4.	Do not know	1.73%

Except sport activities during physical education classes, students go for sport also out of school and the ratio is comparable with our previous research. There is a slight increase in occasional sport activities and bigger amount of those who do no sport activity at all. The

percentage of those who devote to sport also out of school has dropped from 34.33% in 2014 to 32.33%.

Occasional sport activity was listed by 51.33% of the respondents which seems to be an acceptable information compared to the previous questions results, where slightly below 50.00% of respondents voted for active approach to sport activities (table 13).

Table 13 Interest in sport activities besides regular physical education classes

Interest in sport activities besides regular physical education classes		
1.	Yes	32.33%
2.	Only occasionally	51.33%
3.	No	17.34%

Motivation for regular sport activity via physical education classes at the TU in Zvolen influences 10.54% of the respondents. It is 2.04% less than it was in the 2014 research. This depicts the reality of the overall drop of interest in regular sport activity, which was visible in the results of many other research surveys. High percentage, up to 59.14% respondents cannot say what motivates them but at the same time the number of motivated respondents has slightly grown by 3.15% compared to the previous research from 2014.

Physical education within the classes as a motivating factor for further sport activities is considered only by 10.54% of the asked which corresponds with the previous research. 59.14% were not able to say what motivates them to do sport and 27.51% of the respondents were motivated even before their university study (table 14).

Table 14 Motivation for other sport activities organised by the Institute of Physical Activity and Sport at the TU

Motivation for other sport activities organised by the Institute of Physical Activity and Sport at the TU		
1.	Yes	10.54%
2.	No	2.81%
3.	Motivated from the previous semesters	27.51%
4.	Do not know	59.14%

CONCLUSION

When processing the obtained data from our recent survey we can state that the information corresponds with the 2011 and 2014 TU in Zvolen survey results. The ranking of value importance has not changed which means that family and health are crucial in students' lives value hierarchy. Interest in active sport activity dropped surprisingly, which can be explained by the overall drop of interest of young people in regular sport activity. Similar results can be found also in survey research of other specialists dealing with similar subject matter. This information can be linked also with one of the major reasons why TU respondents prefer other activities rather than regular sporting. One of the most serious competitors to sport is study itself reaching 63.41%. The most burning issues why this situation arose were revealed by the research of Valjent (2010), who based on discussion with students states that it is rather demanding to combine school activities with new job duties, part time jobs students have to improve their financial situation or to prepare for their future full-time jobs.

Those students who do devote to regular physical activity stated, that they mostly prefer individual sports such as body building, cross fit. As for team sports the foremost places take football or more and more popular floorball. Gradually lowering interest has been noted for volleyball and basketball, former topmost popular academic sports. The survey research from previous years showed that interest in sports such as archery and cross fit which we implemented into our timetable at the Institute of Physical Education and Sport has grown. Present survey showed that there is growing interest in various forms of adrenaline sports which though cannot be part of regular timetable. These are only offered in a form of courses limited by the length of individual courses. At the TU in Zvolen we co-organised paragliding course as well as course of physical activities by the sea where students could try water skiing and diving. From other research we have the information that students prefer evening hours for doing physical activity. 82.44% of respondents agree that they as for frequency they do sport regularly once a week. Related to other activities at the premises of the Institute of Physical Education and Sport all the evening time cannot be devoted only to students, the classes must be also organised in morning and in the afternoon timetable. The fact if the classes at the university motivate students to do other sport activities could not say up to 59.14% respondents. Even though still more than half 51.33% of the respondents stated that they do devote to sport occasionally also out of school.

Published results of the research showed the view of students on physical activities, which they can do at the TU in Zvolen as well as other factors creating the overall picture of their interest in sport in general. The result is not critical but warning. During the monitoring period from 2011 to 2015 we traced continual drop of general interest in active sporting. All physical activity people concerned must cope with this reality and should look at sporting also from the other side – from the prospective of young people and their view on the world where everybody should try to find their purpose and aim to feel better and healthy with corresponding physical fitness. Therefore we should take these and similar surveys responsibly to create more attractive environment for regular sport activity.

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VZŤAH ŠTUDENTOV TECHNICEJ UNIVERZITY VO ZVOLENE K POHYBOVÝM A ŠPORTOVO – REKREAČNÝM AKTIVITÁM

SÚHRN

Príspevok je orientovaný na problematiku vzťahu študentov TU vo Zvolene k pohybovým a športovo - rekreačným aktivitám a ich miestu v každodennom živote. Problematika nadväzuje na predošlé výskumy autorov Baisová - Kružliak, mapujúc interpretáciu výsledkov z roku 2011 a z roku 2014. Tieto výsledky sú porovnávané s posledným výskumom a tvoria základ záverov tohto príspevku.

KLÚČOVÉ SLOVÁ: pohybové aktivity, športové aktivity, vzťah k športovaniu, dôvody nešportovania, motivácia k športovaniu

A LEVEL OF SPECIAL KINETIC ABILITIES OF AMATEUR WRESTLERS

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SUMMARY

The goal of this study was to find actual level of special kinetic abilities of amateur wrestlers. We tested 6 amateur free style wrestlers in men category. We found, that the highest level of special kinetic abilities of wrestlers within test, in comparison to top-wrestlers, had wrestlers in a “4M hands climbing“ test, in which we evaluated dynamical strength of upper limbs. In comparison with the results of top-wrestlers in a senior category, publicized in the study of Curby (2010), wrestlers achieved worse average rates than 0, 34 seconds. In other tests “special dexterity, 10 throws of dummy with layback and “a dumbbell row in a lying position to a breast” our amateur wrestlers achieved worse values than top-wrestlers. The lowest level of values had our sportsmen in the test “dumbbell row in a lying position to a breast“ in which in comparison with a study of Štefanovský (2015), level of values is worse than 43, 62 % in comparison to junior and senior wrestlers in SR (n=10).

KEY WORDS: wrestling, kinetic ability, tests.

INTRODUCTION

Đurech et al. (2000) describes wrestling as “martial arts fight of two wrestlers in the same age and weight category, the both of them are trying to win with a help of technical activities – hold/antihold and with the rules, by throwing a rival down on the shoulders or to gain a points ascendancy“.

Wrestling is an interval type workload with a repeating intensity. Intensity is defined from a medium to maximum. Execution in wrestling takes 6 min, 2 rounds of 3 minutes with a 30s break. Usually 3-5 s: intensive activity, 15-20 s: mildly intensive activity (Tumanjan 1984).

Wrestling is a power-speed sport. It accentuates level of conditional abilities and it is very complicated for realignment complicated activities, balance, orientation, speed reaction

and motion changes (Ďurech 2003). In wrestling, the strength has important role, mostly dynamical strength, endurance and statically strength of body and arms.

A speed in wrestling has a great role in a relation to a velocity reaction and velocity to touch impulse. Developed ability to perceive impulses at rival's hold or another contact with rival, allows to react subconsciously on the rival's change of muscle stretch, breathing, changes of gravity center and thereafter to predict any changes.

Dexterity as an another kinetic ability is developing relating to hold technique and is expressed in variability and adaptability of technique. Very important are also sensomotorical abilities – perception and precision of motion (Štěpánek et al. 1990).

Evaluation of the wrestlers' workout level is complicated process because just a few special standardized tests exist and laboratory testing is not able to simulate wrestlers motions. Even then, the wrestlers in senior category are diagnosed with unspecific tests (Žara 1995; Laczó et al. 1976; Perič et al. 2010).

AIM

The aim of this study was to find the actual level of special kinetic abilities of amateur wrestlers.

METHODOLOGY

During research of special kinetic abilities of amateur wrestlers from ŠKP Banská Bystrica club, we worked with 6 senior sportsmen. The average age of men was 27 years. The oldest sportsman was 36 years old and the youngest 18 years old. Testing of amateur wrestlers was in March 2016. Examiner of testing was post-graduate student from Department of Physical education and Sport in Banská Bystrica. Tested wrestlers were sportsmen from men category who are wrestling in an average $11,33 \pm 5,5$ years.

Tab. 1 Basic characteristics tested wrestlers (values are shown as mean \pm standard deviation)

Sportsmen (number)	Age (years)	Sports practice (years)	Non-competitive weight (kg)	Competitive weight (kg)
1.	26	12	69	70
2.	30	14	100	97
3.	36	11	72	70
4.	27	20	73	70
5.	18	6	70	70
6.	25	5	80	76
Mean \pm SD	27, 0 \pm 5, 93	11, 33 \pm 5,50	77, 33 \pm 11, 76	75, 17 \pm 10, 82

We used a battery test to evaluate special kinetic activity. By testing “rope climbing from a sitting position” we were evaluating dynamical strength of upper limbs which are used for all wrestling techniques with a goal to deflect rival away from stability area. We calculated the strength of upper limbs with FITRO DYNE machine during the testing of “a dumbbell row in a lying position to a breast”. The strength is used by wrestlers in all techniques of pose throwing, which wrestlers are trying to do in a minimal time with a maximal strength effort. We evaluated special cyclical speed of wrestlers with a test – “10 time throwing of dummy with layback (37kg)”.

In a wrestling, we use cyclical speed with repeated line-ups of throwing. Special dexterity and flexibility of back muscles we evaluated with a test “A change of position from bridge face down to bridge face up by moving feet (5 times to the left, 5 times to the right) ”. This test is useful for wrestling in an opponent spinning, in a pose and in technique running away from dangerous poses.

We used arithmetic mean, percentage composition and standard deviation (SD) for elaboration of the results.

RESULTS AND THE DISCUSSION

In the research with 6 sportsmen of 18-36 years, we found that the average weight of sportsmen is 77, 33 kg. In the first test “rope climbing from a sitting position without a pushing” we evaluated dynamical strength of upper limbs. The results analysis of dynamical strength showed, that average value of amateur sportsmen from ŠKP Banská Bystrica club during “the 4m hands climbing from a sitting position” is on the level of 6, 93 second (fig.1).

The best values had a sportsman number 6 who had the best evaluated time from 2 evaluated attempts 6, 61 seconds. The worst time had a sportsman number 5 with a time 7, 33 seconds. In comparison with the results of Curby (2010) who cooperated with Russian trainers and scholars, and made a scheme of “the highest standards“ for top sportsmen, he showed higher average values, worse than 0, 34 seconds.

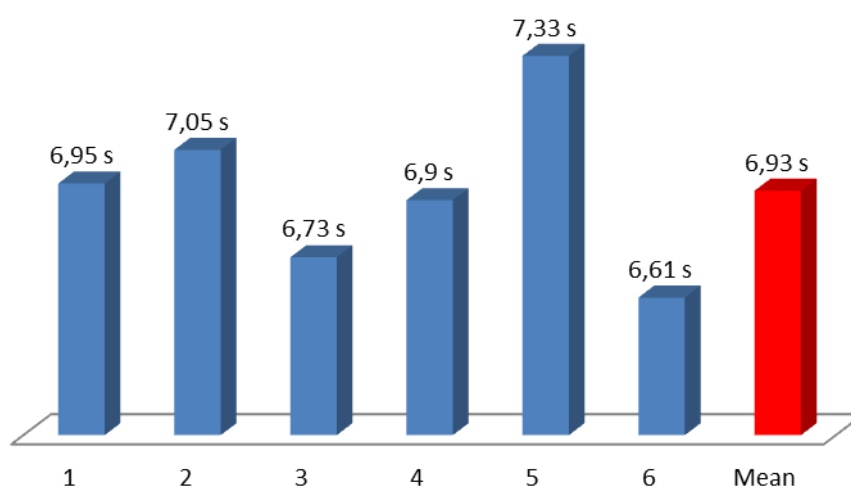


Fig. 1 test - 4m hands climbing

With another specific test, we evaluated special dexterity and flexibility of the back muscles. In the test, from 2 evaluated attempts, the best value had a sportsman number 4 with 17 seconds. The worse result from all evaluated sportsmen had a sportsman number 2 with 27, 52 seconds. The sportsman number 2 has a lowest weight, which should be a reason of a bad performance. The average value in a test of special dexterity of amateur sportsmen is $21,69 \pm 3,71$ seconds (fig.2). In comparison with the average value of top sportsmen, our evaluated men had worse results. The average value for weight category 66-84 kg of top sportsmen is $13,63 \pm 0,67$ seconds. So the difference between amateur wrestlers and top-wrestlers is $8,06 \pm 3,04$ seconds.

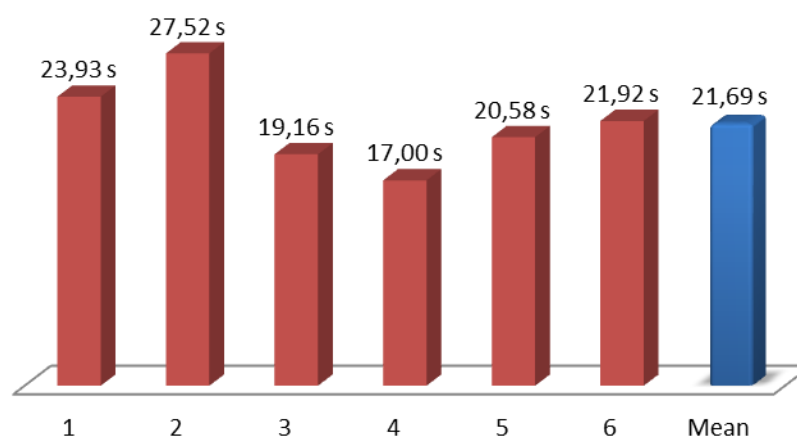


Fig. 2 test - special dexterity

By testing “10 throws of dummy with layback” we evaluated special action cyclical speed. The best value had a sportsman number 4 with a 21, 6 seconds in 10 times throw. The worst time 35, 05 seconds had a sportsman number 6. In the test we evaluated practical experiences of 3 sportsmen who are doing wrestling longer and they had better sport success as

other sportsmen. So the technical forwardness of these sportsmen is better than sportsmen of number 2, 5 and 6 with the time value higher than 30 seconds. In an average, the group of wrestlers achieved value $28,21 \pm 5,49$ seconds (fig.3). To comparison with an average standard of top wrestlers publicized in study of Curby (2010), our group of sportsmen achieved worse results. The difference between amateur wrestlers and top wrestlers is $8,67 \pm 3,05$ seconds.

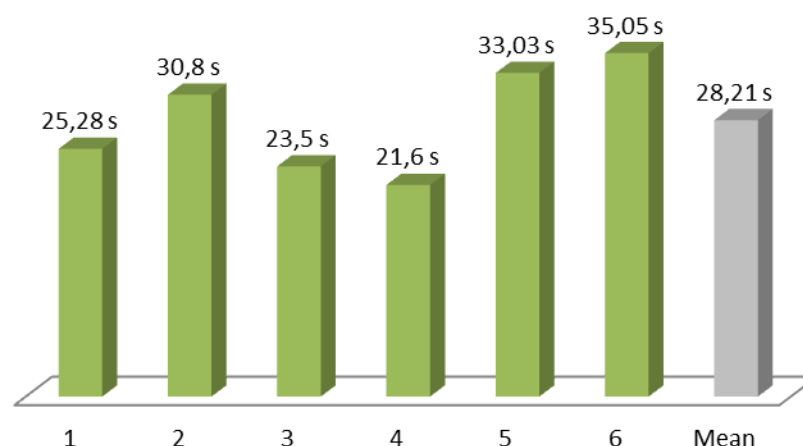


Fig. 3 test - 10 throws of dummy with layback

With a test “dumbbell row in a lying position to a breast on a bench” we were evaluating the strength of upper limbs. The test, as a kinetic structure, is similar to the technique: deflecting of a rival from his balance. The best result in relative merit of all our sportsmen had a sportsman number 4 with the performance $4,67 \pm 0,17$ W / kg⁻¹. The lowest performance had a sportsman number 1: $3,5 \pm 0,11$ W / kg⁻¹. In an average, our group of sportsmen achieved value of $4,24 \pm 0,20$ W / kg⁻¹ (fig.4). In comparison with the results of Štefanovský study in 2015, in which he evaluated group of Slovak young representatives in judo (n=8), with a Fitro Dyne: in 2013 (the average age $16,13 \pm 0,83$ years; height $177,19 \pm 8,33$; weight $66,84 \pm 5,89$ kg), in 2014 (average age $16 \pm 0,71$ years; height $178,2 \pm 8,93$ cm; weight $71,86 \pm 8,93$ kg), he achieved average values of “dumbbell row in a lying position to a breast on a bench” $6,61 \pm 0,50$ W / kg⁻¹, resp. $6,74 \pm 0,33$ W / kg⁻¹. To summarize, our group of amateur sportsmen in comparison with young judo representatives achieved worse results. The difference between average is $2,37 \pm 0,30$ W / kg⁻¹, resp. $2,5 \pm 0,27$ W / kg⁻¹. In our opinion, this difference is big enough, although we compare amateur senior wrestlers with young judo representatives. During the testing a strength of junior and senior judists in Slovakia (n=10) with a different performances in 2008, Štefanovský found, that average performance of “dumbbell row in a lying position to a breast on a bench” is $7,52 (\pm 1,12)$ W / kg⁻¹. So the average juniors’ and

seniors' performance in "the dumbbell row in a lying position to a breast on a bench" is higher than 43, 62 % in comparison with our amateur senior wrestlers (n=6).

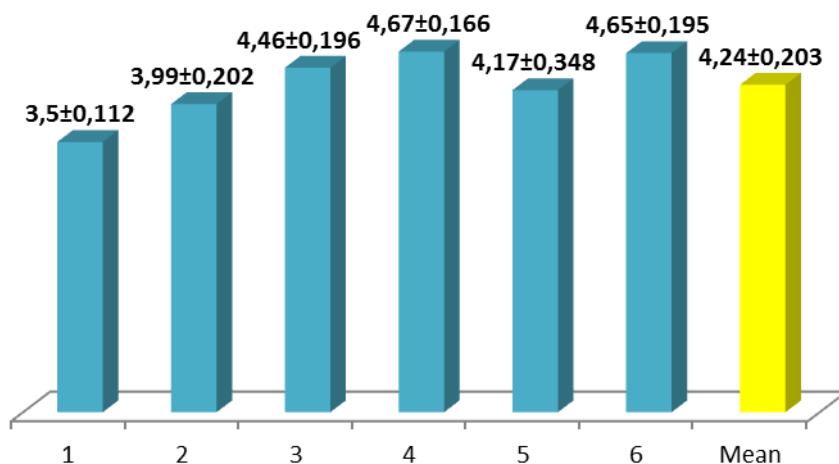


Fig. 4 test - dumbbell row in a lying position to a breast on a bench

CONCLUSION

In the study we deal with the finding actual level of special kinetic abilities of amateur free style wrestlers. From our result we can point out that just in one test "4M hands climbing" our sportsmen achieved above-average level, according to their amateurism. In comparison with the standard of top-wrestlers, they achieved worse results than 0, 34 s. In other tests, level of wrestlers is amateur, according to achieved evaluated values.

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ÚROVEŇ VYBRANÝCH ŠPECIÁLNYCH POHYBOVÝCH SCHOPNOSTÍ AMATÉRSKÝCH ZÁPASNÍKOV

SÚHRN

Cieľom štúdie bolo zistiť aktuálnu úroveň vybraných špeciálnych pohybových schopností u amatérskych zápasníkov. Otestovaných bolo 6 amatérskych zápasníkov voľného štýlu, mužskej kategórie. Zistili sme, že najvyššiu úroveň špeciálnych pohybových schopností amatérskych zápasníkov, v rámci vybraných testov v porovnaní s úrovňou vrcholových zápasníkov dosiahli zápasníci v teste „šplh na lane“, ktorým sme hodnotili dynamickú silu horných končatín. U tohto testu zápasníci dosiahli o 0,34 sekúnd horšie priemerné hodnoty v porovnaní s výsledkami noriem vrcholových športovcov seniorskej kategórie, ktoré uvádza vo svojej štúdii Curby (2010). V ostatných testoch „špeciálna obratnosť, prehod panákom 10x a príťah činky v ľahu k hrudníku“ náš súbor amatérskych zápasníkov dosahuje v porovnaní s vrcholovými zápasníkmi o triedu horšie výsledky. Najnižšiu úroveň dosahuje náš súbor respondentov v teste „príťah činku v ľahu k hrudníku“, kde v porovnaní so štúdiou Štefanovského (2015) je úroveň v tomto teste oproti juniorským a seniorským džudistom SR (n=10) horšia o 43,62 %.

KLÚČOVÉ SLOVA: zápasenie, pohybová schopnosť, testy.

INFLUENCE OF PHYSICAL AND SPORTS EDUCATION LESSONS ON POSTURE OF ADOLESCENT GIRLS

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SUMMARY

The article presents the partial role in the form of partial results with intention on posture disorders and the influence of physical education and sport lessons according to state educational program. The upward trend of posture disorders widespread over the last decade can be seen even in the school population, we therefore focus in terms of the training of prevention is focused on the status, the level of the individual segments of the body posture with standardized method according to Thomas – Klein method modified by Mayer (in Hošková, Matoušová, 2005) for the second grade of high school female pupils in Banská Bystrica, where the total group was consisted of 14 female pupils. We have not found significant changes ($p > 0,05$) in all examined areas, therefore we recommend to change content of physical and sport education lessons, focused more on health, civilization diseases prevention, on posture improvement.

KEY WORDS: Adolescence, Female pupils, Physical and sport education, Posture.

INTRODUCTION

The current hypodynamic and hypocinetic lifestyle of children and youth (Łubkowska, Tarnowski, 2012) is reflected in the upward trend in civilisation diseases, to which belong as well functional disorders in the area of musculoskeletal system (Kanášová, 2005), where belongs also the muscle imbalance. Thurzová (1992) defines a muscle imbalance as a disorder of function balance of the muscles and balance disorder in the effect on the joint. It is imbalance in the system of tonic (postural) and phasic muscles. Buran (2002) along with the other authors considered it as crucial cause of chronic pain of the locomotive system and disorders of the spine. Adversely affects the posture, locomotive stereotypes, muscle coordination, increases susceptibility to injury and limiting the range of motion in joints (Véle, 2006).

The outer manifestation of the interplay between the postural and phasic musculature is a posture that represents a relatively correct arrangement of individual segments of the body

while standing, sitting, walking or doing other movement, which involved (Čermák et al., 2005):

- head position
- the determining factor for the posture is the spine, the axis of the body,
- a big influence on posture has position of pelvis and lower limbs,
- the last component is position of the foot arch and information input.

From the foregoing follow that one of the most important locomotive mechanisms is antigravity-postural mechanism, i.e. the holding of upright figure. In this context, it is necessary to point out the optimum level of mobility of the spine, which is considered to be one of the basic assumptions of the correct posture.

At the same time spine contributes to the security of the balance, ensures the horizontal position of the eyes and head and it participates on balance holding . At the moment we are talking about diseases of the spine as a civilization diseases. These disorders occur more often at an earlier age, in particular, due to lack of support of the spine, which in the first stage are as functional disorders of posture, where faulty (wrong) posture is essentially a disorder of the postural functions of the system. Outwardly it is manifested by changes in the shape of the body, which are caused by shortening or weakening of some muscle groups and non-physiological curvature of the spine (Vojtaššák, 2000).

The spine is to be understood as one coherent body, which provides a number of features:

- provide upright posture,
- is co-creator of movement,
- protects an important part of the nervous system (spinal cord and spinal roots).

Functional disorders of the locomotive system are reflected in threesystematic, interrelated levels (Kolář, 2001):

- a) in the area of muscle function as muscular imbalance,
- b) in the area of central control as disorders of locomotive stereotypes,
- c) in the area of joint function as limitation of joint mobility or hypermobility.

The most common symptom in the spine disorders is pain. This is a subjective feeling, from mild discontent to devastating feeling (Hart et al, 1995; Thurzová, 2003). Therefore the intensity of pain feeling does not always correspond to the severity of the damage of the spine (Buran, 2002).

Functional disorders in children and youth in the area of the musculoskeletal system are subjects of interest not only for domestic (Hubinák, 2007; Kopecký, 2004; Kopecký, Ely, 2007;

Bendíková, 2011; Kabátová et al., 2012) but also foreign authors (Chen et al., 1994; Kania, Gudzio-Wiernicka, 2002; Żukowska, Szark-Eckardt, Muszkieta, Iermakova, 2014).

High representation of incorrect posture in the population of pupils is currently significantly determined by the lack of physical activity (Bendíková, Kostencka, 2013). The correct stereotype of the posture is, amongst other features, an assumption for the optimal operation of the internal organ systems (especially respiratory and cardio-vascular).

This pilot study is a part of grant: VEGA No. 1/0376/14 Intervention Physical Activities Aimed at Disease Prevention of the Population in Slovakia.

AIM

Aim of the study was to point out on the level of musculoskeletal system and the influence of physical and sport education lessons with an intention on posture of second class female pupils in high school.

METHODOLOGY

Monitored group was consisted of 14 female pupils in adolescent age from Banská Bystrica, whose were willing to participate in the survey with the participation of a physiotherapist (specialist) and teacher of physical and sport education. These were female pupils of second class of high school, whose average age was 16,1 years. The primary characteristics of the group presents table 1.

Table 1 Characteristics of the research group (n = 14)

	Age (years)	Body height (cm)	Body weight (kg)	BMI
x	16,1 ± 0,8	165,3 ± 8,8	57,6 ± 3,2	21,2 ± 1,1

This group had 3 lessons of physical and sport education per week (3 x 45 min), together during 3 months they participated on 36 lessons (1620 min). But in average, they spent only about 6 minutes of each lesson (216 min during 3 months) doing the compensatory exercises (stretching, strengthening and relaxation exercises), which means only about 13% of time of physical and sport education lesson. The content of physical and sport education lessons was aimed on improvement of endurance and coordination abilities, leaded by physical and sport education teacher according to state educational program.

We realised evaluation of musculoskeletal system with intention on posture, with the help of a physiotherapist and support of a physical and sport education teacher in the school year 2015/2016, in September and December 2014. It was realised with Thomas - Klein method modified by Mayer (in Hošková, Matoušová, 2005).

Posture is divided into 4 stages: 1. Excellent, 2. Good, 3. Poor, 4. Incorrect, where each grade of posture has 5 characters and is evaluated by mark (1 to 4):

1. Holding of the head and neck
2. The shape of the chest
3. The shape of the abdomen and pelvis inclination
4. The total curvature of the spine
5. The height of the shoulders and the position of the scapula

The classification of the posture:

- I. Excellent posture 5 points
- II. Good (almost perfect) posture 6 – 10 points
- III. Poor posture, 11 – 15 points
- IV. Incorrect posture 16 – 20 points

In evaluation of lower limbs position we came out in varus from the distance between the inner parts of knee joints, while the in valgus distance from the internal ankles distance in a standing position.

To assess degrees of posture in adolescent pupils, we used the wilcoxon test on 1% ($p < 0,01$) and 5% ($p < 0,05$) level of statistical significance. Next, we used methods of logical analysis and synthesis using the inductive and deductive methods, comparisons and generalizations. All data were percentage processed and compared with available literature.

RESULTS AND DISCUSSION

On the basis of partial aim and tasks of the paper, we present a part of the results, which are subject to further exact tracking and processing. We cannot generalize presented results, but it is necessary to understand them in the total context as an informative and basic in the organisation of leisure time in relation to health.

We consider the overall level of posture in our group of female pupils in the light of our findings as a positive due to the findings of other authors (Vargová, Veselý, 2002; Adamčák, Bartík, Kozanáková, 2011), who point to an increase of the incorrect posture even in high school pupils. But we did not find any positive significant ($p > 0,05$) changes (table 2) in all monitored

areas of posture of female pupils after 3 months of participating on physical and sports education lessons, which were led by physical and sports education teacher following the state educational program.

Table 2 Female pupils posture changes after 3 months (n=14)

	I. grade	II. grade	III. grade	IV. grade
Head and neck	p > 0,05	p > 0,05	p > 0,05	p > 0,05
Chest	p > 0,05	p > 0,05	p > 0,05	p > 0,05
Abdomen and pelvis inclination	p > 0,05	p > 0,05	p > 0,05	p > 0,05
Curvature of the spine	p > 0,05	p > 0,05	p > 0,05	p > 0,05
Shoulders and scapula position	p > 0,05	p > 0,05	p > 0,05	p > 0,05
Lower limbs	p > 0,05	p > 0,05	p > 0,05	p > 0,05

As we can see (table 3), in all monitored areas have been the most participants evaluated by mark 2, except in abdomen and pelvis inclination area, where have been participants evaluated by mark 1 and 2 in same ratio. We have not found any participant, which we would evaluate by mark 4, what we consider as a positive.

Table 3 Evaluation of posture areas (n=14)

Mark	Head and neck	Chest	Abdomen and pelvis inclination	Curvature of the spine	Shoulders and scapula position
1	21,4%	35,7%	35,7%	21,4%	14,3%
2	64,3%	50,0%	35,7%	64,3%	71,4%
3	14,3%	14,3%	28,6%	14,3%	14,3%
4	0,0%	0,0%	0,0%	0,0%	0,0%
Total	100,0%	100,0%	100,0%	100,0%	100,0%

We have found in input and output classification of our research group at the general classification of posture (table 4) the highest percentage representation in 2nd qualitative grade,

which is called a good posture. We have not found any participants in 1st qualitative grade, which is called a great posture. But in opposite, we have not found also any participants in 4th qualitative grade, which we consider as a positive. In overall, we have not found any significant changes ($p > 0,05$) between input and output measurement in all grades. At the same time we can say, that good posture has not only aesthetic but also power-economic requirements, which is a reflection of the internal and external environment (homeostasis).

Table 4 General classification of posture (n=14)

Evaluation	input	output	difference
1st grade	0%	0%	0% *
2nd grade	57,1%	64,3%	7,1% *
3rd grade	42,9%	35,7%	-7,1% *
4th grade	0%	0%	0% *
Total	100%	100%	0%

Legend: * $p > 0,05$

CONCLUSION

In the presented study we evaluated the status of the postural system with the intention to posture as one of the main determinants of the quality of the postural system, which is an important indicator of developmental trends of child organism. It is the result of balanced activity of the nervous system and the musculo-skeletal system, postural regimen and rational nutrition. We assume that our findings are based on the primary prevention of incorrect posture creation, which consists in the sufficient volume of spontaneous but also controlled physical activities during their stay in the school but also in the leisure time of monitored group of female pupils.

We recommend to change content of physical and sport education lessons, focused more on health, civilization diseases prevention, on posture improvement.

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VPLYV HODÍN TELESNEJ A ŠPORTOVEJ VÝCHOVY NA DRŽANIE TELA ADOLESCENTIEK

SÚHRN

Článok prezentuje čiastkovú úlohu vo forme parciálnych výsledkov so zameraním na poruchy držania tela a na zistenie vplyvu telesnej a športovej výchovy praktizovanej v súlade so štátnym vzdelávacím programom na oporný a pohybový systém, konkrétne oblasť držania tela. Zvyšujúci sa trend výskytu porúch držania tela je v poslednej dekáde evidentný a môžeme ho pozorovať už aj u školskej populácie. Preto sa zameriavame na úroveň jednotlivých segmentov pomocou metódy hodnotenia držania tela podľa Thomasa a Kleina modifikovanej Mayerom (in Hošková, Matoušová, 2005) žiakov druhého ročníka strednej zdravotníckej školy v Banskej Bystrici, kde celkový výskumný súbor tvorilo 14 žiakov. V našom výskume sme

nezaznamenali žiadne signifikantné zmeny ($p > 0,05$) vo všetkých skúmaných oblastiach, preto odporúčame zmeniť obsah telesnej a športovej výchovy, ktorá by mala byť viac zameraná na zdravie, prevenciu pred civilizačnými chorobami, zlepšovanie držania tela.

KLÚČOVÉ SLOVÁ: Adolescencia, Žiačky, Telesná a športová výchova, Držanie tela.

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We look forward to our further cooperation.

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