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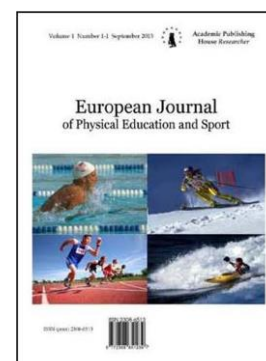
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Articles and Statements

The Sports Activities of Primary School Girls in Selected Slovak Regions

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Abstract

Study aim: The goal of the research was to determine the scope and the content of sports activities of primary school girls in selected Slovak regions.

Material and methods: In this research we focused on the sports activities of 993 primary school girls and analysed them using a questionnaire method. The research was classified by school type: urban and rural, as well as geographical region.

Results: More than 43 % of respondents that they mostly participate in sports for 1-2 hours daily. Approximately 50 % of them take part in sports recreationally and team sports of a “traditional” character predominate (57 %). The vast majority of girls (60 %) take part in sports activities outside. Participation in sports activities among girls is mostly recreational – the response frequency reached almost 50 % in all the research groups observed.

Conclusions: The research findings show that there are no statistically significant differences between the sports activities of primary school girls attending rural and urban schools during the working week. Respondents attending urban schools are more physically active during holidays compared to respondents attending rural schools additionally respondents from the Central Slovak Region are more physically active than respondents from the Eastern Slovak Region ($p < 0.01$).

Keywords: sports activities, girls, primary school.

1. Introduction

The increase of lifestyle diseases shows the direct dependence of lifestyle on the lack of sports activities in most European countries. Physical inactivity has become a contributory factor to lifestyle diseases and to economic problems as well, with an impact on health care, and a slowdown in economic growth due to the frequent incapacity to work and premature death.

The early encouragement of children’s participation in sports is of great importance to biological-social-psychological development, because the changes from individual into a social being are formed at the preschool age Berdychova (1982).

According to Galloway (2007), when we teach children the joy of movement, we try to make a habit out of it, which will accompany them through their life. Bartik and Kubis (2016) consider primary school age to be a sensitive and fundamental period in creating relations and habits

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towards sports activities. As stated by Korvas and Kysel (2013), the younger the individuals are the more important sports activities are to them – to their health and to their quality of life.

If the children spend their spare time with their parents, then sports activities become natural for them and they have a positive attitude towards them. As stated by Pavkova (2014), children learn from their parents how to spend and manage their spare time. She emphasises that spending spare time together is very important for family relationship formation.

The study by Moore et al. (1991) shows that active fathers influence the level of children's activities more than active mothers. The strongest impact was found on families in which both parents were physically active and, in comparison with the families in which both parents were inactive, the difference was up to six fold.

As stated by Oliveira et al. (2014) not even the rural population is protected from an inactive lifestyle, because they mainly prefer "sedentary" activities.

Understanding the physical activity level of the population is very important, as well as it being an essential part of the health service and school system response to current issues concerning the physical activity level of the whole population. Studies focused on sports activities evaluation can be divided into two groups:

- group 1 – objective records based on pedometers and accelerometers, for instance, the works of Tudor-Locke et al. (2004), Harris et al. (2009), Pagels et al. (2011), Czajka et al. (2015) and others,

- group 2 – based on questionnaire or survey, for instance the studies of Pratt et al. (1999), Nader et al. (2008), Łubkowska and Troszczyński (2011), Stranavska and Görner (2015), Novotna and Slovakova (2016), Kostencka et al. (2016) and many others.

It is evident, that both methods have their advantages and disadvantages. In this research the second method has been selected – a questionnaire considering the number of research samples and regions we wanted to map.

The purpose of the research was based on the grant project KEGA 002UMB-4/2014 "Innovation of sports activities of primary school students carried out in natural environment through playful activities using GPS." The aim of this study was to determine the scope and the content of sports activities of primary school girls in selected Slovak regions.

2. Material and methods

The main research method was an interrogative method – an anonymous and non-standardised questionnaire constructed by authors of this article. The survey was carried out among girls aged between 11 and 15 of the 5th and the 9th grades of selected primary schools in the Central and Eastern Slovak Regions during the first term of the 2014/2015 school year (refer to Figure 1). This selection of regions and schools was made randomly. The answer sheet of the questionnaire was processed and evaluated by the TAP3 programme of the Gamo Banská Bystrica Company.

The research consisted of 993 correctly completed questionnaires. The answers were classified by school type: urban and rural as well as region the Central and the Eastern Slovak Regions. Statistical significance of differences was assessed using the chi-square.

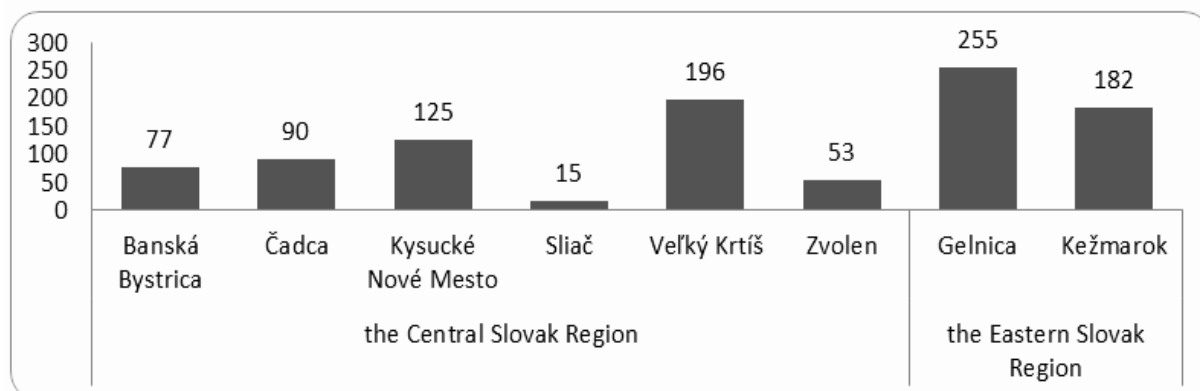


Fig.1. Research group of girls (N=993)

3. Results

Evaluating the first question which focused on the time the girls spent on sports activities during the working week, we did not find significant differences in the girls' responses between urban and rural schools. It can be stated that 20 % of girls take part in sports activities less than one hour during the working week and more than 40 % of girls spend one or two hours (Fig. 2).

Almost 1/3 of girls in all research groups spend more than two hours daily on sport activities during the working week. Comparing rural and urban schools and the regions, we did not find any significant differences (Table 1).

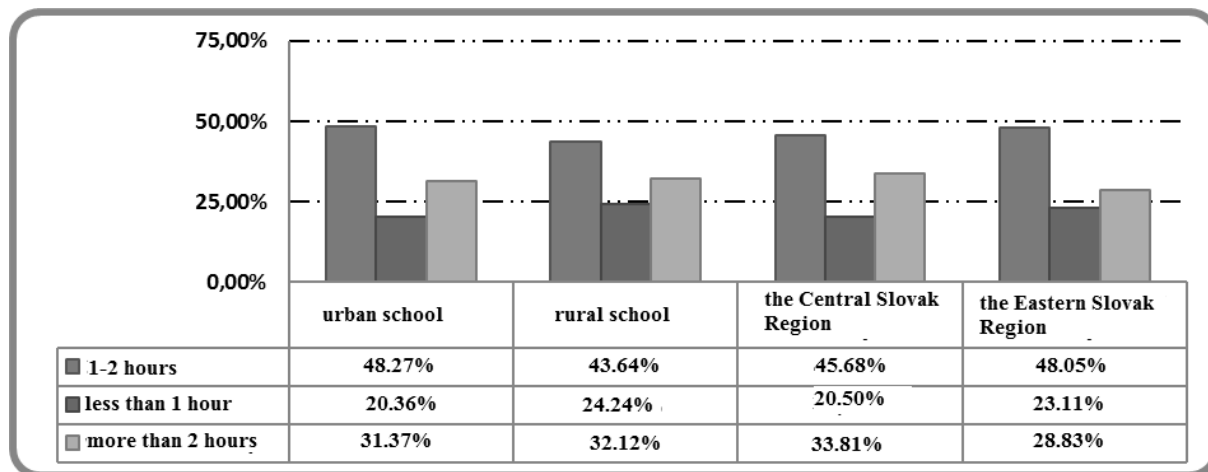


Fig. 1. Sports activities of girls during the working week (in hours)

Table 1. Statistical evaluation – sports activities of girls during the working week

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
statistical significance chi – quadrate test (value p)	n p= 0.2750	n p= 0.2250

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05$, $=*$, $n =$ no statistical significance

The following question was to assess how many hours per day the girls took part in sports during the weekend. The responses of the research groups were very similar (Fig. 3). Figure 3 shows that the girls take part in sports activities for 3-5 hours during the weekend.

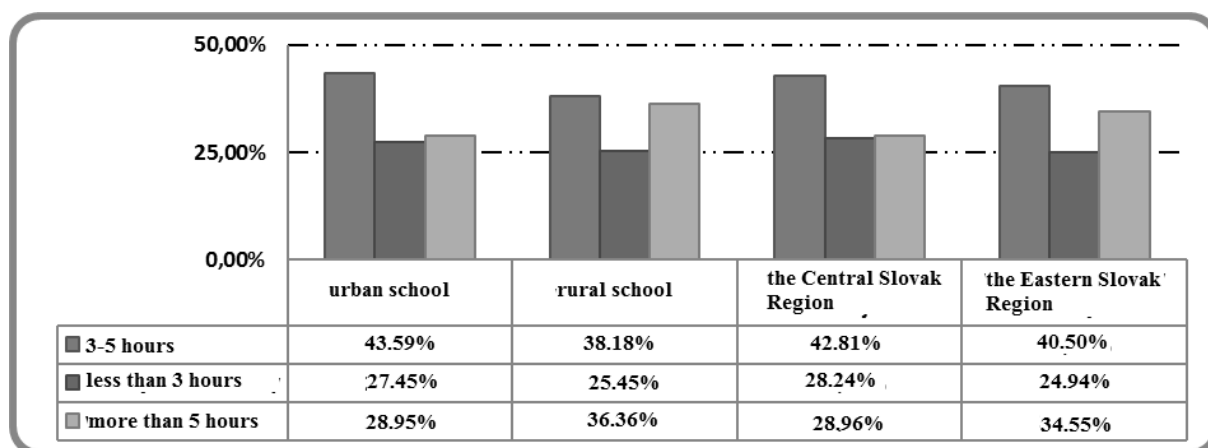


Fig. 2. Sports activities of girls during the weekend (in hours)

28.96 % of girls attending urban schools and 36.36 % of girls attending rural schools take part in sports for more than five hours per day and in terms of regions – 28.96 % of girls from the Central Slovak Region and 34.55 % from the Eastern Slovak Region. Not even these differences were statistically significant (Table 2).

Table 2. Statistical evaluation – sports activities of girls during the weekend (in hours)

Item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
statistical significance chi – quadrate test (value p)	n p= 0.0574	n p= 0.1540

Legend: statistical significance – $p < 0.01=**$, $p < 0.05$, $=*$, n = no statistical significance

A positive aspect to consider is that more than 40 % of girls from urban and rural schools as well as girls in the Central and Eastern Slovak Regions take part in sports activities for more than five hours per day during holidays. On the other hand 27.27 % of girls at rural schools and 24.26 % in the Eastern Slovak Region take part in sports activities for less than three hours per day (Fig. 4). The girls’ responses, not only comparing urban and rural schools but also comparing the regions of Slovakia were statistically significant at a value of $p < 0.01$ (Table 3).

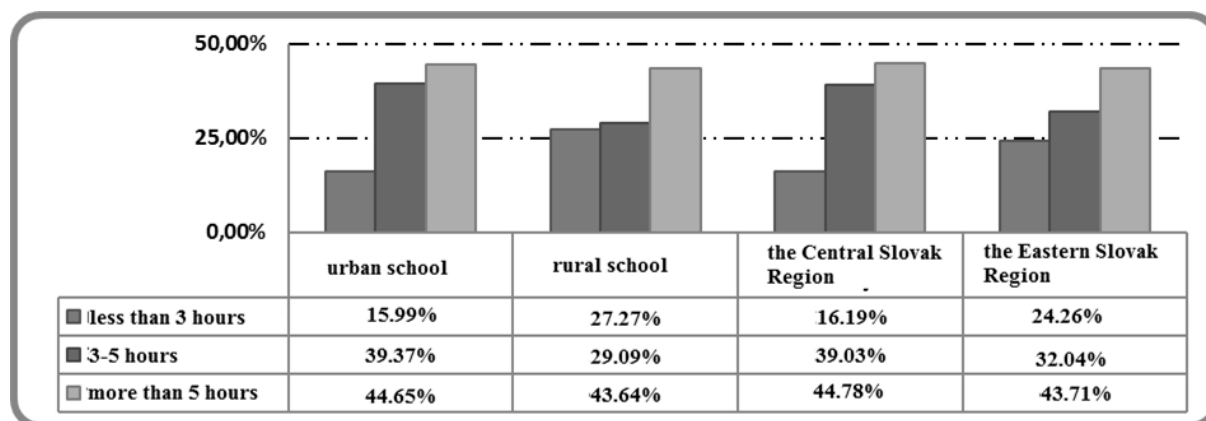


Fig. 3. Sports activities of girls during the working week in the summer holidays (in hours)

Table 3. Statistical evaluation – sports activities of girls during the working week in the summer holidays (in hours)

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	** p= 3.1405 E 05	** p= 0.0032

Legend: statistical significance – $p < 0.01=**$, $p < 0.05$, $=*$, n = no statistical significance

Almost ¾ of girls in all the research groups evaluated spend their spare time passively as well as actively.

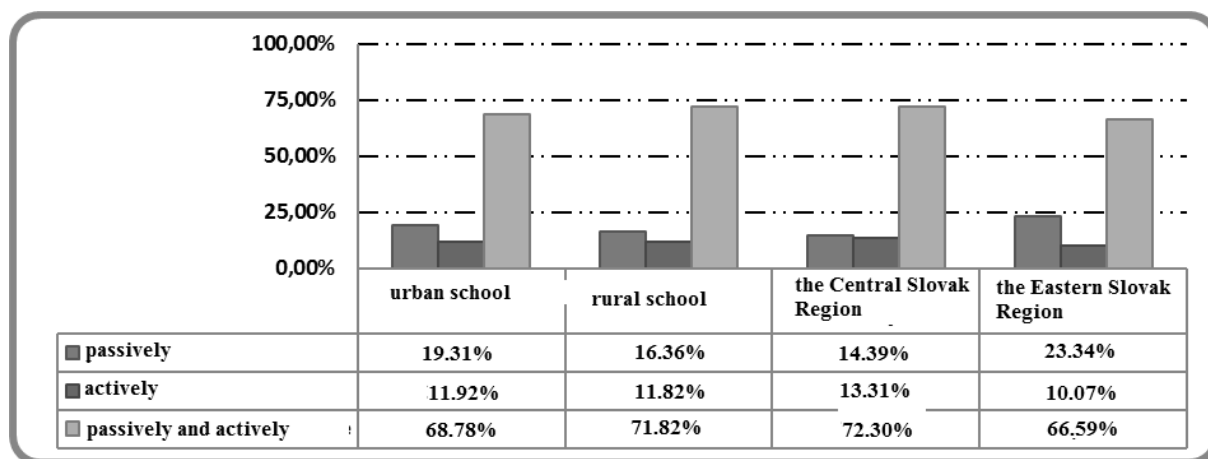


Fig. 4. Form of spare time activities

The answers of girls attending urban and rural schools were similar (Fig. 5) thus the response differences are not statistically significant. The girls' responses comparing the regions of Slovakia were statistically significant at a value of $p < 0.01$ and the girls from the Eastern Slovak Region were more passive (Table 4).

Table 4. Statistical evaluation – form of spare time activities

item	Urban school/ Rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	n p= 0.51314	** p= 0.0009

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

The next question was to find out which kind of sports activity the girls prefer – recreational or competitive when one or both activities are presented equally. A recreational preference predominates in all the observed research groups (Fig.6). The frequency of responses ranges from 46.97 % (rural school girls) to 56.11 % (urban school girls).

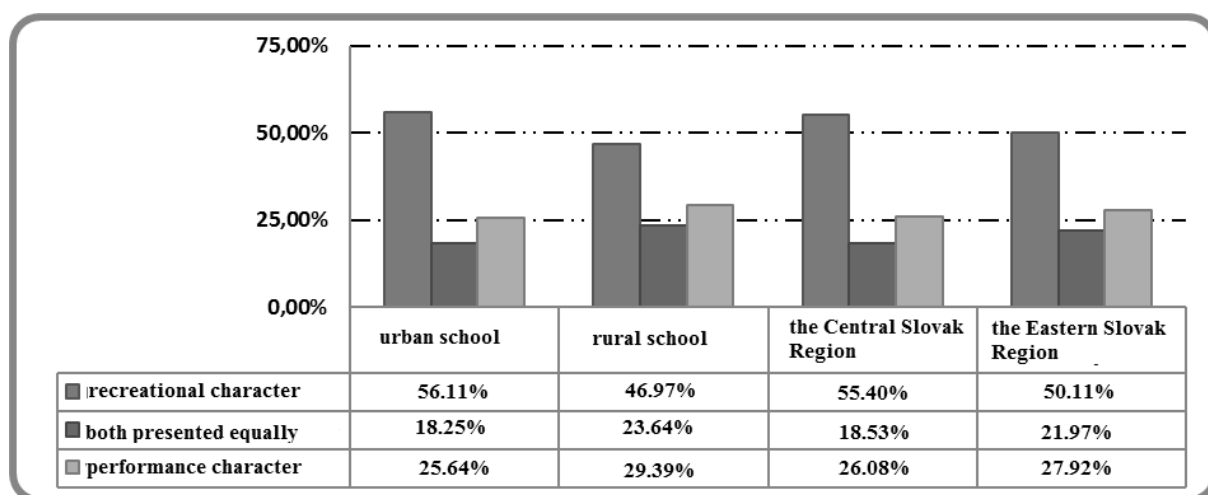


Fig. 5. Character of sports activities

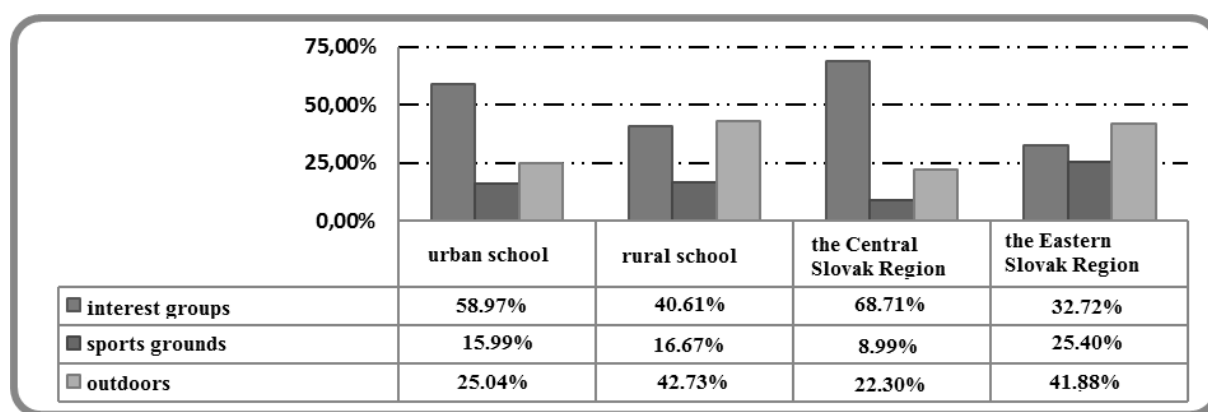
The competitive preference did not reach the value of 29.39 % (rural school girls) not even in one of the observed research group. Statistical evaluation of the response is presented in Table 5.

Table 5. Statistical evaluation – character of sports activities

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	* 0.0201	n p= 0.2186

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

Sports activities in interest groups are preferred by the girls attending urban schools (58.97 %) and comparing regions, by 68.71 % of girls from the Central Slovak Region. The girls attending rural schools prefer sports activities outdoors close to their home (42.73 %) as well as in interest groups (40.61 %). The girls from the Eastern Slovak Region prefer sports activities outdoors as well (41.88 %). Less than 26 % of girls are interested in taking part in sports activities at sports grounds (Fig. 7). All responses concerning urban and rural schools as well as the regions of Slovakia were statistically significant at a value of $p < 0.01$ (Table 6).

**Fig. 6.** Preferred location for sports activities**Table 6.** Statistical evaluation – Preferred location for sports activities

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	** p= 1.2319 E-08	** p= 3.8167 E-29

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

Further research investigated the type of sport (team or individual) the girls preferred. The research results show that the girls definitely prefer team sports (almost 50 % in all the research groups observed). Just over 20 % of girls prefer individual sports.

The responses in terms of urban and rural school were not statistically significant but comparing the regions in Slovakia we recorded significant differences at a value of $p < 0.01$.

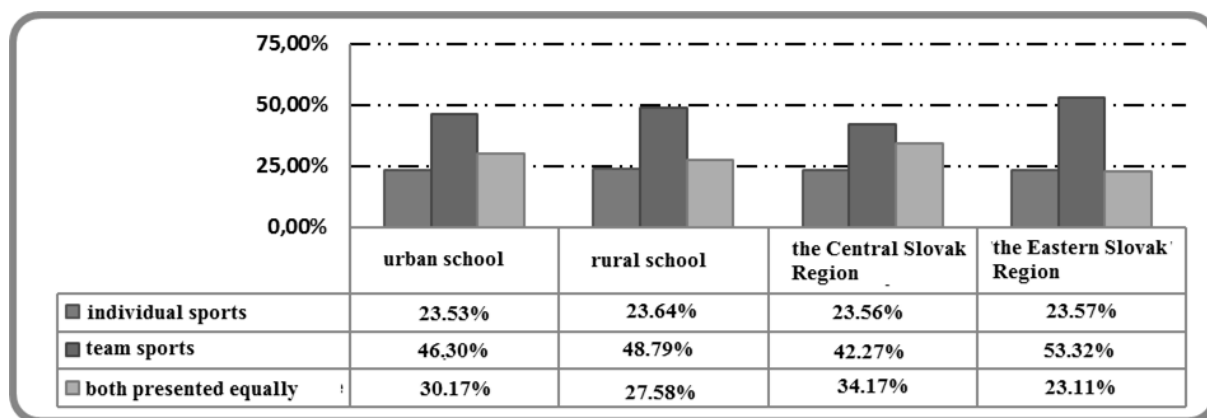


Fig. 7. Sports preference in girls

Table 7. Statistical evaluation – sports preference in girls

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	n p= 0,6724	** p= 0,0002

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

Fig. 9 shows that the girls prefer traditional team sports. Only some girls attending urban schools prefer lesser-known team sports (21.27 %). In rural schools the preference is even lower at 10.61 %, with the Eastern Slovak Region at 25.86 % and the Central Slovak Region at 11.33 %. Evaluating these answers in terms of urban and rural school as well as in terms of regions the answers were statistically significant at a value of $p < 0.01$ (Table 8).

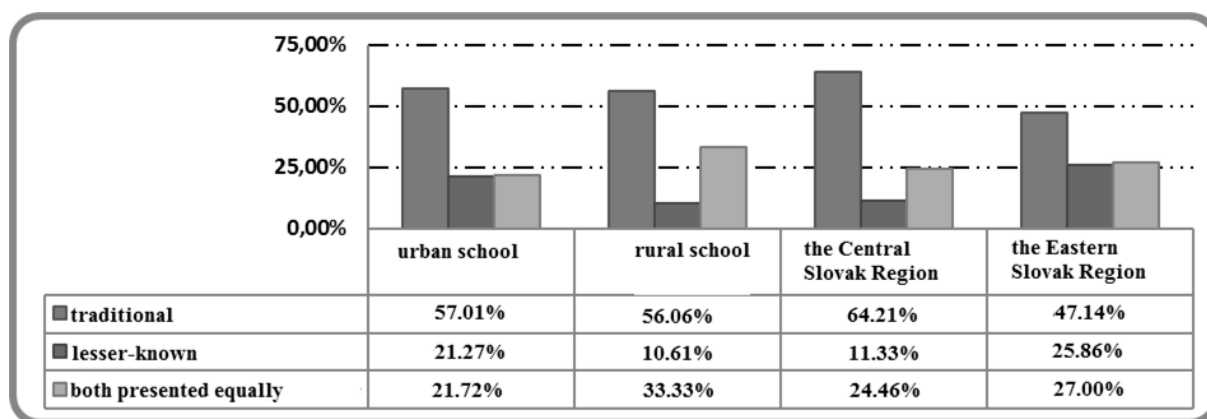


Fig. 8. Team sports preference among girls

Table 8. Statistical evaluation – team sports preference among girls

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	** p= 2.5200 E-06	** p= 6.4411 E-10

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

Individual sports performed in a natural environment such as hiking, bicycle touring and Nordic walking predominate in the answers of all the observed groups. The frequency of answers was close to 60 %.

The girls attending rural schools showed a higher preference for individual sports performed in sport centres (22.42 %). Higher percentage (19.06 %) was recorded in the girls' group from the Central Slovak Region versus 16.48 % from the Eastern Slovak Region (Fig. 10). The responses concerning both schools and regions were statistically significant at a value of $p < 0.01$ (Table 9).

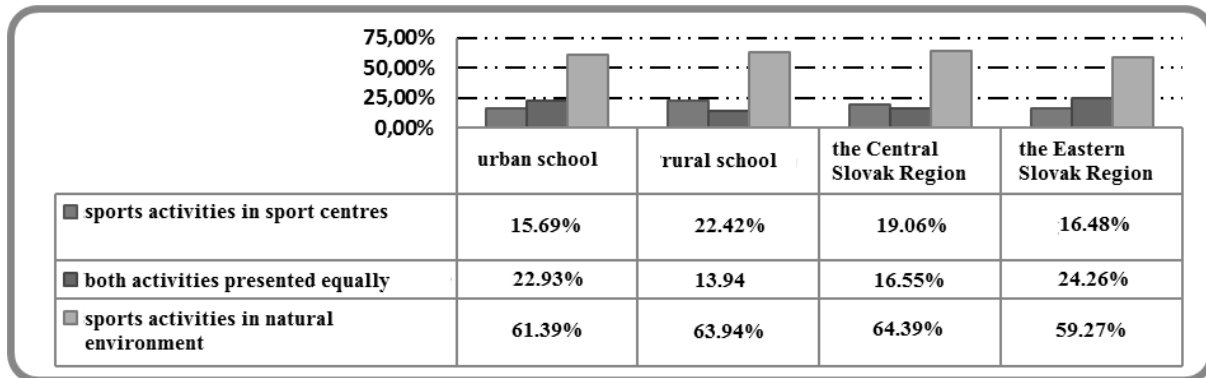


Fig. 9. Individual sports preference among girls

Table 9. Statistical evaluation – individual sports preferences among girls

Item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance	**	**
chi – quadrate test (value p)	p= 0.0006	p= 0.0098

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

As presented in Fig. 11 the vast majority of girls take part in sports with their friends in interest groups. The percentage of answers in all the groups observed was higher than 62 %. The results show that the highest number (81.29 %) was in the Central Slovak Region. Girls attending urban schools prefer sports activities with family members (20.6 %) and in the Eastern Slovak Region this preference reached 22.43 %. The statistical evaluation of this question is presented in Table 10.

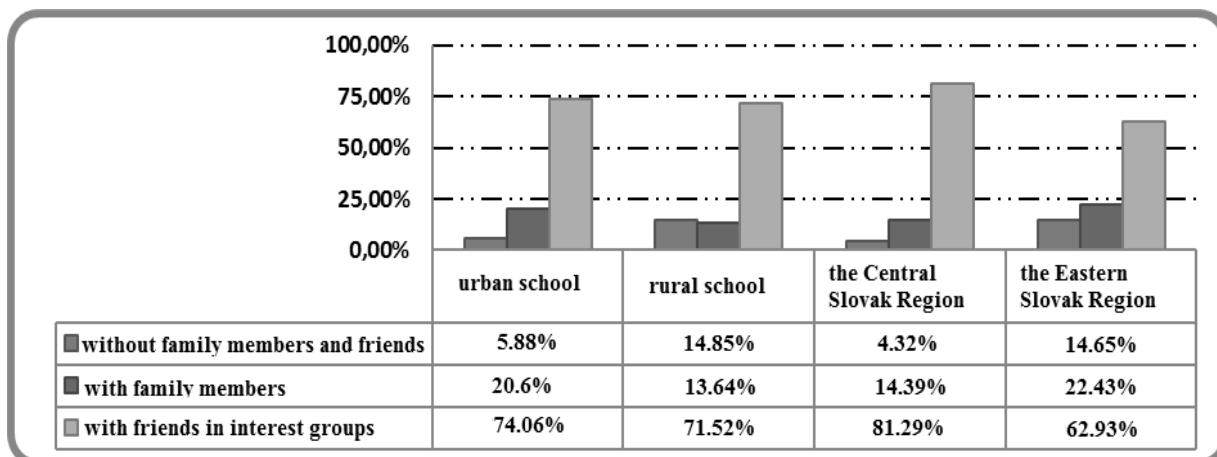


Fig. 10. Persons performing sports activities together with girls

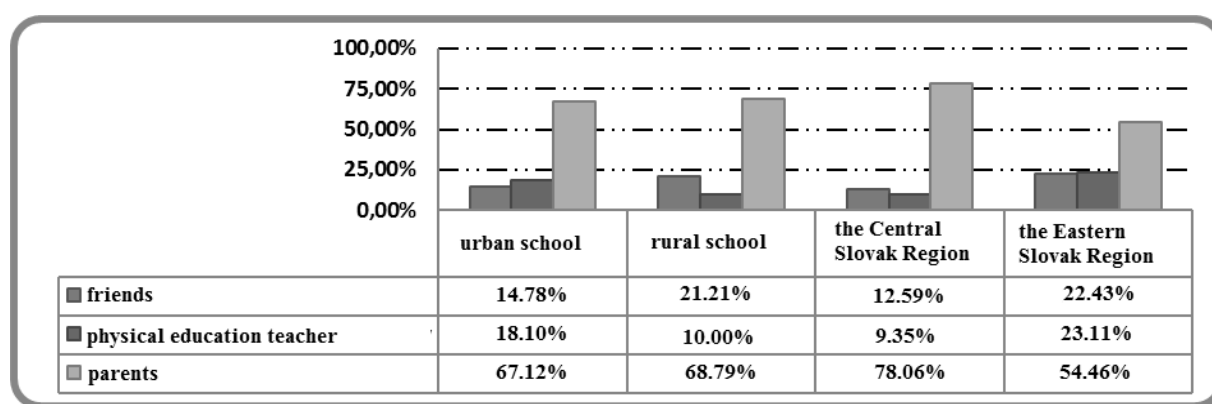
Table 10. Statistical evaluation – persons performing sports activities together with girls

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
statistical significance	*	**
chi – quadrate test (value p)	p= 3.2817 E-06	p= 1.7424 E-11

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

The research was focused also on which people the girls attached the most importance when participating in sports activities. It was found that the parents have the greatest importance and the percentage of answers was higher than 50 % (Fig. 12).

The girls attending rural schools (21.21 %) and the girls from the Eastern Slovak Region attached significant importance to friends. On the other hand, the girls attending urban schools (18.10 %) and up to 23.11 % of girls from the Eastern Slovak Region attached a great importance to the teacher of physical education and sport. The given differences are statistically significant at a value of $p < 0.01$ % (Table 11).

**Fig. 11.** The person who brought the girls to participate in the sports activities**Table 11.** Statistical evaluation – the person who brought the girls to participate in the sports activities

Item	urban school/ rural school	the Central Slovak Region/ the Eastern Slovak Region
Statistical significance	**	**
chi – quadrate test (value p)	p= 0.0005	p= 1.1532 E-14

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

Given this reasoning, we were further interested in the main motive among girls for participating in sports activities. The girls attending rural schools (70.91 %) as well as the girls from the Eastern Slovakia (60.64 %) consider the main motive the improvement of their health, physical fitness and strength.

On the other hand the girls attending rural schools (45.10 %) as well as the girls from the Central Slovak Region (50 %) preferred the answer “figure improvement and body weight reduction” (Fig. 13).

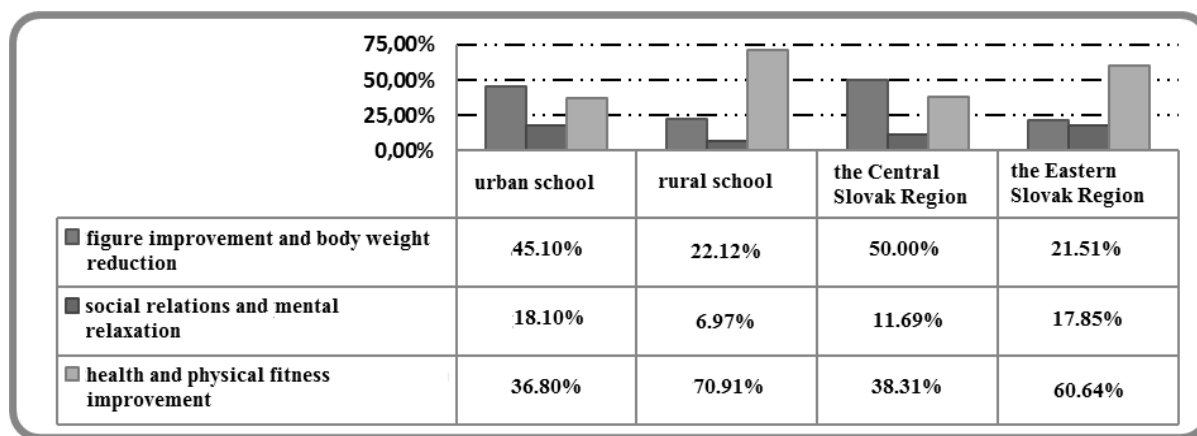


Fig. 12. The main motive among girls for participating in sports activities

The girls attending rural schools prefer the making of social contacts and mental relaxation to a lesser extent (6.97 %) and the girls attending urban schools to a higher extent (18.10 %) as a main motive to participate in sports activities. A statistical evaluation is presented in Table 12.

Table 12. Statistical evaluation – the main motive among girls for participation in sports activities

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance	**	**
chi – quadrate test (value p)	p= 3.8020 E-23	p= 3.8413 E-19

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

The research was further focused on the factors which prevent the girls from participating in sports. Evaluating this question we found significant differences between the girls attending urban and rural schools (Fig. 14). The girls attending urban schools are restricted from sports by high financial costs (50.83 %) and the girls attending rural schools by the lack of sports premises close to their home (46.97 %). Across the regions the responses were different. The vast majority of girls in the Central Slovak region (55.94 %) consider “high financial demands” as a dominant factor which stops them from participating in sports and the girls from the Eastern Slovak Region the lack of sports premises close to their home (39.59 %). Evaluating this question concerning the girls of urban and rural schools as well as both regions, the responses were statistically significant at a value of $p < 0.01$ (Table 13).

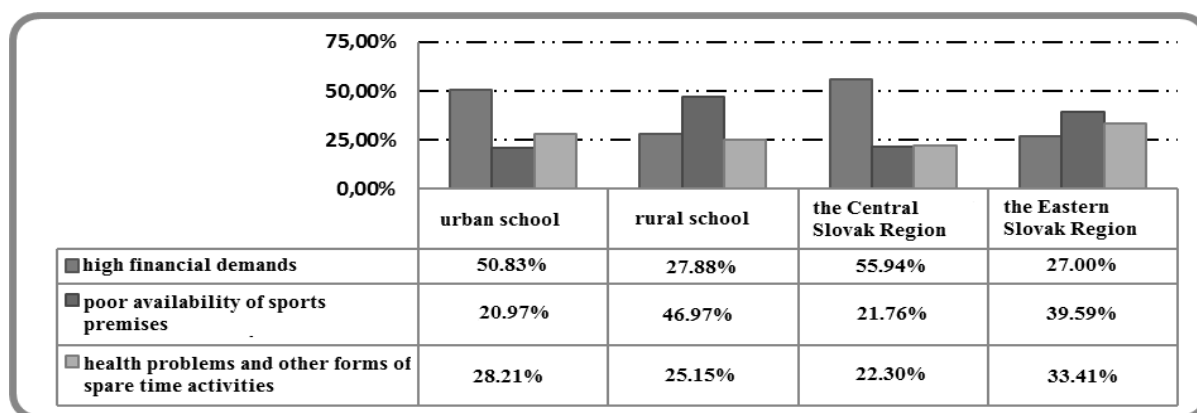


Fig. 13. The main factor which prevents the girls from participating in sports

Table 13. Statistical evaluation – the main factor which prevents the girls from participating in sports

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
statistical significance chi – quadrate test (value p)	** p= 1.1881 E-17	** p= 3.9044 E-19

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05$, $=*$, $n =$ no statistical significance

The vast majority of girls do not watch the sports activities offered at schools. The rate of negative responses “no” reached 53.54 % (girls attending urban schools) to 78.18 % (girls attending rural schools). The girls from the Eastern Slovak Region are most interested in watching the offered sports activities, even though this interest did not exceed 11 % (Fig. 15).

The girls’ responses in terms of urban and rural schools as well as in terms of the regions were statistically significant at a value of $p < 0.01$ (Table 14).

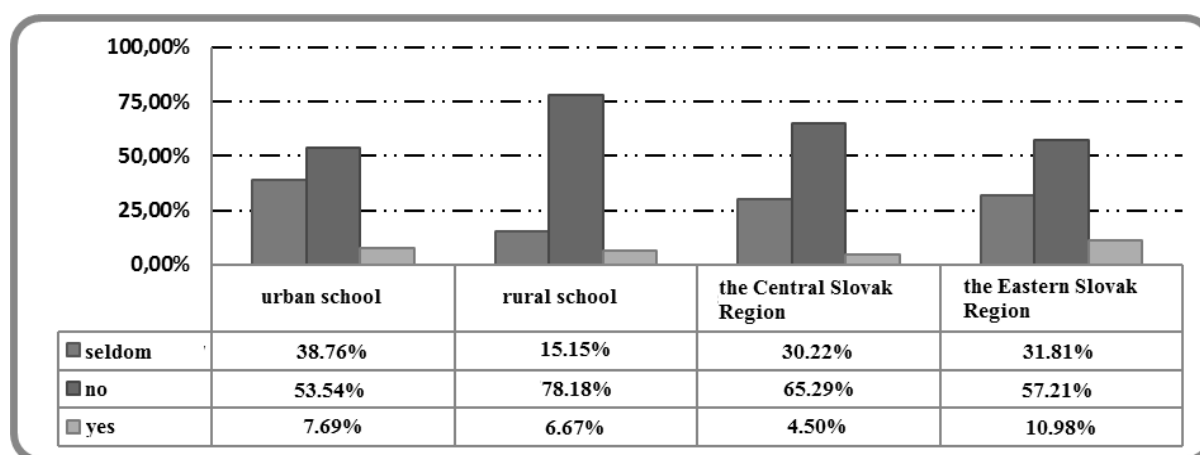


Fig. 14. Interest in watching the offered sports activities among girls at schools or at place of their residence

Table 14. Statistical evaluation – Interest in watching offered sports activities among girls at schools or at place of their residence

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak Region
Statistical significance chi – quadrate test (value p)	** p= 3.9751 E-14	** p= 0.0002

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05$, $=*$, $n =$ statistical significance

The last question of the survey was to determine how the girls use the sports activities offered at schools or at place of their residence.

It was found out that the girls mostly do not use the sports activity offered at schools or at their place of residence. The rate of negative responses reached more than 50 %. The girls coming from the Eastern Slovak Region use these services somewhat. Their answer “yes” reached 20.59 % and “seldom” 24.71 % (Fig. 16). The girls’ responses in terms of both aspects observed were statistically significant at a value of $p < 0.01$ (Table 15).

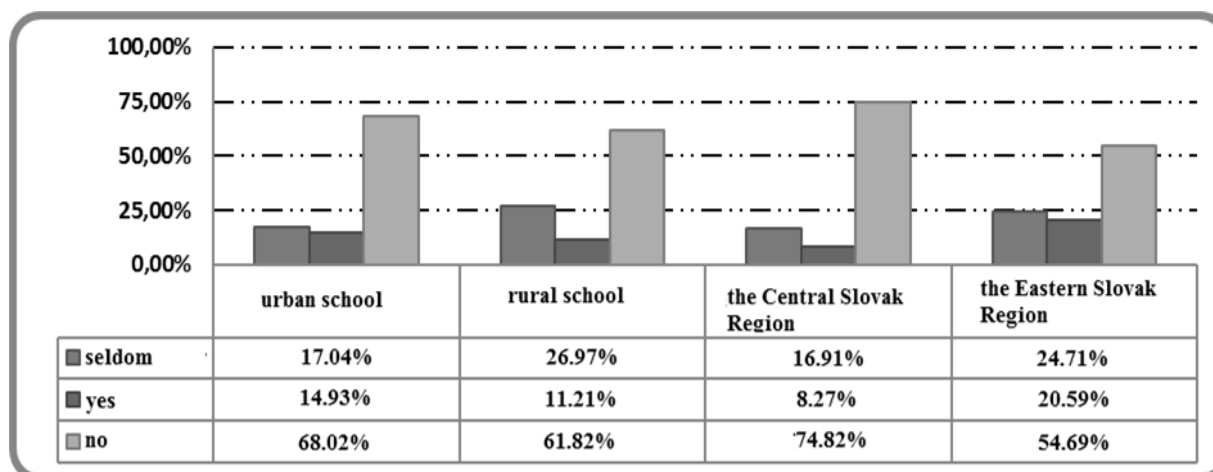


Fig. 15. Use of the sports activities offered to girls at school or at their place of residence

Table 15. Statistical evaluation – the use of sports activities offered to girls at school or at their place of residence

item	urban school/ rural school	Central Slovak Region/ Eastern Slovak region
Statistical significance	**	**
chi – quadrate test (value p)	p= 0.0008	p= 1.7957 E-11

Legend: statistical significance – $p < 0.01 = **$, $p < 0.05 = *$, $n =$ no statistical significance

4. Discussion

We found out that 20 % of girls take part in sports activities less than one hour during the working week and more than 40 % of girls spend one or two hours. The above mentioned students' groups support the results according to Nemeč (2015) 45.83 % of respondents spend their spare time actively, at least two hours per working week and 31.82% of respondents one hour.

Our respondents take part in sports activities for 3-5 hours during the weekend. As stated by the study of Nader et al. (2008) children at the age of nine perform sports activities more than three hours during the working week or the weekend, and their activities decrease with advancing age. At the age of fifteen they participate for 49 minutes per day during the week and even less during the weekend – only 35 minutes per day. As stated by Nemeč (2015), 42.8 % of secondary school students spend two hours on sports activities during the weekend and up to 37.12 % only one hour.

A positive aspect to consider is that more than 40 % of girls from urban and rural schools as well as girls in the Central and Eastern Slovak Regions take part in sports activities for more than five hours per day during holidays. On the other hand 27.27 % of girls at rural schools and 24.26 % in the Eastern Slovak Region take part in sports activities for less than three hours per day, which is considered alarming. This research only confirms the research by Antala (2012). They pointed out that physical education at schools is the only opportunity for many children to take part in sports activities. School inspections in the Czech Republic found that the amount of schools with extended studies in physical education in the school year 2009/2010 dropped about 14 % compared with 2009.

The research results show that the girls definitely prefer team sports (almost 50% in all the research groups observed). Just over 20 % of girls prefer individual sports. Our research results correlate with the findings of Antala (2012), Nemeč (2015) and others, who also found that the favourite sports activity is team sports.

We found out that girls prefer traditional team sports. Only some girls attending urban schools prefer lesser-known team sports (21.27 %). In rural schools the preference is even lower at 10.61 %, with the Eastern Slovak Region at 25.86 % and the Central Slovak Region at 11.33 %. The research results confirm the research of Formankova and Frömel (1999), who found strong interest in volleyball amongst girls. The research of Antala (2012) using a sample of 622 primary school girls shows that the most sought-after sport is volleyball.

The girls attending rural schools prefer the making of social contacts and mental relaxation to a lesser extent (6.97 %) and the girls attending urban schools to a higher extent (18.10 %) as a main motive to participate in sports activities. According to Roskova (2010), the quality of life is connected with sport to such an extent that sports activities among children should be perceived as a part of their healthy lifestyle. Given this reasoning, we were further interested in the main motive among girls for participating in sports activities. The girls attending rural schools (70.91 %) as well as the girls from the Eastern Slovakia (60.64 %) consider the main motive the improvement of their health, physical fitness and strength. As stated by Litt et al. (2011), 94 % of adolescent girls responded that the main motive for participating in sports activities is health improvement.

On the other hand the girls attending rural schools (45.10 %) as well as the girls from the Central Slovak Region (50 %) preferred the answer “figure improvement and body weight reduction”. Stackeová (2008) reached similar findings, that the main motivation to visit fitness centres is body weight reduction.

5. Conclusion

The research findings show that there are no statistically significant differences between the sports activities of primary school girls attending rural and urban schools during the working week. Respondents attending urban schools are more physically active during holidays compared to respondents attending rural schools and also respondents from the Central Slovak Region are more physically active than respondents from the Eastern Slovak Region ($p < 0.01$).

Participation in sports activities among girls is mostly recreational– the response frequency reached almost 50 % in all the research groups observed. The girls especially prefer team sports – more than 42 % of respondents. We also found out that improvement in health and physical fitness is the main motive for participation in sports activities among girls.

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