

## Attitudes of Pupils in Lower Secondary Education towards Geography Subject

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**Abstract:** *In our study, we dealt with the investigation of attitudes of elementary school pupils towards geography taught in schools which is at the lower education level represented by the school subject with the identical title. This research was carried out in years 2017 and 2018 in three elementary schools located in rural areas of Slovakia. The total average value for the examined components of the attitude among pupils attending grades 5 to 9 was 3.41 (SD = 1.43) which represents slightly positive attitudes of pupils towards Geography subject. Pupils reported that the most interesting geography contents were the topics taught in the 5<sup>th</sup> grade. As the most difficult they regarded the topics taught in the 6<sup>th</sup> grade (Regional Geography – Africa, Asia) and in the 7<sup>th</sup> grade (Regional Geography – Europe); by contrast, they think that the least difficult topics are taught in the 9<sup>th</sup> grade (Slovakia). They have most problems remembering the names of mountains, lowlands, rivers and countries. In the investigation of differences in attitudes of pupils towards Geography in individual grades of the lower secondary education the highest average scores were observed among 5<sup>th</sup> graders ( $x = 3.58$ ). By contrast, the lowest scores were achieved, surprisingly, by 6<sup>th</sup> graders ( $x = 3.27$ ). The average scores of Geography assessment by pupils slightly increased in 6<sup>th</sup> to 9<sup>th</sup> grades. The statistical analysis confirmed that the differences between individual grades and between genders as to the average score values achieved by the pupils are not statistically significant.*

**Keywords:** *attitudes, geography, school geography*

### Introduction

Despite a substantial progress in understanding the relevance, objectives and tasks of education in the field of geography observed in foreign countries, in Slovakia Geography remains to be a factual, descriptive, objective (dispassionate) discipline based on the encyclopaedic information. Rigidity of the education system in Slovakia, absence of continuous self-reflection after key decisions within the pedagogical research, as well as insufficient interconnection between the teaching practice, the academic environment and the latest scientific observations result in the fact that teachers hesitate to implement progressive approaches in teaching Geography. Education in the field of Geography responds to significant changes and events taking place throughout the world only with great delays. Such approach, applied also to other curricular school subjects, contributed to gradual distancing from the current topics that attract young people and who therefore pay their attention and devote their time to them. Is Geography really important for one's life in the society and should it hold a key position in the education system? Are not geographers from universities the only ones who believe that Geography is very important in order to understand the events that happen in the world and in Slovakia (see Gerber 2001)? Education in Geography should, especially in elementary schools, develop and support curiosity in pupils and a natural desire to get answers

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to the questions of why these events happen. Positive perceptions of Geography should also be contributed by the effect of fascination with exploring new, often exotically looking and unknown worlds. However, due to the progress in digital technologies the aspect of visual fascination has a much stronger effect on the initial engagement or even amazement of pupils.

In our study, we deal with the investigation of attitudes of elementary school students coming from rural areas towards Geography taught in schools. At the lower education level it is represented by the school subject with the identical title. We believe that with regard to the fact that these issues are often overlooked in Slovakia, our observations provide very valuable information on the development of pupils' relationship to Geography, the differences manifested in individual components of pupils' attitudes, as well as factors that substantially affect the formation of more persistent opinions when evaluating this school subject at schools in the rural areas. Later we plan to extend our research to schools in urban areas in Slovakia.

## **Background**

Attitudes are relatively permanent characteristics of one's personality that represent our evaluations, preferences, or refusals based on the information one possesses. Attitudes consist of three key components – the cognitive component, expressing the level of the gained knowledge of the object of an attitude; the emotional (affective) component, predicative of one's feelings, emotions and emotionally coloured reactions to the object of an attitude; and the conative (behavioural) component, representing a tendency to behave or act in a certain way with regard to the object of an attitude (Eagly and Chaiken 1993, Hogg and Vaughan 2005, Verešová, M. et al. 2011).

Several pedagogical research projects confirmed the fact that success and literacy of pupils in the field of science increase with their rising interest in that particular subject in schools (e.g., Inskip and Rowland 1965, Mager 1968, Bloom 1976, Haladyna and Thomas 1979, Shaughnessy and Haladyna 1985, Jones, Howe and Rua 2000, Prokop, Tuncer and Chudá 2007, Finn 2008). Analogously, adoption and development of a positive attitude to a particular school subject in one's childhood often affects their decision to pay more attention to the related issues in future (Carswell 1970). Unfortunately, systematic research on pupils' attitudes to school subjects is rather rare. Factors affecting attitudes of pupils towards Geography and towards the curriculum and the taught topics that affect the formation of positive associations to this subject are discussed in more details only in few research studies (Forsyth 1995, McKendrick 2001).

An interesting article on the relationship of pupils towards Geography is the paper titled "High School Students' Attitudes toward Geography" (McTeer 1979). The author presents the results of the investigation carried out with the group of 2092 secondary school students in the state of Georgia. Within the investigation of preferences among students for four school subjects (courses) classified as social sciences, Geography was evaluated as the least favourite subject. On the basis of discussions with students, teachers and administrators, author identified three significant problems in Geography education: (1) Students stated that Geography had been taught with a great number of place names to be memorized, and much of the course work had been rote memorization. (2) Geography courses are often assigned to a new teacher or to a teacher who is the lowest on the "pecking order." Such practice often causes a teacher to have a negative attitude towards teaching Geography. (3) Many social science teachers who give instruction in Geography have little academic preparation in the area. These teachers commonly have had only one course in Geography during their college training. According to McTeer, in order to change negative attitudes of pupils towards Geography, it is necessary to change the teachers' approach to teaching this subject and prefer exploration-based teaching methods and Geography projects at the expense of memorising the names of places, industrial products or climate types. Interest in Geography might also become

greater by preferring social concepts and principles as they are more attractive for students than the topics of physical geography. A positive effect of applying exploratory approaches to teaching on increasing attractiveness of Geography for students was also observed by Biddulph and Adey in their investigation (2004). In discussions students very clearly declared that it is important how the contents are presented and that teachers should preferably apply the teaching strategies focused on pupils' active learning, including the group work, work in the field, using ICT, application of investigative procedure and discussion (Biddulph and Adey 2004).

Similarly unfavourable results, as to the evaluation of the Geography subject, were also brought by the two-phase (1983 and 1993) research carried out with children from elementary schools in Texas (Sack and Petersen 1998). Authors of the study were monitoring the development and changes in the characteristics of pupils' attitudes towards Geography that covered a 10-year reformation period. In both monitored years, Geography was assessed as one of the least favourite subjects. From among the six subjects classified as social sciences, (except for Geography there is History, Economy, Sociology, Anthropology and Government, Geography held the fourth (1983) and the third place (1993), being the only school subject that moved upwards in the chart. In years 1983 to 1993, popularity of Geography experienced a statistically significant improvement. Number of pupils who reported that Geography was their first or second most favourite subject increased from 8% in 1983 to 14% in 1993. However, popularity of Geography was significantly lower than other monitored subjects. According to authors of the study, one of the causes of such situation is insufficient preparation of teachers as more than a quarter (26%) of them had not taken any college courses in Geography during their university studies.

Attitudes of students of secondary schools towards Geography lessons and the investigation of differences in their preferences, depending on their age (grade) and gender, are discussed in the study by Ozdemir (2012). The investigation was carried out in the school year 2011-2012 among secondary school students in the Turkish province of Karabük. 200 respondents (99 boys and 101 girls) expressed their attitudes on a 5-point scale towards various aspects of education in the field of geography. The questionnaire contained 34 items about students' opinions on the degree of difficulty of Geography curriculum, their emotional relationship to this subject, applied teaching methods and procedures, relevance and meaning of geography, as well as applicability of the knowledge of geography in everyday life. Contrary to the results of the research performed by Sack, Petersen (1998) and McTeer (1979), positive attitudes towards Geography were expressed by 83.5% of the addressed students. 70% of them think that Geography lessons are necessary and important for everybody, and 60.5% regard them as useful for our daily life. 70% of respondents believe that learning Geography makes it easier to make decisions and conclusions regarding the phenomena happening in the nature. As much as 92.5% of students expressed their positive attitudes towards the role which the Geography education plays in better understanding of their own country as well as the entire world. The research did not confirm statistically significant differences in pupils' attitudes towards Geography depending on their gender and age.

Attitudes of students towards Geography also represented the key focus of the research carried out by Sarkar, De and Maiti (2015). 800 pupils in India aged 14 to 16 years who lived in urban as well as rural habitats expressed their positive, negative or neutral opinions on 12 positively and 11 negatively formulated questions. The questionnaire on attitudes towards Geography was created by the study authors themselves and it was focused on six aspects (dimensions) of education in the field of geography – Geography Teacher; To Know a Place; Career in Geography; Recreational activities; Interest in Learning the Subject; Value of the Subject. The results did not confirm statistically significant differences in attitudes towards Geography between girls and boys. However, the study observations indicate there are statistically significant differences in attitudes towards Geography between children of urban

and rural habitats. Children of rural habitats perceived Geography in more positive way. The study also confirmed the hypothesis that attitudes towards Geography significantly affect the pupils' approach to the subject and their achievements in this area.

The research instrument consisting of 20 items with the 5-point Likert-type scale of answers and focused on how Geography is perceived by university students was used by Verma and Deshpande (2016) in their research project. They carried out the research with students in their 1st year of bachelor studies at the Fiji National University during their first week of study. 72 students aged 18 to 30 years answered the questions regarding the degree of attractiveness of Geography lessons, difficulty and usefulness of the subject, as well as attractiveness (popularity) of selected geography topics. The questions also concluded the items regarding appropriate teaching methods, teaching aids and procedures that help students better understand geography topics. The analysis of the obtained results indicated a prevailing neutral attitude among the addressed students towards Geography. Geography was a little less positively assessed by male students. However, the research did not confirm any differences in gender or age of respondents in how Geography is perceived. Interesting research observations resulted from the assessment of importance of a Geography teacher in the formation of a positive or negative attitude towards Geography, as well as the teaching activities that facilitate better understanding of the Geography curriculum. As much as 87.5% of respondents agree (66.66% strongly agree and 20.83% agree) with an opinion that a teacher who teaches Geography makes a big difference to whether students like or dislike it. Even higher consent percentage (97.21-68.05% strongly agree and 29.16% agree) was observed for student's statement that they understand geography better when they have a discussion about it. As to the Geography curriculum, students enjoy learning about environmental issues the most (94.44-58.33% strongly agree and 36.11% agree). 95.83% (61.11% strongly agree and 34.72% agree) of respondents think that the knowledge of geography will be useful for them in their adult lives. In the final section of their study authors express their inclination to the opinion of Paul Weeden (2007) that "Pupils' perception of the subject and the way it is taught is crucial (decisive), especially for Geography. The research suggests that in making Geography interesting, the learning process and the quality of the teaching are far more influential than the subject content."

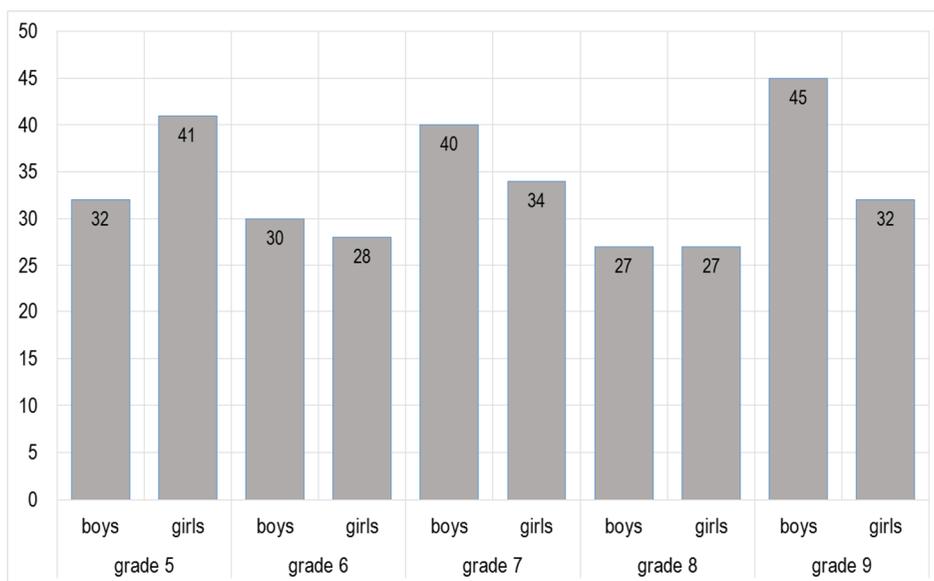
Significant findings, with regard to Slovakia (common traditions and similarity of both school systems), were presented by the research focused on the investigation of pupils' attitudes towards Geography carried out in the neighbouring Czech Republic by Kubiato, Janko and Mrazkova (2012). The research was carried out with the group of 540 pupils aged 11-15 years from six elementary schools. In questionnaires the children expressed their opinions on four topics – Geography as a School Subject; Geography and the Environment; Importance of Geography; and Relevance of Geography Lessons to Pupils' Lives. The research did not confirm statistically significant differences in how Geography is assessed by girls versus boys. However, statistically significant differences were observed between pupils in individual grades. With the rising age of pupils and the rising grade, the attractiveness of Geography decreased. Boys assessed Geography a little more positively than girls. According to study authors, the reasons of such differences in how Geography is perceived by pupils in lower and higher grades of elementary schools consist in the contents and the focus of the Geography curriculum. While in lower grades Geography is mainly focused on global issues that combine the knowledge of various science disciplines, pupils in higher grades pay most of their attention to geographical characteristics of selected regions and the Czech Republic. Moreover, in lower grades teachers apply various games and quizzes to the teaching process considerably more frequently; this also contributes to the popularity of Geography. Similarly to the situation in Slovakia, also in the Czech Republic the Geography curriculum is resistant to changes in the long run (Řezníčková 2003). Great emphasis is constantly put on memorising facts on the regional geography at the expense of the application of the geography knowledge

in everyday life (Hynek 2000, 2002). Kubiátko, Janko and Mrazkova (2012) state that another potential cause of a decreased interest in Geography among older pupils is lower prestige and underestimating the relevance of geography taught in schools as compared to other science disciplines, such as Chemistry, Physics, or Biology. The general opinion is that Geography subject is only a matter of naming capital cities and locations of countries and other places. The real potential of Geography to explain interrelationships between natural and social phenomena and their spatial aspects is acclaimed only by people interested in the matter. If Geography becomes a respected scientific discipline in society, its position as a school subject will improve. In this regard, there is a lot of work to be done (Kubiátko, Janko and Mrazkova 2012).

## Research methods

### *Research participants*

The research participants were 336 pupils in the grades 5-9 of three elementary schools located in the northern Slovakia. These are the pupils from the rural habitats Čierne, Svrčinovec and Skalíté which lie near the state borders of Slovakia, Czech Republic and Poland. Out of the total number of respondents, there were 174 (52%) boys and 162 (48%) girls. Accurate numbers of pupils participating in the research are presented in Fig. 1.



**Fig 1.** Categories of pupils participating in the research by gender and grade

### *Research instrument*

The research instrument selected for the purpose of the investigation of attitudes of pupils in the lower secondary education towards Geography was a questionnaire. It was distributed and administered to pupils in a printed form. Pupils expressed their answers on the 5-point Likert-type scale. When drawing up and selecting individual questionnaire items, we applied not only our own knowledge and experience but also the information gained through our previous investigations and similar questionnaires examining the attitudes of pupils towards science subjects (Prokop, Prokop and Tunnicliffe 2007, Salta and Tzougraki 2004, Uşak et al. 2009, Hrabal and Pavelková 2010, Kubiátko, Janko and Mrazkova 2012).

The introductory section of the questionnaire contained short instructions on how to complete the questionnaire and questions inquiring about basic demographic characteristics of

respondents. The key section contained 18 attitude statements. Each item was supplemented with a 5-point scale (I strongly agree – I partially agree – I cannot decide – I partially disagree – I strongly disagree) which was converted into a numerical scale ranging from 1 (I strongly agree) to 5 (I strongly disagree) for the purpose of preparation of the evaluation conclusions. Negative statements were coded in the reverse order (items 1, 4, 5, 7, 8, 11, 13, 15, and 18 in our questionnaire). The items were focused on all three components of an attitude – cognitive, affective and conative. Each component was mapped by 6 items while the items identifying individual components of an attitude were arranged in the questionnaire in a consecutive order.

The final section of the questionnaire was represented by one item only in which pupils were asked to state what or who had the strongest effect on their attitude towards Geography. Pupils could choose from four options and if none of the options was appropriate for them, they could write their own answer. The research instrument was subjected to the pilot verification and it was validated by experts in didactics and in-service Geography teachers.

### *Procedure*

The research was carried out in the second half of the school year 2017/2018, in February and March, in three rural elementary schools in the Čadca District. The research participants were 336 respondents, 5-9 grade pupils. Out of them, there were 174 boys and 162 girls. Each of the participating schools made special arrangements to allow completion of the questionnaires. The printed questionnaires were administered by the researchers themselves or by teachers, most frequently at Geography lessons, class agenda lessons, or substituted lessons. Teachers had been instructed beforehand on how to work with the research instrument, and pupils, before they started to complete the questionnaires, were notified of the anonymous processing of the results and the use of the obtained information for the research purposes only. The time required to complete the research instrument was not limited. It takes between 10 minutes (higher grades) and 15 minutes (especially pupils in grades 5 and 6). All questionnaires (n = 336) were completed so that they were eligible for the analysis.

### *Statistical procedure*

The data obtained from the administered questionnaires were subjected to the statistical analysis that contained basic descriptive characteristics (arithmetic average, modus, median, standard deviation, etc.). Reliability of the key section of the research instrument containing the scaled items measuring the attitudes of pupils was measured by calculating the Cronbach's alpha coefficient which examines the relationships between the research instrument items and between the research instrument as a whole. In order to verify normal distribution of the data, we applied the test of normality, in particular the Kolmogor-Smirnov test. As the normality test did not confirm normal data distribution, for the purpose of comparison of the results with regard to gender we used the non-parametric two-sided Mann-Whitney U test (Wilcoxon Sign Test) which compares the medians of two independent sets. In order to compare the results of several groups, we used the tests of significance of the differences between several sets, in particular the Kruskal-Wallis test. It is a non-parametric alternative to the single-factor Analysis of Variance (ANOVA) which tests the significance of differences in medians or in the distribution of a variable among several sets. As the post hoc test we applied the Bonferroni Correction.

## **Results and Discussion**

Attitudes of pupils towards Geography were investigated by means of 18 closed items of the questionnaire with the 5-point scale expressing the degree of agreement/disagreement with a particular statement. Reliability of the research instrument was verified by calculating the Cronbach's alpha coefficient which reached the value  $\alpha$  of 0.84. This value confirms the reliability of the measured data.

The total average value for the examined components of an attitude of pupils in grades 5 to 9 was 3.41 (SD = 1.43). The median reached the value of 3.44 and the modus was 3.61. The average above the mean of 3 indicates that attitudes of pupils towards Geography are slightly positive.

On the basis of the average scores achieved by the pupils we divided the assessment interval into three categories: a positive attitude: <3.111-5>; a neutral attitude: <2.888-3.111>; and a negative or even refusive attitude: <1-2.888>. Out of the total number of respondents participating in the research, the group of pupils with a neutral attitude towards Geography was the smallest one (10.7%) (Table 1). A negative attitude was reported by 19.4% of respondents. By contrast, a positive attitude towards geography was expressed by as much as 69.9% of respondents. If we compare our findings to similar research projects, a higher percentage of respondents with a positive attitude towards Geography was only observed by Ozdemir (2012) among Turkish pupils (83.5%).

**Tab. 1.** Percentages of respondents in individual categories of attitudes towards Geography

Attitude	Number of boys	Percentage out of the total number of pupils (%)	Number of girls	Percentage out of the total number of pupils (%)	Total number of pupils	Percentage out of the total number of pupils (%)
Negative	35	10.4	30	8.9	65	19.4
Neutral	21	6.3	15	4.5	36	10.7
Positive	118	35.1	117	34.8	235	69.9
<b>Total</b>	174		162		336	

On the basis of the analysis of the average scores in individual items, the highest score ( $x = 4.46$ ) was observed in item 3. This result confirms regular and frequent use of teaching aids, such as maps, atlases, or globes, at Geography lessons. The second highest score ( $x = 4.25$ ) was observed in item 14 out of the group of questions assessing the affective component of an attitude. In their answers pupils expressed their relationship to their Geography teacher. Our findings prove that a majority of pupils like their Geography teacher and Geography lessons are generally popular. The average score value of 4 was achieved in item 11; this means that only a few pupils hate Geography lessons. High rate of popularity of the Geography subject as well as positively perceived Geography teacher provide a very good basis for adopting inevitable changes in the Geography curriculum and introducing progressive teaching methods and strategies into the process of teaching Geography. With regard to the aforesaid, it is remarkable that, by contrast, the total average scores ( $x = 2.05$  and  $x = 2.13$ ) were achieved in items 12 and 6 (the conative component) which indicate a very poor interest among pupils in creating their own Geography projects in future or in preparing maps for a particular geography topic. Pupils also lacked the passion for natural sciences and they do not associate their future with this field of science. A conflict between a relatively high degree of attractiveness of Geography for the pupils and their unwillingness to deal with it in future may be explained in several ways. Firstly, the profession of a geographer only exists in scientific institutions and pupils do not meet such experts very often in their everyday lives. Pupils draw conclusions on the relevance, work and tasks of a geographer merely from the contents of the relevant school subject in which the emphasis is still being put on the encyclopaedic information and facts. On the other hand, Geography lessons belong to only a few opportunities for pupils to be confronted with the events happening in the world and to explore extraordinary natural phenomena, social events and cultural monuments.

Interesting implications were also brought by the comparison of individual components of an attitude by grades (Tab. 2). The table (item 1) shows that pupils regard the contents of the curriculum in grades 6 (Africa, Asia) and 7 (Europe) as the most difficult, and by contrast, they regard as less difficult the contents taught in grade 9 (Slovakia). As indicated by the results in item 4, pupils of grades 6-9 have difficulties remembering the names of mountains, lowlands, rivers and countries. The average score values are rather low ( $x = 2.43$  to  $x = 2.96$ ) here and the lowest ones were observed for pupils in grades 7 and 6. Pupils in grade 5 do not report such

problems yet. A positive side is that pupils in all grades are not bored with Geography lessons (item 5,  $x = 3.72$ ). There were very interesting observations in item 6 where we saw rather low average score values and gradually decreasing tendency of pupils' interest in working in the field of natural sciences as they advance to higher grades. The average score value of 1.649 in grade 9 is even alarming. In the future the issues regarding a decreasing interest among pupils in natural sciences would definitely deserve more detailed analyses of the causes, including the suggestions for potential solutions of this unfavourable situation. The finding that with the higher grade the pupils experience less and less problems working with maps, graphs and tables (item 7) may be regarded as positive. In item 8, pupils regard Geography as a moderately important subject compared to other subjects ( $x = 3.15$ ). Similar results were obtained in the Czech Republic by Hrabal and Pavelková (2010) and in Oman by Al-Nofli (2010). By contrast, Greek authors regard Geography as only a little important (Likouri and Klonari 2017).

*Tab. 2. Achieved average scores in individual items by grades*

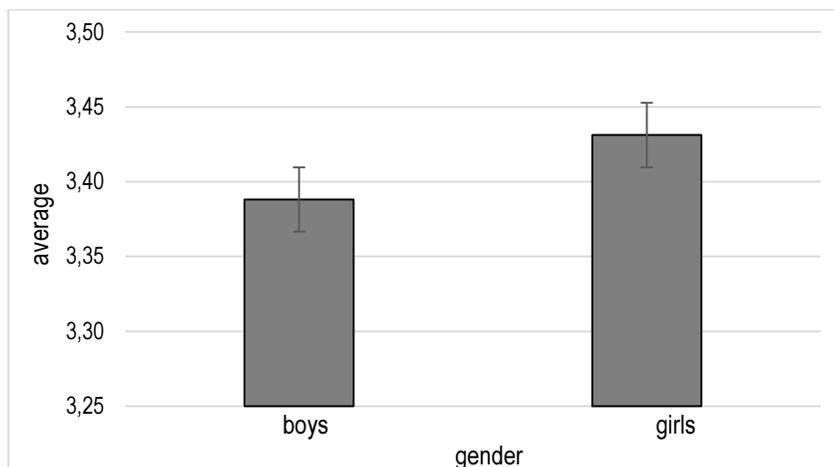
	Statement	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	$\bar{x}$
1	Geography topics are very difficult for me.	3.19	2.81	2.93	3.61	3.77	3.27
2	I quite like Geography lessons.	3.93	3.60	3.60	3.65	3.61	3.68
3	At Geography lessons we use maps, atlases, globes and other aids.	4.62	4.55	4.24	4.63	4.35	4.46
4	The most difficult for me is to remember the names of mountains, lowlands, rivers and countries.	3.23	2.47	2.43	2.85	2.96	2.80
5	I am bored with Geography lessons.	3.77	3.71	3.63	3.98	3.57	3.72
6	After I graduate, I would like to work in the field of natural sciences.	2.58	2.38	2.24	1.76	1.65	2.13
7	The most difficult for me is to work with maps, graphs and tables.	3.34	3.53	3.61	3.85	3.86	3.64
8	Geography is not an important subject as compared to other subjects.	3.43	3.02	3.17	3.04	3.03	3.15
9	When I am abroad, I use my geography knowledge.	3.43	3.18	3.05	3.22	3.10	3.19
10	Geography topics are interesting.	4.19	3.76	3.76	3.54	3.68	3.80
11	I hate Geography lessons.	4.19	3.71	3.93	4.00	4.10	4.00
12	In future I would like to create a map or a geography project myself.	2.38	2.33	2.09	1.57	1.79	2.05
13	Knowledge of geography is useless for me, it is not necessary for one's life.	4.14	3.71	3.61	3.89	3.75	3.82
14	I like our Geography teacher.	4.12	4.10	4.33	4.24	4.40	4.25
15	I am sure I do not want to study Geography in the future.	4.03	3.74	3.73	3.67	3.69	3.78
16	I think that I will use the knowledge of Geography in my future career.	3.16	2.52	2.76	2.57	2.56	2.73
17	Geography knowledge helps us solve many problems (environment, economic problems, etc.).	3.81	3.21	3.45	3.52	3.71	3.56
18	I am sometimes worried before a Geography lesson.	2.85	2.55	3.20	3.96	4.10	3.34
$\bar{x}$		3.58	3.27	3.32	3.42	3.43	<b>3.41</b>

According to pupils' statements, the most interesting topics (item 10) were taught in grade 5. These topics reached a high average score value – 4.19. Moreover, pupils in other grades assessed attractiveness of the taught topics rather highly ( $x = 3.80$ ). A high average score value ( $x = 4.40$ ) was reached by 9th graders in item 14 related to popularity of their Geography teacher. Pupils in their highest grade of the lower secondary education, as compared to younger pupils, already have rather well-developed critical thinking, that is why we regard this result to be very positive. The greatest fear before a Geography lesson (item 18,  $x = 2.55$ ) was reported by 6th graders; this corresponds to the finding that they regard the topics taught as difficult. The percentage of pupils reporting fear before a Geography lesson decreased in grade 7 and higher and in grade 9 the average score value was 4.10.

The knowledge of geography is usually not regarded by pupils as useless (item 13,  $x = 3.82$ ), and they believe that such knowledge may in future solve many problems, either economic or environmental (item 17,  $x = 3.56$ ). Our findings confirm the results of the investigations carried out by foreign researchers Verma and Deshpande (2016) and Ozdemir (2012).

As the Kolmogor-Smirnov test did not confirm normal distribution of data, for the purpose of analysis of the effect of gender we applied the non-parametric two-sample Mann-Whitney test. The effects of the grade and the school were analysed applying the Kruskal-Wallis test.

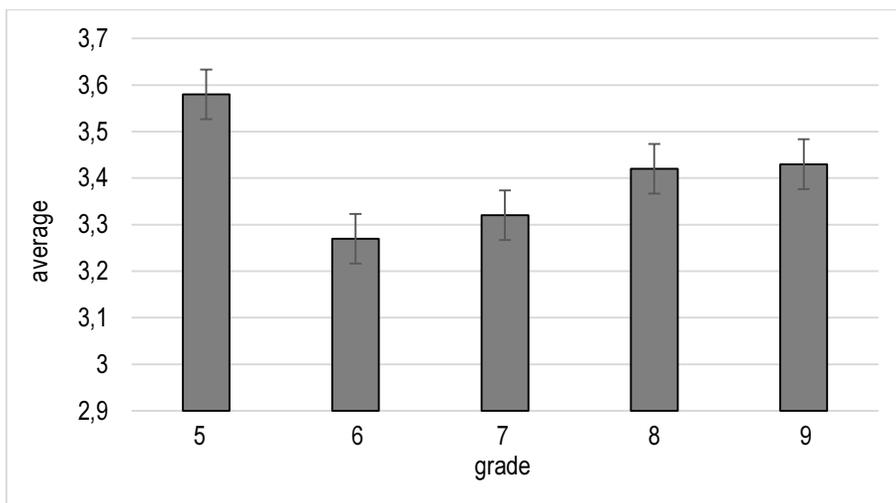
As for the gender (Fig. 2), boys presented more negative attitudes towards Geography ( $x = 3.39$ ;  $SD = 0.72$ ) than girls ( $x = 3.43$ ;  $SD = 0.61$ ). However, the Mann-Whitney test did not confirm a statistically significant difference between scores for boys and girls; we can therefore state that attitudes of pupils towards Geography were not affected by their gender ( $W = 14,287.0$ ;  $p = 0.83$ ). Also, Verma and Deshpande (2015) did not observe any statistically significant impact of gender on attitudes of pupils towards Geography. With regard to this, it should be noted that the research in Fiji was carried out with university students at the Fiji National University. Similar investigations we carried out in the Czech Republic by Hrabal and Pavelková (2005–2007) and by Kubiátko, Janko and Mrázková (2012). These investigations revealed only small and statistically insignificant differences in attitudes towards Geography between boys and girls while boys achieved slightly higher scores than girls.



*Fig. 2. Total average scores for attitudes by gender*

Within the investigation of differences in attitudes of pupils towards Geography between individual grades of the lower secondary education, the highest average scores were observed in 5th graders ( $x = 3.58$ ). By contrast, the lowest average scores were achieved by 6th graders ( $x = 3.27$ ) which was a surprising finding. Average scores in the assessment of Geography by

pupils in 6th to 9th grades were slightly rising while pupils in 8th and 9th grades showed similar results (Fig. 3).



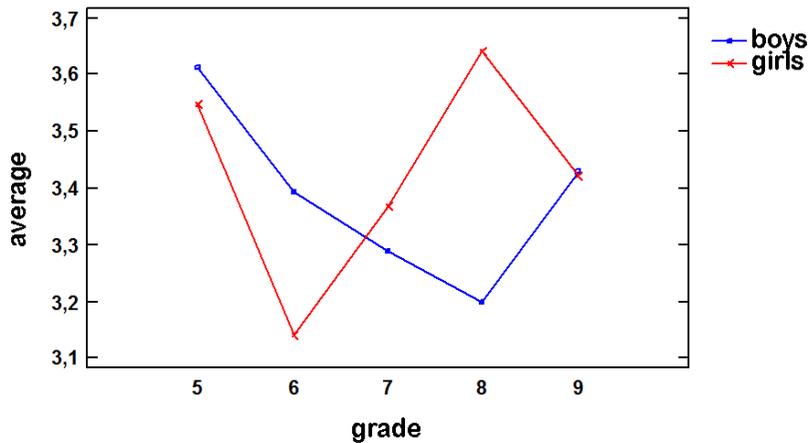
**Fig. 3.** Total average scores for attitudes by grade

The highest average scores observed in grade 5 may be attributed to several factors, including the so-called 'wow' effect of pupil amusement by the contents of a new school subject titled Geography which is in this particular grade focused on exploring and understanding the planet Earth through 'travelling' across globally attractive places created either by nature or by humans. Very positive attitudes towards this subject might also be contributed by the fact that the weekly number of Geography lessons in grade 5 is a one lesson more than in another grades, i.e. 2 lessons per week. Thus, pupils are provided a larger scope for discussions on the presented topics and teachers are allowed to enrich the teaching process with mobilising activities like games, competitions or trips and excursions. By contrast, the lowest scores observed in grade 6 ( $x = 3.27$ ) reflect a significant change in the characteristics of pupils' attitudes towards Geography. Pupils are confronted with the traditionally structured learning contents regarding the regional geography of the world. Despite the fact that in this grade pupils learn about naturally and socially attractive continents of Africa and Asia, their sensation of difficulty is associated mainly with a growth in the amount of information (factographic data, names of mountains, lowlands, rivers and countries) which they are required to memorise. A gradual slight increase in the amount of positive attitudes towards Geography in grades 7, 8 and 9 may be attributed to the stabilisation of pupils' attitudes towards this subject. Pupils no longer have high expectations and possess sufficient knowledge of geography topics and of the most frequently applied approaches to teaching Geography.

The statistical analysis of the obtained data confirmed that the differences in the achieved values of average scores between pupils in individual grades are not statistically significant ( $H = 7.11$ ;  $p = 0.13$ ). Our observations are, to a certain extent, in conflict with the observations by Kubiátko, Janko a Mrazkova (2012) who reported that the average scores for attitudes of pupils towards Geography in the Czech Republic significantly decreased in higher grades. Our findings confirm the results of the research projects carried out by Ozdemir (2012) and Sarkar (2015).

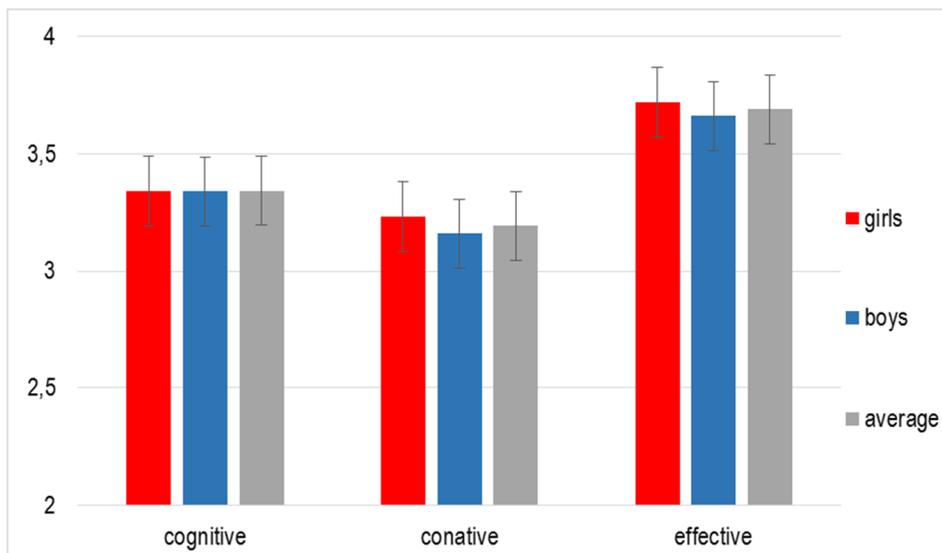
By comparing the attitudes of pupils in terms of the schools they attend we observed statistical significance of the measured differences ( $H = 11.55$ ;  $p = 0$ ). Thus, we can state that a school represents the factor that affected the attitudes of pupils in our group of research participants towards Geography.

We also analysed the interactions among pupils divided into groups by their gender and grade (Fig. 4), and we did not observe any significant difference in the results. The greatest differences in the achieved average scores between genders were manifested in grade 8 where girls achieved the highest average out of all grades and, by contrast, boys showed the lowest average out of all grades. Rather balanced scores were achieved by the 9th graders.



*Fig. 4. Average scores for boys and girls in individual grades*

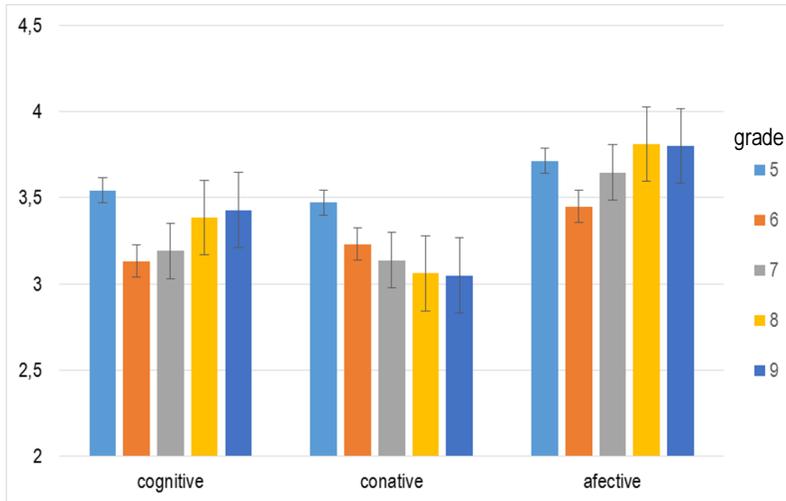
The achieved values categorised by the cognitive, conative and affective components (Fig. 5) were subjected to the statistical analysis. The highest value was observed for the affective components ( $x = 3.69$ ) and the lowest one for the conative component ( $x = 3.19$ ).



*Fig. 5. Average scores for individual attitude items by gender*

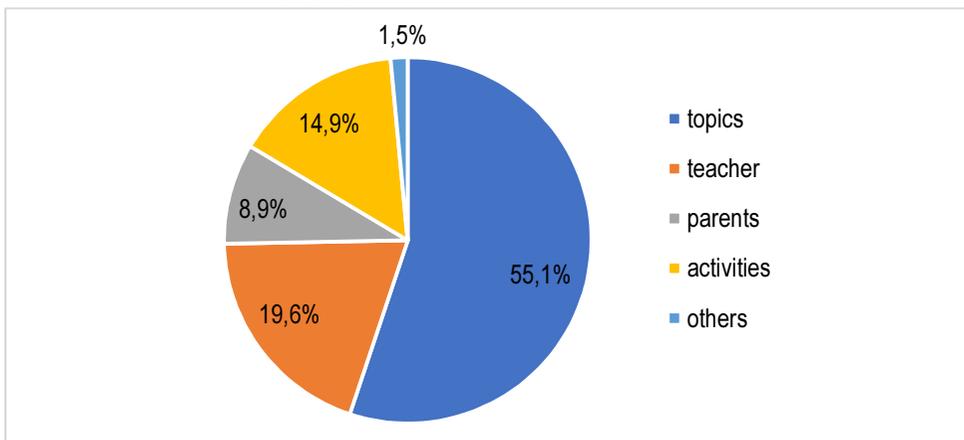
The analysis of the results of attitude items with regard to gender did not show any statistically significant differences in the cognitive component ( $W = 13,891.5$ ;  $p = 0.82$ ), conative component ( $W = 14,722.5$ ;  $p = 0.48$ ) or affective component ( $W = 14,609.5$ ;  $p = 0.56$ ). As for the grade (Fig. 6), statistically significant differences were confirmed in the

cognitive component ( $H = 11.77$ ;  $p = 0.02$ ) and conative component ( $H = 16.03$ ;  $p = 0$ ). The subsequent post hoc test confirmed a statistically significant difference in the cognitive component between grades 5 and 6. The analysis also confirmed statistically significant differences in the conative component between grades 5 and 7, and between grades 8 and 9.



**Fig. 6.** Average scores in individual attitude items by grade

The analysis of answers to the last question regarding the factors with the strongest impact on attitudes of pupils towards Geography did not confirm our assumption that it would be a teacher. The most significant factor affecting attitudes of pupils towards Geography, as reported by the pupils, was the content of the topics (55.1%). Even though teachers were only reported to represent such factor by 19.4% of pupils, the results confirmed statistically significant differences between the participating schools. Therefore, we may assume that even though teachers are not perceived by pupils as a decisive factor, they significantly affect pupils' attitudes towards Geography. The factor on the third place, as reported by the pupils, represented activities performed at Geography lessons (14.9%), while the attitudes of some of the pupils were affected by their parents (8.9%). Only 5 pupils (1.5%) did not choose any of the offered options as their answer. Factors that were added by pupils included their classmate, friend or a desire to travel (Fig. 7).



**Fig. 7.** Factors affecting attitudes of pupils towards Geography

## Conclusion

In our study, we dealt with the investigation of attitudes of elementary school pupils from rural areas towards Geography taught in schools which is at the lower, as well as higher, education level represented by the school subject with the identical title. As the research instrument we used our own questionnaire which was distributed and administered in a printed form. The key part of the questionnaire consisted of 18 items formulated as positive and negative statements. The items were scaled into five levels of the Likert-type scale and arranged so that each component of an attitude (cognitive, conative and affective) is covered by six statements.

The value of the total average score was 3.41; this proves that positive attitudes of pupils towards Geography prevail. Since research on pupils' attitudes towards Geography in urban agglomerations of Slovakia hasn't yet been carried out, we cannot objectively assess the impact of rural environment on pupils' attitudes towards Geography. For this reason we plan to extend our research and realise it also at schools in the biggest cities in Slovakia.

There were no statistically significant differences between boys and girls as to their attitudes towards Geography; such finding confirms the results of a majority of the research projects carried out abroad (Kubiatko, Janko and Mrazkova 2012, Ozdemir 2012, and Sarkar, De and Maiti 2015).

When comparing the differences in attitudes of pupils towards Geography depending on the grade, it was not confirmed that pupils in lower grades (5 and 6) would have more positive attitudes towards Geography than pupils in higher grades (7, 8 and 9). Although the highest average score (3.577) was achieved by the 5th graders, the lowest one was observed in 6th graders (3.27). In grades 6 to 9 the average scores slightly increased, and pupils in grade 8 and 9 showed only a minimum difference in the achieved average score. Similarly to the investigation with Turkish pupils performed by Ozdemir (2012), the statistical analysis did not confirm statistically significant differences in the impact of the grade on pupils' attitudes towards Geography.

As the attitude combines these three components – cognitive, conative and affective, in our research we also compared these components with regard to Geography. A statistically significant difference in the cognitive component was observed between grades 5 and 6 only. This may be attributed to changes in the Geography curriculum in grade 6 which is focused on the topics covering the regional characteristics of various areas of the world. Our research confirmed that even though pupils showed a positive relationship to Geography, they regard the topics taught as interesting and like their Geography teachers; however, they are not interested in working in the field of natural sciences in future. The investigation on the causes of such lack of interest and the search for potential procedures and long-term strategies aimed at eliminating the conflict between a positive image of Geography among pupils and the lack of desire to work in this field should represent the subject matter of further research.

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