

# FACTORS AFFECTING GEOSITE VISITS BY STUDENTS OF PRIMARY AND SECONDARY SCHOOLS: AN EXAMPLE OF THE CITY VRANOV NAD TOPL'OU (SLOVAKIA)

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## Abstract

This research investigates the factors affecting students of primary and secondary schools in a geotourism context. Information for research has been identified by questionnaire. Visiting the geosites is most frequently related to nature-based tourism which may be considered one of the most widespread interest activities of outdoor recreation. This study provides an initial investigation into the motivation factors of students and the relationship between these motivations, factors and the behavioral intention of the students to visit a geosite. Knowledge of these factors can significantly affect effective management and planning within the development of geotourism and related tourism forms at various locations as well as geoeducation at schools.

**Key words:** geosite, analysis, visit, geotourism, Slovakia

## Introduction

In recent decades, the tourism of young people and students who try to travel as cheaply as possible, use public transport, spend the night outdoors, under a tent, or use cheap accommodation, has expanded significantly. In addition, the situation with the COVID pandemic has significantly affected the travel behavior of many tourists. Domestic destinations have become more significant, and people have spent more time in natural environment. Many natural beauties have been "rediscovered". In this context, natural forms of tourism, such as geotourism or ecotourism, play an irreplaceable role.

This article aims to find out, on the example of a selected group of primary and secondary school students in the town of Vranov nad Topľou, what are the factors that influence students when visiting geosites.

Geosite is a part of the geosphere that is important to us for understanding the history of planet Earth. Geosites are defined mainly as geological or geomorphological objects that have the following values: scientific (sedimentary excavations, glacier remains); cultural-historical (religious or ceremonial values); aesthetic (some mountainous or coastal areas); socio-economic (aesthetic landscape areas as tourist destinations) (Reynard 2004).

Geosites, especially from the perspective of classical geology, include various abiotic nature features, such as: structural, petrological, geochemical, mineralogical, paleontological, hydrogeological, sedimentary, pedological, geomorphological.

Geosites can be individual-specific objects (springs, lava flows) or larger systems (river systems, glacial objects, coastal landscapes). Active geosites allow the visualization of geo(morpho)logical processes in action (active volcanoes, river systems) while passive geosites indicate past processes. In this case, they have a special historical value as the Earth's chronicle (documenting landscape development, life history, and climate change).

The main threats to geosites are construction work, but also erosion or changes on Earth, often due to human influence. According to Icelandic Institute of Natural History (2018), the main reasons of geosites damage include: (1) destruction - can be caused using certain minerals, (2) reduction - caused by roads, construction works, and (3) overlap - caused by reservoirs, inhabited areas, landfills, land reclamation, afforestation, etc.

The priority of protection from a scientific point of view could be, e.g., places where: geosite is well preserved and of scientific importance, the history of geological periods or events is preserved, a lot of research has been done and there is a long history of research, it is possible to repeat research and study (including teaching), a lot of geological (geoscience) knowledge has been acquired, a certain geological period has been examined and described (reference point), and/or there are world-unique elements of geoheritage.

However, from the geotourism perspective, in addition to the above-mentioned cases, attention should be paid to localities where the interest of (geo)tourists exceeds the scientific character of the place, because such geosites are of undeniable economic importance and can contribute to increasing the level of (geo)education. It is therefore very important that such places are given due attention in the context of managing their protection and development.

## Material and methods

Information concerning the factors that affect primary and secondary school students when visiting geosite were obtained through a questionnaire. The questionnaire is one of many research methods that use mainly mass and rapid collection of information. In this way, we learn about the knowledge, opinions, and attitudes of the interviewees to various facts (current or potential). As a research tool, the questionnaire is a research, diagnostic, and development tool. The questionnaire method is subjective, not costly, and allows a detailed and accurate statistical analysis of the results. Questionnaires often provide information on various aspect of respondents' lives (Georgia Institute of Technology 2007).

For this study, a questionnaire in paper form was created to find out the factors that influence primary and secondary school students to visit geosite. The questionnaire was completed by 250 respondents and consisted of 12 items. The following were used in creating the questionnaire:

- 10 closed items - alternative answers to the questions were predetermined. Two of these questions were in the form of an assessment question using the Likert scale (Likert 1932) with 5 levels (1 - absolutely irrelevant/absolutely disagree; 2 - rather irrelevant/rather disagree, 3 - neutral/don't know, 4 rather essential/rather agree, 5 - completely important/I totally agree.
- 2 semi-closed items - the questions were prepared in advance - the correspondent could choose several answers.

The questionnaire consisted of the following items:

1. Gender.
2. Age.
3. Which year do you attend?
4. What type of school do you attend?
5. How often do you visit geosites? (e.g., caves, gorges, mountains, waterfalls).
6. Do you look for any information about the geosites before the visit?
7. Where do you get information about geosites?
8. If a quantitative assessment of geosites were available, would it influence your choice and decision-making when visiting geosites?
9. Do you visit sites/natural geosites within the school? (outdoor school, hiking club, military exercises)
10. If yes, what geosites do you visit?
11. What is important for you when choosing specific geosite?

## Results and discussion

Out of the total number of 250 processed questionnaires, 120 male respondents and 130 female respondents took part in the research. The group of respondents aged 14-17 was the most numerous, consisting of 1620 respondents (64.8%). Basic demographic data are summarized in Table 1. 155 respondents stated that they visit geosites at least once a year. 15 students stated that they do not visit geosites at all. The answers show that more than half of the respondents (142 respondents) search information about geosite before the visit. The most frequent information source is internet (191), followed by family and friends (60), and school (58). Magazines (8) and radio (10) have been identified as the least used sources of information on geosites. Within the school (teaching), the majority of respondents visited geosites (233), stating that they most often visit (1) castles, chateaux, manors (178), (2) nature trails (154), museums, and open-air museums (147) and caves (99).

The analysis of the survey results (Table 2) shows that the most important criteria influencing the attendance of geosites by primary and secondary school students are: security, visual attractiveness and uniqueness. These three criteria indicate that when a student decides to visit a geosite (whether with family, at school, or alone), safety at the site is the most important factor. This is natural, as many of the geosites are not properly secured and are often abandoned (e.g., quarries, abysses, overhangs but also some caves or mines). The visual attractiveness of geosite is also important because if a student decides to visit given geosites, he/she must have been interested in something. If student sees photographs and videos in various forms of mass media communication, it can significantly influence his/her visit to given geosites. The uniqueness is self-evident only because every geosite, whether within Slovakia or in any part of the world, is in some way unique for its future visitor.

The criteria "sale of souvenirs", "registration in UNESCO" and "number of visitors" reached the lowest value. These criteria reached a value of 2.26; 2.49 and 2.72. This means that it is rather irrelevant for the students whether they can bring a souvenir from the geosites. Also, students consider rather irrelevant to them whether the geosites is included in the list of important sites, i.e., in the United

Nations Educational, Scientific, and Cultural Organization (UNESCO). This may be because students are not so interested in this category of sites, which can be a huge mistake. Such geosites are usually the most important, most beautiful, and most visited. They are often excellently promoted, so students should learn about them more, whether at school or in another form, such as mass media communication. Students also consider rather irrelevant how many visitors have visited or are visiting these geosites.

Tab. 1: Demographic data of respondents

Demographic item	Value	Number	Percentage
Gender	Male	120	48%
	Female	130	52%
Age	11-13 years	34	14%
	14-17 years	162	65%
	18-20 years	54	22%
Type of school	primary school	81	32%
	secondary school	169	68%
Class	8th class (primary school)	41	16%
	9th class (primary school)	40	16%
	1st class (secondary school)	38	15%
	2nd class (secondary school)	42	17%
	3rd class (secondary school)	50	20%
	4th class (secondary school)	39	16%

Tab. 2: Analysis of criteria influencing geosite selection by primary and secondary school students

Criteria	Diameter	Deviation
uniqueness	3,67	1,02
entrance fee	3,26	1,05
availability of information	3,28	1,04
opportunity to gain new knowledge	3,06	1,13
attendance	3,26	1,06
length of visit	3,43	1,10
presence of a guide	3,01	1,14
sale of souvenirs	2,26	1,09
security conditions during the visit	3,84	1,18
visual attractiveness	3,72	0,96
possibility to eat	3,55	1,08
possibility of accommodation	3,14	1,14
distance from place of residence	3,17	1,17
number of visitors	2,72	1,10
access	3,54	1,07
geosite is on the UNESCO World Heritage List	2,49	1,15

The obtained results show slight deviations in comparison with previous studies (e.g., Allan 2011; Allan et al. 2015; Csorvási 2016; Štrba 2019), which can be related mainly to the specific structure of the respondents who participated in this survey. However, the results of the survey can be considered very useful in terms of the development of geotourism, the promotion of geoheritage, geosciences, and education in this area.

## Conclusion

The article used a questionnaire to find out the factors that influence the visit of geosites by primary and secondary school students on the example of students in the town of Vranov nad Topľou (Slovakia). These factors can significantly contribute to visitor loyalty and the sustainability of tourism in the region. The results of the study show that the factors "safety conditions during the visit", "visual attractiveness" and "uniqueness" can be considered important for the successful development of

geotourism, which can affect the overall satisfaction of visitors in a particular place. However, the most important motivating factors include "traveling with family/friends", "exploring new places/geosites" and "for fun". It should be noted that further research is required in this field as presented results of this case study may differ from other regions in Slovakia or other countries.

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## Souhrn

V posledních letech nabývají na významu domácí destinace a lidé tráví více času v přírodním prostředí. Mnoho přírodních krás bylo „znovu objeveno“. Nezastupitelnou roli v této souvislosti hrají přírodní formy cestovního ruchu, jako je geoturismus nebo ekoturismus. Tento článek si klade za cíl prostřednictvím dotazníku na příkladu vybrané skupiny žáků základních a středních škol ve městě Vranov nad Topľou na Slovensku zjistit, jaké faktory ovlivňují žáky při návštěvě geolokalit. Z celkového počtu 250 zpracovaných dotazníků se výzkumu zúčastnilo 120 chlapců a 130 dívek. Výsledky studie ukazují, že faktory „bezpečnostní podmínky při návštěvě“, „vizuální atraktivita“ a „jedinečnost“ lze považovat za důležité pro úspěšný rozvoj geoturismu, který může ovlivnit celkovou spokojenost návštěvníků konkrétního místa. Mezi nejdůležitější motivační faktory však patří „cestování s rodinou/přáteli“, „poznávání nových míst/geolokalit“ a „pro zábavu“. Výsledky průzkumu lze považovat za velmi užitečné z hlediska rozvoje geoturismu, propagace geologického dědictví, geověd a vzdělávání v této oblasti.

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