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University Students’ Perception of Environmental Issues

Michaela Čiefová¹ – Kristína Baculáková²

ABSTRACT: The present paper focuses on environmental awareness and perception of environmental issues by university students in Slovakia. We attempt to find out what problems of the environment are considered to be the most critical ones from the students’ point of view. In addition to that, another objective is to elaborate a list of students’ suggestions regarding raising motivation of people to adopt an eco-friendly behaviour. For the research we used a questionnaire consisting of 9 questions. The results show that students perceive as most critical environmental problems water and air pollution, traffic, waste, deforestation and overconsumption.

KEYWORDS: environmental awareness, environmental problems, eco-friendly behaviour, Slovakia, questionnaire

JEL Codes: Q01, Q5, R11

Introduction

The environment and its conservation have become a topic frequently discussed by scholars associated with social as well as natural sciences, which is probably caused – among other factors – by climate change intensification. Changing climate is a phenomenon observable all around the globe (Harakalová, 2017).

Very often, the character of research related to the environment is interdisciplinary, which is also the case of the present paper. Our contribution aims to analyse environmental awareness of the students at the University of Economics in Bratislava. The objective is to answer the research question, what problems of the environment are from the students’ perspective the most critical ones, and what measures aimed at increasing

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motivation concerning environment protection the students would recommend. On the grounds of the students’ responses, we attempt to elaborate a list of possible motivating factors regarding people’s responsible approach toward the environment.

We consider the issue of environmental awareness of the youth crucial, as young people tend to imitate the behaviour prevalent within their social group. Hence, one’s positive approach towards nature conservation may motivate others to follow (Baculáková–Čiefová, 2021). For this reason, it is needed to provide the young generation with valid facts, encourage their critical thinking and motivate them to invest into an eco-friendly way of life. Focus on the youth can accelerate society-wide actions, as the young people are frequently those who point out the negative effects of their relatives’ buying habits or consumer lifestyle. By using reasonable and factual arguments, the young can eventually trigger change within their family circle. Janubová (2021) emphasises the necessity to increase environmental awareness in general, helping comprehend the value of nature for humans and the whole society of the 21st century.

The presented research is mostly based on the analysis of an online questionnaire, i.e. we apply quantitative research methods. The paper covers only a limited, specific part of the questionnaire, as it belongs to a more extensive research on students’ environmental awareness, a part of which has already been published.

The word awareness may seem quite vague, at least when a broader context is missing. Longman Dictionary of Contemporary English states that awareness is “knowledge or understanding of a particular subject or situation,” (Longman, 2009); Cambridge Dictionary defines it as “knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience” (Cambridge Dictionary, 2022). As for the notion of environmental awareness, we refer to the following definition that, as far as we are concerned, embraces all necessary to understand the concept. “Environmental awareness is to understand the fragility of our environment and the importance of its protection,” (Pachamama Alliance, 2021). In addition, it refers to information concerning the state of the environment, trends, traditions relating to the environment protection, and similar (SEA, 2021). According to Abbas and Singh (2014), environmental awareness is not limited to knowledge concerning the environment; it also implies attitudes, values and competences addressing its problems.
Literature Review

Environmental awareness is a subject of domestic as well as international discourse, and it is linked to several related facts or tendencies. The current trend of growing urbanization brings with it several problems that affect the quality of life in cities and rural areas. In addition, the current pandemic has revealed how much impact human activity has on the environment. In this context, COVID-19 has significantly changed our behaviour. The antiepidemic measures taken have significantly reduced mobility, which in some areas has had a significant impact on reducing the concentration of air pollutants and improving the quality of the environment (Nakada–Urban, 2020; Sannigrahi et al., 2021; Cárcel-Carrasco et al., 2021). Green areas and nature (especially urban nature) have become an appreciated asset. Public opinion shifted towards prioritizing the environment and the scientists have seen the increased search for nature-related topics (Rousseau–Deschacht, 2020).

So, is it possible to say that the environmental awareness of the population is growing? A number of studies have attempted to answer this question, such as Schmidt (2007) who believes that increase in environmental awareness indeed is the case observable throughout last decades.

Environmental awareness is closely linked to environmental education, not exclusively for children but also for adults. Hence, we are talking not only about education in schools, but also in business, for example. The importance of education in understanding and solving environmental problems has been recognised since 1970 (Shobeiri–Omidvar–Prahallada, 2006). The main aim for development of environmental education was the reduction of negative effects of anthropocentric activities on the environment (Omoogun–Egbonyi–Onnoghen, 2016).

Although education has an undeniable role in the process of forming an opinion, individual studies differ on whether it really contributes to increasing environmental awareness, or to what extent and by what means and forms it can help raise such awareness. Altin et al. (2014) conducted research at secondary schools, determining several factors that affect environmental awareness. The results of students’ environmental awareness were assessed using the EAAS (Environmental Awareness and Active Participation Scale). The results were not flattering, as the average score was only 2 out of 5 possible. It turned out that students did not show in-
terest in compulsory environmental courses, most would prefer only elective courses. As for the form of education, they preferred discussions and practical training in the environmental laboratory. An interesting fact that the authors of the study found is that students can be most (positively) influenced by the media, not the school.

A study published in 2019 focusing on environmental awareness of high school students in Indonesia, on the contrary, brought more positive results. More than 64% of research participants demonstrated their environmental awareness to be sufficient (enough); in case of 6% of respondents it was even assessed as high. However, almost 30% students still lack environmental awareness which was evaluated as low (Amran et al., 2019). Research from Malaysia found that secondary school students possessed a high level of environmental awareness, which was assessed in the context of sustainable development. However, several differences in terms of demographics were identified, namely, female students scored better than male students, and so did urban students in contrast to students from suburban areas. Furthermore, environmental awareness of students of scientific study programmes was more satisfactory, as compared to students of arts (Arba’at–Tajul–Suriati, 2010).

Schmidt’s (2007) research confirmed the positive impact of an introductory environmental course on environmental behaviour and attitudes of college students. Similarly, Bozoglu et al. (2016) conducted research aimed at environmental awareness as well as attitude and behaviour of university students in Turkey. Their results showed that all three variables were on the high level, being influenced for instance by social and demographic factors or environmental education. Relatively older research from China revealed that university students are conscious about the gravity of the problems of the environment, with many expecting decline in environmental quality (Wong, 2003). University students from India demonstrated high knowledge on the environment, yet low level of participation in activities aimed at its protection (Abbas–Singh, 2014). Another research shows that the majority of students of business in five analysed countries consider topics such as over-consumption or waste of resources to be relevant for their field of study (Gallay–Gallayová–Veverková, 2020).

Uzunboylu, Cavus and Ercag (2009) dealt with the impact of modern technologies on raising the environmental awareness of young people. In their study, they focused specifically on mobile phones and found that
mobile phones can increase the attractiveness of environmental awareness, for example, by exchanging various enviro-themed photographs. Therefore, it turns out that we cannot focus only on education in general and examine the relationship between education and environmental awareness-raising, but also examine the relationship between forms of education and environmental awareness-raising. Jickling and Sterling (2017) pointed out that education must enhance action, which means that today’s post-sustainability generation will not be addressed by intensive projects, but by ecosocial creative initiatives.

Environmental education has also shown a demonstrable impact on teachers, not just on students (Uzun–Keles, 2012). However, not all studies confirm a positive (provable) relationship between environmental education and the growth of environmental awareness. An example is a study from Turkey concluding that taking environment-related courses at universities did not necessarily influence students’ level of environmental awareness in a positive manner. On the contrary, their environmental awareness and behaviour were evaluated as lower than anticipated (Oguz–Çakci–Kavas, 2010). Another example is the study by Edsand and Broich (2020) which showed that environmental education is not a magic bullet for environmental awareness. As part of the research, they performed 2-level nested model which showed no evidence that environmental education promotes environmental awareness. However, they pointed out that other factors have a strong impact on environmental awareness, in particular socio-economic status, science ability of the student or the parent characteristics. Young people tend to be subject to trends, and nowadays more and more often influencers. At the same time, the younger generation can become the bearers of the ideas of sustainable urban life, so several educational and marketing campaigns and intelligent solutions try to adapt to the requirements and dynamics of young people’s lives in the city. According to some authors, smart cities will contribute to the well-being of people as well as to the environment (Kiner, 2021).

A recent survey revealed that half of Slovaks would welcome more attention paid to the environment from the government. More than a half of people are convinced that environment protection should become one of the government’s priorities, particularly waste sorting and management. Additionally, more than a fourth of the respondents would even focus more on the environment than on economic performance (MESR, 2020).
Other works study not only environmental awareness as such, but also people’s environmental concerns embracing other social phenomena, such as migration (Puskarova–Dancakova, 2018), proving that environmental awareness is an interdisciplinary concept.

Indeed, there is a variety of several scientific works that have attempted to evaluate the level of environmental awareness of certain social groups such as students or general population.

Our previous study (that is part of the presented more comprehensive research) confirmed the students of the University of Economics in Bratislava are interested in the environment and its conservation. Moreover, according to our research, 94.3% of them consciously attempt to protect the environment by their targeted actions. The most common activity is waste sorting, which is conducted by 92.6% of the respondents. Next, 79.4% of the involved students use their own shopping bags or multiple-use bags for fruits, vegetables and similar grocery products. Almost the same number of the survey participants carry their own multiple use bottle, or use the same plastic bottle several times. These findings can be regarded as highly positive, as the overuse of plastic is generally referred to as a serious problem concerning the environment. However, there are still some possible ways to improve the state of the environment that have not been acquired by most of the students so far. These include shopping at zero-package stores, upcycling or volunteering (Baculáková–Čiefová, 2021).

The students involved in the research also demonstrated a relatively satisfactory level of knowledge of selected environment-related concepts. The research in question revealed that most of the understood the meaning of the concept of second hand, (non-)renewable energy resources, zero waste or carbon footprint. On the contrary, almost half of the students would not be able to explain the concept of sustainable development; the concepts of smart city or smart environment was understood only by 26/70 survey participants. The least knowledge concerns environmental diplomacy. Therefore, it is highly recommended increasing awareness of these particular notions (Baculáková–Čiefová, 2021). As Kiner (2021) asserts, education is one of the keys when attempting to achieve the Sustainable Development Goals presented by the United Nations, namely sustainable economic development.

In spite of the fact that works on environmental education cited above have come to rather distinct conclusions, it needs to be emphasised that “environmental education is a life-long process,” (Oguz–Çakci–Kavas, 2010), it should therefore not be limited to the youth.
Methodology

For the purpose of the elaboration of the present paper, several research methods complementing each other were utilised. The theoretical part of the contribution was elaborated based on bibliographic recherche of domestic as well as foreign sources of various sorts. This qualitative desk research allowed for understanding of the complexity of the phenomena discussed in the paper.

The primary data was acquired by means of an online questionnaire, which was elaborated in the Slovak language using the online survey creator Survio, precisely its free-of charge version. The targeted group were the students of the University of Economics in Bratislava, more specifically students enrolled at full time study programmes at the time of research. Although we did not ask the students to provide their age, their age should range from 18 to 25, at least in most cases. The questionnaire was available for the period from 23rd of March 2021 until 31st of March 2021. The participation in the survey was voluntary, and the anonymity of the survey participants was ensured.

The questionnaire was comprised of nine questions in total, with the following structure:

- four questions allowing for one answer only out of several choices;
- two multiple choice questions;
- two open questions requiring a more elaborate response;
- one question in the form of semantic differential.

Eight questions were marked as obligatory; only one answer was not, namely a question which was requested to be answered only providing the previous question was answered by “yes”.

As for the content, the questions focused on the following aspects:

- one question about the respondents’ gender;
- one question about the affiliation to a University faculty;
- seven questions aimed at environmental awareness of the students and the environment in general.

As already mentioned above, the objective of the present contribution is to analyse only a part of the questionnaire, in particular questions number 7 and 8. These were open questions, i.e. a more elaborated response was required. Question number 7 as translated into English sounds as follows: In your opinion, what are currently the most critical problems of the
environment?³ The English version of the following question 8 is: In your opinion, how can people be motivated to behave more responsibly towards the environment?⁴ Subsequently, the answers were analysed in detail. Several key words occurring frequently in the submitted questionnaires were identified, and these were eventually synthesised to formulate conclusions.

Findings

The number of students participating in the research amounts to 70.44 (62.9%) participants were female students, 26 (37.1%) male students. Students from all faculties were represented, with the only exception being a faculty that is not located in Bratislava but in Kosice. More than a half of the students involved in the survey are enrolled at the Faculty of National Economy; the least at the Faculty of International Relations. It is to be emphasised, however, that the affiliation of the students to the faculties will be disregarded when commenting the research results.

As for the questionnaire section concerning the most serious problems of the environment, based on the responses these could be divided into several categories, namely:

1. water and air pollution; emissions; carbon footprint; traffic;
2. waste; plastics;
3. global warming; climate change;
4. overconsumption; wasting;
5. deforestation;
6. other.

It needs to be highlighted that the categories stated above are interconnected, and the concepts were categorised solely due to their being linked even more closely. Carbon footprint, despite its being a very specific concept of its own, was included in the same category as emissions or water pollution, even though it actually covers all the remaining notions. Moreover, the number of problems the students could provide was not limited, hence some responses reflected only one environmental prob-

³ The original Slovak wording: Ktoré sú podľa Vás v súčasnosti najkritickejšie problémy životného prostredia?
⁴ The original Slovak wording: Ako možno podľa Vášho názoru motivovať ľuďi k tomu, aby sa správali zodpovednejšie voči životnému prostrediu?
The Figure 1 below demonstrates the approximate frequency of the individual key concepts within the analysed responses. The larger the box, the more frequent the category.

**Figure 1: Most critical problems of the environment according to the students**

Source: Authors’ own processing

As we can extract from the Figure 1, most students consider water and air pollution, traffic, emissions as well as carbon footprint as the most striking problems of the environment. These concepts appeared in 35 responses, hence half of the participants share this opinion. Interestingly, according to research results from the abroad, air pollution followed by water pollution were also found by students the most critical problems of the environment - specifically in Ankara (Oguz–Çakci–Kavas, 2010). 25 students pointed out problems linked to waste, plastics, and related phenomena. The category global warming and / or climate change (climate crisis) was identified in 24 responses; deforestation was written by 13 students. 11 students considered overconsumption to be (one of) the most
critical problem(s) of the environment. Under the category of overconsumption fall also activities such as consuming more resources than feasible, or excessive consumption of meat.

The remaining aspects that were mentioned include for instance fast fashion and textile industry, loss of biodiversity and animal extinction, degradation of ecosystems, linear form of the economy. The human factor was highlighted as well, precisely insufficient information about the impacts on the environment and irresponsible approach of people. Some respondents even pointed out the impact of the pandemic on the environment, for instance waste caused by face masks. Some of these problems were mentioned only by one or few respondents, however, all of the stated issues can be considered highly significant.

The next part of the questionnaire that we intent to analyse within the current paper deals with how to motivate people to be more responsible towards the environment. The question was open-ended, i.e. the students had the opportunity to express themselves more extensively. Indeed, several responses demonstrate in-depth thinking about the issue. An analysis of their responses revealed that – similarly as in the above discussed question – some ideas occurred repeatedly, and either using very similar formulations or synonymous expressions.

Most frequently, students pointed out the necessity of raising awareness and education, both children as well as older generations. What could facilitate motivation is to showcase what people’s irresponsible actions can cause, how their behaviour can eventually harm the environment. In the students’ opinions, illuminating the impacts of human activity on the environment could be a wake-up call for people, leading them to rethink their actions. In this context, several respondents mentioned documentaries or even advertisements as drivers of change. Organizing lectures and education campaigns could also be considered.

Next, some students would be in favour of penalties and sanctions for irresponsible behaviour, such as littering, or higher prices for products harming the environment. On the contrary, eco-friendly behaviour or shopping should be rewarded. Some students suggested financial incentives and rewards, for instance for waste sorting, or bonuses for returning bottles to stores to be re-used.

Other noteworthy ideas include creation of society-wide pressures, support of volunteers, or a complete ban of plastic bags at stores. Worth
discussing is a respondent’s opinion that eco-friendly behaviour must become popular so that everyone will follow the trend. *Table 1* below summarizes the students’ suggestions.

**Table 1:** Possible motivators aimed at eco-friendly behaviour according to the students

<table>
<thead>
<tr>
<th>Possible motivators</th>
</tr>
</thead>
<tbody>
<tr>
<td>raising awareness and education</td>
</tr>
<tr>
<td>demonstrating the effects people’s irresponsible behaviour</td>
</tr>
<tr>
<td>documentaries, advertisements</td>
</tr>
<tr>
<td>organizing lectures and education campaigns</td>
</tr>
<tr>
<td>implementing penalties and sanctions</td>
</tr>
<tr>
<td>rewarding eco-friendly behaviour or eco-friendly shopping</td>
</tr>
<tr>
<td>creating society-wide pressures</td>
</tr>
<tr>
<td>supporting volunteers</td>
</tr>
<tr>
<td>banning plastic bags at stores at large</td>
</tr>
</tbody>
</table>

Source: Authors’ own processing

**Summary / conclusions**

The goal of the presented research was to find out what problems of the environment are the most serious ones from the point of view of the students. Additionally, we were interested in what they would propose as possible motivators facilitating eco-friendly behaviours. The analysis revealed that many students appear to be deeply concerned about the problems threatening the environment, and to realise the connections and causal relationships between or among these phenomena.

Water and air pollution, traffic, giant amounts of waste, deforestation and overconsumption are only some of the environmental problems marked by the students as especially critical. Based on our analysis, intensive education and various events or campaigns aimed at raising environmental awareness would be beneficial. The research participants believe, people need to be explicitly shown what harm human activities may cause to the environment. Visualising the impacts of those in their genuine form and severity can function as a reminder of what cannot be tolerated, or as a “repellent” helping people abstain from such behaviour. Similar effects could have penalties, or, on the contrary, financial and other incentives.
We find it appropriate to reflect upon the limitations of our research. Firstly, the number of research participants is relatively lower. This could be caused, for instance, by the shorter timespan available for completing the questionnaire. Secondly, the research focused on students of one higher education institution only. The authors may, however, revisit the issue under study in the future, trying to reflect upon environmental problems that became much more evident recently, such as drought and water scarcity, while engaging students from other universities, too.

Despite the limitations, we are confident the research presented herein is both relevant as well as inspiring. With increasing pressures on various stakeholders resulting from the need for mitigating impacts of climate change, the first step to be taken should be raising awareness about it and related phenomena. Still, unfortunately, many people seem not to believe in obvious changes in weather patterns, claiming climate change is a myth. Hence, monitoring the level of environmental awareness appears to be one of the possible solutions, as unsatisfactory levels can be addressed by suitable means. This should be done on all the levels of education as well as amongst general public. Systematic support of environmental awareness could indeed be a trigger of a conscious eco-friendly way of life. Additionally, the function of the media and state-of-the-art technologies should be recognized, as the above cited studies have proven.

To conclude, we recommend not ignoring the voices of the youth, as exactly the young generation appears to be the leader of the fight against the climate change, as we can observe also globally.

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