

# Understanding Students' Perspectives on Environmental Protection: Insights from an Empirical Study

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**Abstract.** Environmental protection is an essential factor for the sustainable development of humanity. To achieve this goal, it is necessary to promote attitudes and behaviors that help to conserve natural resources and reduce the harmful impact of human activities on the environment. Such attitudes and behaviors can be achieved through education, awareness, and changing people's environmental attitudes. The present article will discuss some key attitudes and behaviors that help protect the environment – recycling waste, using green energy, reducing air and water pollution, supporting sustainable agriculture, etc. The study involved 393 undergraduate students, including 198 women and 195 men, from National Sports Academy “Vassil Levski”, Sofia. Students completed an online survey that measured their environmental attitudes, knowledge, and behaviors, as well as their perceptions of the effectiveness of environmental education. Environmental attitudes and behaviors can be applied in different areas of life, such as at home, work, and public places. People must realize the importance of these actions and carry them out regularly to contribute to the conservation of nature and the world's sustainable development.

## 1 Introduction

Environmental protection is an important factor for the sustainable development of humanity. To achieve this goal, it is necessary to form attitudes and promote behaviors that help conserve natural resources through their responsible use and reduce human activities' harmful environmental impact. Such attitudes and behaviors can be achieved through education, awareness, and changing people's environmental attitudes.

Environmental attitudes, in turn, can be divided into two categories: public and private. Public attitudes are usually aimed at promoting mass action to protect the environment, while personal attitudes relate to our individual attitudes and behavior toward the environment. These include an awareness of our responsibility towards nature and the individual efforts to protect natural resources, which is precisely the subject of study in this paper.

Environmental protection refers to several practices: conservation, preservation, and resource management. These activities support the long-term sustainability of ecosystems

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and thus ensure the well-being of present and future generations. In this regard, it is necessary to take action (which in practice is protecting the natural environment) to prevent or minimize damage to the environment, its resources, and biodiversity and thus maintain ecological balance.

According to a report by World Population Prospects (2019), in recent years (specifically for the period 2007-2019), the Earth's population has increased by one billion people. The observed steady rate of population growth is one of the causes of environmental degradation as well as increasing pressure on global assets and the future of civilization [1, 2]. In turn, environmental degradation subjects 92% of the planet's population to stress and health risks [3] and risks reducing and depleting natural resources due to the increasing demands of human civilization [2, 4]. All this leads to climate change, which in turn has a negative impact on people's lives and health, as well as on natural resources and the state of the natural environment.

Food consumption is estimated to increase in the near future; 50% of the world's population will be in a state of water stress, and by 2040, demand for water resources is expected to exceed supply [2, 5].

Climate change is having an impact on the environment in both the short and long term. For this reason, a series of measures and actions (by society, governments, corporations, and individuals) are needed to mitigate the effects of these changes and to cope with climate change [6, 7]. One step in this direction is to recognize the importance of switching to renewable energy sources [7]. Changes in the natural environment are of global significance. The consumption of energy, water, and other natural resources is increasing, leading to biodiversity loss. At the same time, there is a need to strike a balance between sustaining and meeting immediate human needs and maintaining the biosphere's carrying capacity [8, 9].

Environmental protection encompasses a wide range of activities, policies at the national (local) and global (international) levels, and the adoption and implementation of regulations aimed at addressing environmental problems related to climate change, pollution, depletion of natural resources, etc. It is essential for ecosystem protection, biodiversity conservation, and the maintenance of overall human health.

## **2 Methodology**

This study aims to investigate young people's attitudes toward environmental protection and their behavior regarding natural resource conservation. For the needs of the study, an online questionnaire was developed and distributed to students of two faculties (Faculty of Sport and Faculty of Pedagogy) of the National Sports Academy "Vassil Levski". An interview and discussion were also conducted with 38 students of the second year, Faculty of Sport.

### **2.1 Persons studied**

Three hundred ninety-three full-time and part-time students voluntarily participated in the empirical study. They are studying in the undergraduate programs in two of the faculties of NSA – Sport and Pedagogy and are in the II, III, and IV years. Their gender distribution is almost the same: 50.4% (n=198) are women, and 49.6% (n=195) of the study subjects are men.

The subjects were familiar with the purpose of the study.

## 2.2 Data collection

The questionnaire was developed in Google Forms and sent out to students via Messenger in pre-established groups (not for the purpose of the study) in which they were members and via emails asking them to complete the survey. The survey was conducted in the period from 06.04.2023 to 10.04.2023. The interview and discussion took place during a lecture on Pedagogy, and the lecture topic was "Contemporary Directions of the Educational Process".

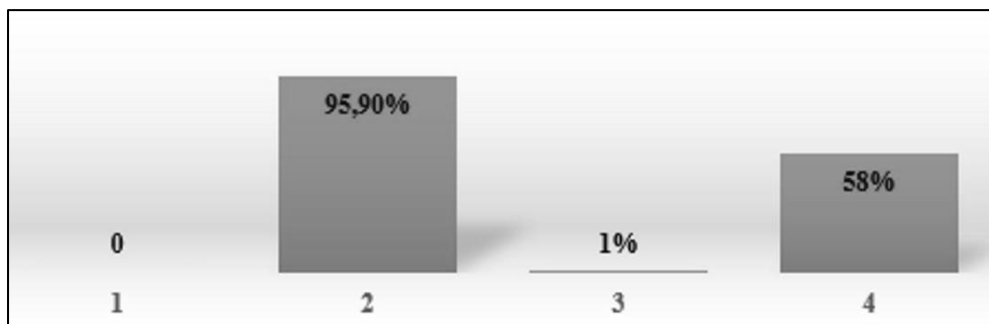
## 2.3 Questionnaire design

The questionnaire contains 13 questions to explore the respondents' opinions, attitudes, and behavior regarding environmental protection. Six of the questions have a 5-point Likert-type response scale (with responses ranging from strongly "no" to strongly "yes"); the remaining questions have dichotomous and multiple-choice response alternatives. The questions aim to explore attitudes and behaviors towards recycling waste, using green energy, reducing air and water pollution, supporting sustainable agriculture, etc.

The survey results were processed using a validated statistical procedure using the IBM SPSS 19.0.

## 3 Results and Discussion

Respondents were asked, "Why is it important to protect the natural environment?" and two of the possible answers were misleading - "Because it's trendy" and "Protecting the natural environment is associated with a current of eco-activists seeking popularity". Subjects had the opportunity to indicate everything that was true about them. The results presented in Figure 1 give a good impression that young people have knowledge and attitude towards protecting the natural environment. None of them indicated the option "Because it is trendy", and only 1% (n=4) indicated option 3. According to 96%, they are aware that nature conservation is directly related to our well-being, and more than half of the students are also aware of the link to climate change.



**Fig. 1.** Answers the question, "Why is it important to protect the natural environment?"

*Legend: 1 - Because it is trendy; 2 - Because we are part of this environment and it is necessary to protect it because it, both directly and indirectly, affects our health; 3 - Environmental protection is linked to a current of eco-activists seeking popularity; 4 - Environmental protection is important to prevent climate change*

Students had the opportunity to self-assess their own behavior to protect the natural environment. 23.7% (n=93) did not think in this direction, and 1.5% (n=6) stated that sometimes their actions aim to protect the natural environment, but sometimes they are not. Alarmingly, a majority of the students surveyed reported that their efforts were not focused

on environmental protection - 74.8% (n=294). The option "Yes, I strive by my actions and deeds to protect the natural environment" was not indicated by anyone. To some extent, this self-assessment is confirmed by the answers to the specific questions concerning behavior aimed at protecting the natural environment.

In terms of specific actions, respondents answered four questions: whether they collect and dispose of household waste separately; whether they dispose of batteries, old phones, and printer cartridges in designated places; whether they dispose of old medicines in designated areas and whether they dispose of organic waste in a composter. Responses were indicated on a 5-point Likert-type scale ranging from 1 - strongly no, to 5 - strongly yes. The results are presented in Table 1.

**Table 1.** Variance analysis of responses

	min	max	M	SD
Do you collect/dispose of waste separately?	1.00	5.00	2.78	1.14
Do you dispose of batteries, old phones, and printer cartridges in designated areas?	1.00	5.00	3.31	1.52
Do you dispose of old medicines in designated areas?	1.00	4.00	2.63	1.50
Do you dispose of organic waste in a composter?	1.00	3.00	2.50	1.27

The Mann-Whitney comparative analysis on the factor "gender of the examined persons" showed a statistically significant difference in medication disposal (U=14502.500, p=.001). It turned out that men were more responsible and more often disposed of medication in designated places (Table 2).

**Table 2.** The gender breakdown of responses

Gender	n	Min	Max	M	SD
Female	198	1.00	5.00	2.31	1.43
Male	195	1.00	5.00	2.95	1.50

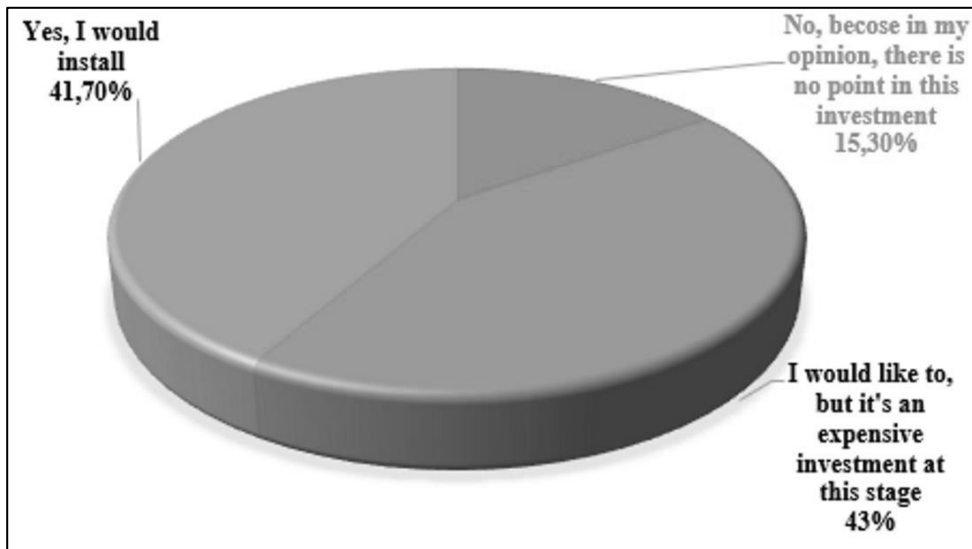
To some extent, these responses are explained by the follow-up interview conducted with some of the students. Regarding the separate waste collection, some students did not trust the cleanliness companies and thought all the containers were disposed of in the same place. They also pointed out examples of such practices. Another reason is that they do not yet live independently and have not taken care of the household. Regarding disposing of batteries, old phones, and printer cartridges, most said they were unaware of such special places. The same applies to the separate disposal of medications. It appears that public responsibility regarding protecting the natural environment in our country is also not well developed. It is necessary to explain to the population why it is not good to dispose of these unusable items together with household waste and, accordingly, to develop and promote a mechanism for this. The importance of this was explained to the students who participated in the interview and talk.

It also turned out that none of the attendees at the lecture knew what the word "composter" meant or what it was used for. This is another issue that needs to be widely promoted among the population to generate less municipal waste and "recycle" bio-waste.

Of scientific interest in the survey were also the globally popular solar batteries and electric cars. Only 11.2% of the persons surveyed (n=44) have photovoltaic batteries. The students' opinion about the use of these batteries is somewhat positive: 41.7% (n=164) of them would like to and consider installing them at the first opportunity. 43% (n=169) would like to, but it is an expensive investment for them at this stage. In this regard, it is essential to take measures to promote funding programs for the integration of solar panels, as well as

to facilitate the application procedures so that more households in our country can benefit. Given the low income of the population, and the rising prices of goods and services, the use of green energy is not a priority for the people in the country - 15.3% (n=60) consider it an expensive and pointless investment that they will not be able to pay back and for this reason, do not consider installing solar collectors (Fig. 2).

At the same time, it is essential to recognize that electricity from renewable sources plays a role in achieving sustainable development goals. Renewable energy sources reduce emissions and greenhouse gases, provide energy security, reduce climate problems, and have a preventive effect on the economy from erratic and volatile natural resource prices [10].



**Fig. 2.** Opinion about solar batteries

It turns out that household consumption of green energy is linked to the population's income, as are the data on electricity consumption. According to several authors, energy consumption and conservation are social and financial limitations [11-13]. And in the context of this study, future research can be proposed regarding energy consumption and conservation in relation to not only people's socioeconomic status (SES) but also their attitudes toward the conservation of natural resources.

With the questionnaire, we also investigated students' attitudes toward the use of green energy in the automotive industry and, more specifically, their opinion on electric cars. It turned out that 74% (n=291) of the surveyed individuals own a personal vehicle, but none have an electric one. Of these, 65.6% (n=258) wish they had one, while the remaining 34.4% (n=135) strongly stated that they did not want an electric car. During the interview, most of the answers were related to the still high cost of these cars, as well as the lack of well-established infrastructure in the country for their use.

With the last question of the questionnaire, we wanted to know the opinion of the students regarding the need to educate children and young people to protect the natural environment. It makes a good impression that almost everyone believes it is necessary, which is illustrated by the data from the analysis of variance: Min=3, Max=5, M=4.87; SD=.41.

Nature conservation is an important and topical issue that has been of interest to researchers in the last century. Chan (1996) examined attitudes toward the environment among 992 secondary school students in Hong Kong. The Weigel and Weigel Environmental Concern Scale was used, and attitudes towards the environment were examined as expressed in a willingness to engage in various environmental activities, including recycling paper at

school and home and using fewer tissues and plastic bags. The study found that students expressed great concern for the environment and were willing to protect it [14]. Another study with 423 students surveyed had insufficient knowledge on the topic of conservation but with relatively favorable attitudes towards conservation [15].

## 4 Conclusion

From our research and observations, it can be concluded that actions to protect the environment, including attitudes to do so, are directly related to raising young people's awareness. In this regard, it is important to take measures by institutions, including educational institutions, the media, and local authorities, to involve young people from school in various educational activities and projects to protect the environment and natural resources. It is important that environmental education becomes part of the curricula and programs in Bulgarian schools. From an early age, it is necessary to understand and realize why this is important, to be aware of the concept of selective waste collection and its importance for nature, recycling as a process and activity, and the transformation of waste and unwanted items into reusable assets.

Today, in the 21st century, it is necessary for the young generation to be well educated, and with a formed environmental culture, it is important to be environmentally literate and aware citizens to have appropriate environmental behavior. Today's children and young people are the planet's future, and it is, therefore, important to focus efforts on them – to educate and educate them well, with positive attitudes towards the environment, and to reinforce a sustainable type of behavior in terms of its protection.

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