

## Factors Impacting the Environmental Consciousness of Students in Hanoi, Vietnam



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**ABSTRACT:** The environment is of particular importance to the existence and development of human life, living things and the economic, cultural and social development of the country. Currently, our living environment is being seriously polluted, it comes from many causes, the main one is human consciousness. This study aims to determine the factors that affect students' awareness of environmental protection in Hanoi city, thereby improving the education of students' awareness of environmental protection. in general, students of universities in Hanoi city in particular. Through the model PLS-SEM, the analysis results show that there are 5 main groups of factors affecting the awareness of environmental protection of students in Hanoi, including: (1) Education, (2) Culture, (3) Media, (4) Public awareness, (5) Community rules.

### 1. INTRODUCTION

In recent years, along with economic development, environmental pollution is becoming more and more serious. The greenhouse effect phenomenon has occurred frequently in recent years, the dust concentration is always 2-3 times higher than the allowable standard, the "fog" phenomenon covers many days, but it is actually smoke. dust from vehicles, from factories in and around the city; unconscious discharge of people and companies and businesses. In addition, there are other problems, such as water pollution, noise, sewage sludge, an increase in diseases related to the environment, many diseases with extremely dangerous developments that increase rapidly. This has caused frustration, reduced the quality of life of the people and caused great damage to the city's economy.

Environmental pollution is really an alarming problem, although our country has also taken measures to limit pollution. In addition, environmental protection education in schools has not been focused on teaching. The awareness of environmental protection has not been formed in the student community. Therefore, in order to protect the environment, in addition to the correct and unified direction of the government, we need to constantly educate to raise the awareness of environmental protection of the people in general and the generation of students. in particular.

In this study, we learn, evaluate and analyze the impact of factors affecting the awareness of environmental protection of students in Hanoi. This issue is of great significance, especially in the context that environmental pollution has been threatening biodiversity, climate change and many other consequences affecting the living environment and people. This study has two important contributions: (1) points out the important factors affecting students' awareness of environmental protection in Hanoi and (2) gives suggestions to help improve environment.

The structure of the study is as follows: Part 2 provides an overview of related studies; Section 3 describes the data and research methods; Section 4 presents the results of the analysis and discusses the results; Section 5 draws conclusions.

### 2. LITERATURE REVIEW

#### 2.1. Definition of Environmental Consciousness

Many researchers on environmental ethics have affirmed that the issue of protecting the living environment is the responsibility of each person, each nation, and the whole of humanity, human's attitude towards nature, consider it as the standard to evaluate human.

According to Krause (1993), environmental consciousness refers to certain psychological factors related to human tendencies to engage in pro-environmental behavior (Zelezny & Schultz, 2000). Meanwhile, Kollmuss and Agyeman (2002) define

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environmental consciousness as the level at which someone knows the impact of human actions on the environment. Judge and Krishnan (1994) stated a traditional idea that attention to environmental issues would negatively affect company performance because of spending more money. In addition, many companies whose environmental obligations are only to avoid sanctions for regulations that require them, rather than consciously caring about environmental issues. In the context of organization and business, Ahmed (1998) state that environmental consciousness is a perception held by an organization or individual about environmental concepts, such as environmental protection, policy, environmental management, and environmentalism.

The awareness of environmental protection has not been clearly formed among the people in general and students in particular. Schools with few or no trees are still common; Pupils and students throw garbage indiscriminately, and smoking when coming to school is still happening every day. Right inside some schools, although there are large trash cans, garbage is still thrown indiscriminately. Public places near schools: train stations, bus stations, markets... the phenomenon of indiscriminate littering is quite common. Wasteful use of electricity and water has also become "familiar" in schools (Chen, Huang, & Lin, 2019).

There are many different definitions of environmental protection behavior. Some well known concepts are Mai Thi Quynh Nhu (2019) explains that environmental protection behaviors are activities that keep the environment clean and beautiful, improve the environment, ensure ecological balance, prevent and overcome the consequences. harmful effects caused by humans and nature to the environment, exploitation, rational and economical use of natural resources. To understand in a simpler and more practical way, environmental protection is to protect water sources from being polluted, to protect the evils of loggers who cut down trees in violation of the law, to protect the fresh air without waste. harmful substances to the environment, etc. In short, environmental protection means protecting all that is necessary so that the environment can both meet the needs of the present generation and meet the living needs of future generations and for sustainable development. sustainability of man and human society.

### 2.2. Factors Affecting the Environmental Consciousness of Students in Hanoi, Vietnam

#### 2.2.1 Education

According to Kudryavtsev et al. (2012), the education, fostering and training of qualities and competencies to help students develop comprehensively their personality is a long and continuous process. , which takes place in many different environments, involves a lot of complex social relationships. Therefore, education always requires close coordination and cooperation of many social forces and especially requires the proper attention of schools and families.

According to Dao et al. (2019), currently, universities in Hanoi have shown interest and responsibility in educating the young generation about environmental protection awareness at universities. learn. The university lecturers also constantly improve their knowledge, professional qualifications and professional skills, and integrate the content of educating students on environmental protection awareness through each subject and lesson. In addition, students of universities in Hanoi, as a special subject in the self-education process, also make certain contributions to achieving the goal of environmental protection.

In order to educate students' sense of environmental protection, it requires a lot of attention from the University and the society. Because they are young people with enthusiasm, determination and dynamism of youth, they are the successors and future owners of the country. Educating students in a good sense of environmental protection is also protecting our lives against the harsh changes of the environment (Stapp et al., 1969).

Environmental protection activities must be regular, taking prevention as the main combination in combination with restoring pollution, degradation and improving environmental quality. Environmental protection must be consistent with regulations, natural characteristics, culture, history, level of socio-economic development of the country. Environmental protection education is a synthesis of measures to manage, maintain, use, improve, and effectively restore the natural environment, helping people and nature to have a suitable harmony (Dao et al., 2019)

*H1: The education of families and schools has a positive impact on the environmental consciousness of students in Hanoi.*

#### 2.2.2 Culture

According to Bao (2021), the Vietnamese people's sense of nature is reflected in the tradition of "harmony with nature". The traditional culture of the Vietnamese shows a strong love of nature; a dependent lifestyle and know how to take advantage of the values brought by nature, a thrifty and simple way of consumption; flexible response to all kinds of events.

The people have adapted their ways of life and behaviors to survive in their unique environment. Explain that different cultures develop different characteristics primarily because of adaptations to environments. Traditions often begin as people find rituals and routines that help them survive.

*H2: Culture has a positive impact on the awareness of environmental consciousness of students in Hanoi.*

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### 2.2.3 Media

According to Grønhøj and Thøgersen (2017), social media interactions can influence behavior. This study performed 3 interventions with messages to encourage food waste reduction. The study results showed that the media interventions as well as the e-newsletter and the control group all showed a significant reduction in customers' food waste during the study period.

Environmental communication is a two-way social interaction process that helps stakeholders understand key environmental factors, their interdependence, and how to influence issues that affect the environment. appropriately related to solving environmental problems (Grønhøj and Thøgersen, 2017)

*H3: The media has a positive impact on students' awareness of environmental protection in Hanoi.*

### 2.2.4 Public awareness

Environmental awareness is the process of acquiring knowledge and understanding through thoughts, experiences and senses. Cetin and Nisanci (2010) shows that most students are still not aware of environmental protection, thinking that the responsibility for environmental protection lies with the school and the authorities. There are some opinions that the process of environmental protection activities affects the time for study, entertainment and rest. This is partly due to the lack of documentation on environmental pollution. Therefore, it is necessary to strengthen training and raise awareness for students about the nature of environmental protection activities.

*H4: Awareness of the need to protect the environment has a positive impact on the awareness of environmental protection of students in Hanoi.*

### 2.2.5 Community Rules

Community rules refer to all rules that have been submitted by members of the open source community. A strong civil society and community rules are key agents for environmental protection (Schofer and Hironaka, 2005). Community organizations can 'push' for environmental protection and climate change. Society is demanding social responsiveness at a minimum, and the call for social responsibility seems to be getting louder and clearer.

*H5: Community rules have a positive impact on the awareness of environmental protection of students in Hanoi.*

## 3. CONCEPTUAL FRAMEWORK AND METHODOLOGY

### 3.1. Conceptual framework

From the above literature review, we build the research framework in Figure 1.

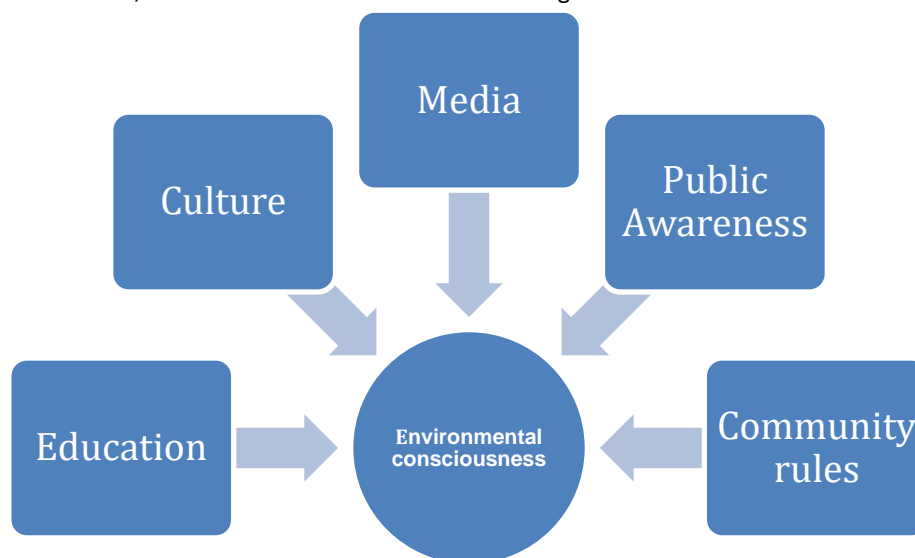


Figure 1. Research Framework

### 3.2. Sampling and analysis

The research sample was drawn from Hanoi students. Interviewees are randomly selected from the population for questionnaire administration. Face-to-face, drop-off, and phone-calling methods were employed to distribute the questionnaire. Among 725 send-out questionnaires, we receive 544 completed returns. The collected data was subsequently cleaned and analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with the aid of SmartPLS Software software.

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### 3.3. Measures

All the questionnaire items in this study were chosen from extant measures of the constructs which had proven reliabilities and validities (as reported in Section 4.2). The detailed constructs and items on our questionnaire are illustrated in the Appendix.

## 4. RESULTS AND DISCUSSIONS

### 4.1. Common Method Variance (CMV)

The bias generated by Common Method Variance (CMV), known as common method bias, appears when the estimated relationship between one construct and another might be inflated. In another word, CMV produces a systematic covariation above the true relationship between the scale items (Malhotra et al., 2017). To avoid this threat of biased outcomes in our data analysis, we employ Harman's single-factor test (Bell, 2019) to check for CMV in our data.

The results of the principal component factor analysis showed that the highest value of a single factor explained 29.68% of the total variance, which is less than the threshold of 50% (Doty and Astakhova, 2020). Hence, bias from CMV does not exist in our data and it is not a concern in our data analysis.

### 4.2. Reliability and Convergent Validity

Before studying the causal effects of variables, we first ensure the validity and reliability of the study model using the factor loadings, Cronbach's alpha (CA), factor loadings from Exploratory factor analysis (EFA), Average Variance Extracted (AVE), and Composite Reliability (CR).

Table 1 illustrates the measurement model. The CA met the recommended value higher than 0.70, the value ranges from 0.864 to 0.940. The CR ranging from 0.758 to 0.928 also fulfilled the criteria as it was above the minimum recommended value of 0.70 (Hair et al., 2019). The AVE value of the four variables was within the range 0.510 and 0.810, which fulfilled the recommended value above 0.50. The factor loadings satisfy the recommended value above 0.4 (Hair et al., 2019).

**Table 1. Reliability and Convergent Validity results**

Constructs	Items	Factor loading	Cronbach's alpha	Average Variance Extracted	Composite Reliability
Education (ED)	ED1	0.776	0.901	0.649	0.847
	ED2	0.966			
	ED3	0.812			
Culture (CU)	CU1	0.796	0.927	0.625	0.833
	CU2	0.965			
	CU3	0.775			
Media (ME)	ME1	0.762	0.864	0.592	0.813
	ME2	0.854			
	ME3	0.799			
Public Awareness (AW)	AW1	0.784	0.932	0.584	0.808
	AW2	0.871			
	AW3	0.894			
Community rules (CR)	CR1	0.883	0.939	0.624	0.833
	CR2	0.901			
	CR3	0.798			
Environmental consciousness (EC)	EC1	0.767	0.906	0.610	0.824
	EC2	0.892			
	EC3	0.840			

### 4.3 Structural Equation Modeling results

Table 2 shows the results for the path coefficient analysis of the hypotheses (H1 to H5). Among our five hypotheses in Section 2, all of them are supported by our empirical results.

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Table 2. Path Coefficient Analysis Results

Hypotheses	Causal relationships	Coefficients	S.E.	P-value
H1	ED → EC	0.089***	0.006	0.001
H2	CU → EC	0.059***	0.000	0.000
H3	ME → EC	0.118***	0.001	0.000
H4	AW → EC	0.111***	0.009	0.001
H5	CR → EC	0.030***	0.006	0.006

Note: \* is significant at 10%, \*\* is significant at 5%, \*\*\* is significant at 1%

Education has positive effects on the environmental consciousness of students in Hanoi, Vietnam. This result is consistent with findings of Özmen and Karamustafaoglu (2006). Although the environmental consciousness results from the interaction between the society and family, formal education given in this process is also important in increasing the environmental consciousness of the society. Environmental education goes beyond providing students with simple information about environmental issues. As defined in the National Project for Excellence in Environmental Education; “environmental education is a process that aims to develop an environmentally literate citizenry that can compete in our global economy, has the skills, knowledge, and inclinations to make well-informed choices, and exercises the rights and responsibilities of members of a community”.

Culture is also an important factor that drives the environmental consciousness of students. The specific cultural values of a country may determine whether concern about environmental issues actually leads individuals to engage in environmentally friendly behaviors. The results of Matthews (1995) suggest that (i) children who are without formal training and with limited access to maps are able to draw relatively sophisticated place representations and to recall their local environment in vivid terms; (ii) these maps and place descriptions are different to those of their age-sex-counterparts from Britain, which suggests that culture influences expressive style if not cognitive ability; and (3) they suggest that further studies, set within other cross-cultural contexts, are needed, if the importance of culture to environmental capability is to be understood.

Mass Media plays an important role in creating environmental awareness among people. As far as the environmental issues are concerned, media either as a risk communicator or as a promoter of data, information, and good practices of any kind, should smooth the progress of people to become more environmentally responsible and cultivate environmental awareness. Additionally, media could help people associate reasons and effects, thus to get informed and to reflect upon the given information, in order to understand the origins and the causes of the major environmental problems.

Public awareness and knowledge and society activities of environmental protection are crucial to avoid environmental pollutions. Lack of relevant scientific principles and lack of public awareness of environmental or other projects are hindrances to controlling environmental pollution. Promoting environmental awareness is a crucial part of being an environmental steward.

Community rules include empowerment of communities in matters of governance and providing them with a sense of belonging towards their community and their environment which helps foster greater sustainability of the environment and its products. Part of this involves schemes enabling communities to proactively seek to improve their local environment

### 5. CONCLUSION

This study analyzes the impact of factors affecting the awareness of environmental protection of students in Hanoi. Through the model PLS-SEM, the analysis results show that there are 5 main groups of factors affecting the awareness of environmental protection of students in Hanoi, including: (1) Education, (2) Culture, (3) Media, (4) Public awareness, (5) Community rules. The results of this study could help policy makers in enhancing the environmental consciousness of students.

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