International Journal of Ecology and Environmental Sciences 50: 141-146, 2024
ISSN: 2320-5199 (Online); https://doi.org/10.55863/ijees.2024.3161

Impact of Perceived Environment Responsibility of Students on their Eco-friendly Behaviour

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ABSTRACT
Eco-friendly behaviour is the need of the hour for environment protection. A strong positive perception of the students towards their environmental responsibilities is very essential for developing eco-friendly behaviour in them. This study examined the impact of perceived environment responsibility of the students on their eco-friendly behaviour. A sample of 234 respondents from engineering colleges at Ranga Reddy District was chosen for this study, and the data was gathered using a non-probabilistic convenience sampling technique. Correlation analysis was used to determine the relationship betweentheenvironment responsibilities of the students and their environmental behavioural elements of 'Reducing Pollution, Participation in Environmental Protection, Environmental Sustainability, and Resource Management'. The analysis revealed that there is a significant impact of perceived environment responsibility of the students on their eco-friendly behaviour.

Key words: Environment protection, Environmental sustainability, Resource management, Environmental behaviour, Pollution, Environmental awareness.

INTRODUCTION

It is not only our responsibility but also our duty to safeguard the environment. By safeguarding our environment, we will not only improve the environment, but also our own quality of life. The environment's quality is declining rather than getting better each year. At every level whether it is global level, National level, local or individual level, immediate actions must be made to combat the threat of the escalating environmental challenges. Role of every individual in the avoidance of environmental problems is crucial. Efforts made by every individual can have a global environmental impact. Youth have a very important role to play in addressing environmental issues as they help in building the Nation. Today's youth recognize the value of environmental stewardship. They are aware of what it means to be responsible citizens. They are also aware of the benefits of acting in an environmentally friendly manner and are aware of the steps they need to take to become a decent, responsible member of society. The knowledge and attitude of students towards natural environment is positive was observed by Erhabora and Don (2016). Students can obtain a number of personal and social advantages by engaging in environmental activities. Environmental behaviour includes environmental activities such as conservation of scarce resources, utilization of energy-efficient home appliances, participation in cleanup efforts of sorting trash and scrap, purchasing green and eco friendly products. The aim of the present work is to analyze the relationship between the perceived environmental responsibility and the eco-friendly behaviour of the students. Quite a number of students know about the biological community and agree that oil, a fossil fuel, is a non-renewable source of energy on which humans are largely dependent on fossil fuels (Usha Shri and Tiwari 2021). They also know about the sources of water pollution, the world's population and also about global warming. Students have high level of environmental knowledge and positive attitudes towards the environment, but they have low level of participation in activities related to environmental protection such as disposal of waste and reuse, sanitation and tree plantation etc. (Abbas and Singh 2014). Vaizoglu et al. (2005) conducted research to evaluate the environmental consciousness of students where students expressed that playing individual role in environmental issues is important and it is just

not the concern of governments. They showed high environmental responsibilities such as preferring public transportation and not buying the products which harm the environment.In contrary. Selvam and Abdul Nazar (2011) analysed environmental responsibilities and awareness among university students observed that majority of the respondents are not having environmental responsibilities and awareness. A comparative study of environmental awareness among under graduate students by Islam and Rahed Razzak (2017) revealed that students who are having environment as an integrated subject are comparatively more responsible towards environment. The consciousness regarding environmental problems is growing at all levels, particularly in all universities at stage of higher studies (Masum and Akhir 2010). According to the survey which aimed to determine students awareness, sensitivities and behaviours related to environmental problems , good percentage of students showed up in environmental preservation activities but they preferred working voluntarily compared to be a member of any environmental organization (Gulgun et al. 2008). Students are more aware that they should not use the products sold in plastic bottles in order to protect the environment (Kose et al. 2011). They also liked to contribute towards solving environmental problems. Importance of proper attitude, awareness and individual behaviour of students to contribute effectively towards protection, conservation of environment and also their responsibility towards environment (Sahidullah 2022). Students believe that without protection of environment and proper attitude display towards environmental responsibilities, survival of life and well organized social functioning is unimaginable (Slavoljub et al. 2015).

METHODOLOGY

This study is based on primary data. Data was collected through a questionnaire. Structured sampling method was employed, and questionnaire was distributed through Google forms from five private engineering colleges in Hyderabad. There were 234 responses. The statistical tools applied are descriptive statistics and correlation analysis. Five point Likert-type scale was used to examine environmental responsibility among students. The scales were rated ranging from 1 to 5 as follows: 1 = strongly disagree; 2 = disagree; 3 = Neutral; 4 = disagree; 5 = strongly disagree. Measures of central tendency such as the mean and standard deviation were used to summerize the perception of the students on their responsibilities towards the environement. Pearson's correlation coefficientswas conducted to show the degree of relationship between dependent variable "environmental responsibility" and the independent variables i.e., reducing pollution, environmental protection, environmental sustainability and resource management.

RESULTS AND DISCUSSION

Male respondents were 58% and the remaining 42% female (Table 1). The participants are in the age group of 18-21 years. Among them 30% were in first year, 29% in second year, 21% in third year and 20 in fourth year of their under graduate level. The mean and standard deviation of the perception of the students towards their responsibilities in reducing pollution is reflected in Table 2. The students strongly

Table 1. Gender profile of respondents

Gender	Number of respondents	Percentage
Male	136	58
Female	98	42

Table 2. Students' perception on reducing pollution

Perception statement	Mean	SD
I plant trees to reduce air pollution	4.517	0.667
Using public transport preferably	3.978	0.689
I never throw plastic waste into water bodies	4.397	0.625
I use cloth or jute bags for shopping	4.081	0.601
I try not to litter non-biodegradables	4.323	0.674

Table 3. Students' perception on participation in environmental protection

Perception statement	Mean	SD
I segregate dry and wet garbage while disposal	4.371	0.662
Opting for reusable water bottles and food containers	4.303	0.621
Switching off electric devices when they are not in use	4.376	0.997
Starting my own initiative or being a volunteer with environmental organizations can help in better environmental management	4.222	0.693
Having ethical and moral values towards environment is very important	4.452	0.698

Table 4 Students' perception on environmental sustainability

Perception statement	Mean	SD
I prefer renewable resources over non-renewable resources	4.316	0.638
I avoid crazy consumerism that leads to more solid waste generation	4.183	0.664
Using products with low carbon footprint is eco-friendly	4.239	0.676
Avoiding single-use plastic materials	4.273	0.684
I prefer organically grown fruits and vegetables as they are healthy and do not deteriorate environment during production	4.214	0.625

Table 5. Students' perception on resource management

Perception statement	Mean	SD
I follow 3R's principle i.e, reduce, recycle and reuse the resources for environmental conservation	4.307	0.694
I avoid over exploitation of water by using only required amount	4.334	0.628
I prefer fossil fuels to biofuels and fabricated fuels	4.132	0.668
I respect wild life and will never irritate or hurt animals	4.346	0.656
Food is one of the prominent resources so I always avoid wasting food	4.282	0.643

Table 6. Students' perception on environmental responsibility

Perception statement	Mean	SD
I am overall responsible towards the surrounding environment.	4.205	0.658
I spread awareness among people around me on clean and green environment.	4.130	0.697
I try to keep my surroundings clean and green wherever and whenever possible.	4.316	0.686
I consider myself as part of the environment.	4.354	0.674
Sustainable environmental activities are an integral part of my lifestyle.	4.269	0.645

agreed with their responsibilities towards reducing pollution by planting trees (Mean=4.517, SD=0.667), avoiding throwing of plastic waste into water bodies (Mean=4.397, SD=0.625), avoid littering of non-biodegradables (Mean=4.323, SD=0.674), using cloth or jute bags for shopping (Mean=4.081, SD=0.601. 'Using public transport preferably' got the least mean score (Mean=3.978, SD=0.689). Lukács et al. (2003) observed a significant number of the students use paper or textile bags while shopping and most respondents segregated waste in an appropriate manner. Table 3 shows the mean and standard deviation of the perception of the students towards their active participation in environmental

protection. The respondents of the present study strongly agreed with their responsibilities towards having ethical and moral values towards environment (Mean=4.452, SD=0.698), switching off electric devices when they are not in use (Mean=4.376, SD=0.997), segregating dry and wet garbage for disposal (Mean=4.376, SD=0.662), opting for reusable water bottles and food containers (Mean=4.303, SD=0.621). 'Starting own initiative or being a volunteer with environmental organizations' got the least mean score (Mean=4.222, SD=0.693). Students strongly agree to the collective responsibility of the citizens and government towards management of municipal solid waste, specifically source segregation (Jerath 2001). Table 4 represents the mean and standard deviation of the perception of the students towards their responsibilities in environmental sustainability. The students strongly agreed with their responsibilities towards using renewable resources over non-renewable resources (Mean= 4.316, SD=0.638), avoiding single-use plastic materials (Mean=4.273, SD=0.684), using products with low carbon footprint (Mean=4.239, SD= 0.676), preferring organically grown fruits and vegetables (Mean=4.214, SD=0.625). 'Avoiding crazy consumerism that leads to more solid waste generation' got the least mean score (Mean=4.183, SD=0.664). Students strongly support the environmental attitudes, high participation in consumerism behaviours as a part of sustainable environmental lifestyle (Müderrisoðlu and Altanlar 2011). The mean and standard deviation of the perception of the students towards their responsibilities in resource management is represented in Table 5. The students strongly agreed with their responsibilities towards respecting wildlife (Mean= 4.346, SD= 0.656), avoiding over exploitation of water by using only required amount (Mean=4.334, SD= 0.628), following 3R's principle i.e, reduce, recycle and reuse the resources (Mean=4.307, SD=0.694), avoiding food waste (Mean=4.282, SD=0.643). Preferring fossil fuels to biofuels and fabricated fuels got the least mean score (Mean=4.132, SD=0.668). In contrary to this study Ratnapradipa et al. (2011) observed that only sometimes students recycled everyday items such as bottles, aluminum cans, and newspapers. Table 6 shows the mean and standard deviation of the perception of the students towards their environment responsibilities. The students strongly agreed with their responsibilities towards being part of the environment (Mean=4.354, SD=0.674), trying to keep my surroundings clean and green wherever and whenever possible (Mean=4.316, SD=0.686), making sustainable environmental activities an integral part of lifestyle (Mean= 4.269, SD=0.645), overall responsibility towards the surrounding environment (Mean=4.205, SD=0.658). 'Spreading awareness among people on clean and green environment' got the least mean score (Mean= 4.130, SD=0.697). According to Wong (2003), students were able to realise about the seriousness of environmental problems and supported the establishment of more non-governmental organizations to protect the environment.To assess for the correlation between the variables, the Pearson's Correlation Coefficient is employed. Table 7 represents the direction and strengths of the relationships between all variables with one another. The results of correlation analysis explain that there is a significant positive correlation at 0.05 level between dependent variable 'environmental responsibility' and the independent variables i.e., reducing pollution, environmental protection, environmental sustainability and resource management.

CONCLUSION

Environmental friendly behaviour is an attempt to preserve the environment. Youth have a crucial role to play in environment protection and preservation.

Table 7. Correlation between environmental responsibility and environmental perception variables (ER - Environment responsibility, RP - Reducing pollution, EP - Environmental Protection, ES - Environmental sustainability, RM - Resource management)

	ER	RP	EP	ES	RM
ER	1				
RP	0.987	1			
EP	0.9818	0.9988	1		
ES	0.9995	0.9853	0.9791	1	
RM	0.9932	0.9988	0.9964	0.9917	1

The present study clearly indicates strong positive impact of perceived environment responsibility of the students on their eco-friendly behaviour. The students strongly feel that they are environmentally responsible in reducing pollution, participation in environmental protection, working for environmental sustainability, and in implementation of resource management. This is a positive sign for the society as the present generation are considering themselves to be environmentally responsible which in turn would lead to wide spread eco-friendly revolution. Environmentally responsible behaviour of the youth will increase the quality of life and health.

Authors' contributions: All authors contributed equally

Conflict of interest: Authors declare no conflicl of interest

REFERENCES

Abbas, M.Y. and Singh, R. 2014. A survey of environmental awareness attitude and participation amongst university students: A case study. International Journal of Science and Research, 3, 1755-1760. https://www.ijsr.net/archive/v3i5/MDIwMTMyMTg3.pdf

Erhabora, N.I. and Don, J.U. 2016. Impact of environmental education on the knowledge and attitude of students towards the environment. International Journal of Environmental & Science Education, 11(12), 5367-5375. https://files.eric.ed.gov/fulltext/EJ1115646.pdf

Gulgun, B., Onder, S., Aktas, E. and Unal Ankaya, F. 2008. Responses of University Students Related to Environmental Problems: A Case Study of Ege University (Izmir-Turkey). Journal of International Environmental Application & Science, 3(4), 234-246.

Islam, S. and Rahed Razzak, Sk. 2017. A comparative study of environmental awareness among under graduate students of arts and science faculties of A.M.U. International Journal of Research in Social Sciences, 7(10), 645-657. https://www.ijmra.us/project%20doc/2017/IJRSS_OCTOBER2017/IJMRA-12433.pdf

Jerath, N. 2001. Awareness and attitude of students towards municipal solid waste management to achieve sustainable development goals - A case atudy. International Journal of Plant and Environment, 7(01), 78-85. https://doi.org/10.18811/ijpen.v7i01.9

Kose, S., Savran Gencer, A., Gezer, K., Erol, G.H. and Bilen K. 2011. Investigation of undergraduate students' environmental attitudes. International Electronic Journal of Environmental Education, 1(2), 85-96. https://files.eric.ed.gov/fulltext/EJ1057525.pdf

Lukács, R., Szeberényi, A. and Papp-Váry, A.F. 2023. Attitudes towards environmentally conscious lifestyle among university students in Budapest - in light of their purchasing decisions and waste management. 22nd International Scientific Conference Engineering for Rural Development Proceedings. https://doi.org/10.22616/ERDev.2023.22.TF047

Masum, A. and Akhir, M. 2010. Environmental education in Bangladesh with special reference to higher studies (1992-2009). International Journal of History & Research, 1(1), 1-32. www.intconfhighered.org%2FAl-Masum%2520article.doc&wdOrigin=BROWSELINK

Müderrisoðlu, H. and Altanlar, A. 2011. Attitudes and behaviours of undergraduate students toward environmental issues. International Journal of Environmental Science and Technology, 8 (1), 159-168. https://doi.org/10.1007/BF03326205

Ratnapradipa, D., Brown, S.L., Middleton, W.K. and Wodika, A.B. 2011. Measuring environmental health perception among college students. Health Educator, 43, 13-20. https://files.eric.ed.gov/fulltext/EJ967821.pdf

Sahidullah, A. 2022. Environmental awareness among high school students: A study in Majuli District of Assam, India. Ecology, Environgmentand Conservation, 28(1), 347-351. http://doi.org/10.53550/EEC.2022.v28i01.051

Selvam, V. and Abdul Nazar, N. 2011. An analysis of environmental awareness and responsibilities among university students. International Journal of Current Research, 3(11), 202-205. http://journalcra.com/sites/default/files/issue-pdf/789.pdf

Slavoljub, J., Zivkovic, L., Sladjana, A., Dragica, G. and Zorica, P.S. 2015. To the environmental responsibility among students through developing their environmental values. Procedia – Social and Behavioral Sciences, 171, 317-322. https://doi.org/10.1016/j.sbspro.2015.01.128

Usha Shri, G. and Tiwari, R.R. 2021. Environmental literacy among college students. Indian Journal of Occupational and Environmental Medicine, 25(3), 128-132. 10.4103/ijoem.IJOEM_141_20

Vaizoglu, S., Altintas, H., Temel, F., Ahrabi, A.F., Aydodan, D., Bostanci, S., Duran, A., Kockesen, D., Turan, N. and Guler, C. 2005. Evaluation of the environmental consciousness of the students in a medical faculty in Ankara. TAF Preventive Medicine Bulletin, 4(4), 151-171.

Wong, K.K. 2003. The environmental awareness of university students in Beijing, China. Journal of Contemporary China, 12(36), 519-53. https://doi.org/10.1080/10670560305472

Received: 29th July 2023
Accepted: 7th November 2023

ANNEXURE: The Survey Questionnaire

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Planting trees will reduce air pollution	O	O	O	O	O
2. Using public transport is more preferable	O	O	O	O	O
3. I would love to plant more tree whenever possible to improve the quality of environment	O	O	O	O	O
4. I use cloth or jute bags for shopping	O	O	O	O	O
5. littering non-biodegradables can lead to soil pollution	O	O	O	O	O
6. Dry and wet garbage should be segregated while disposal	O	O	O	O	O
7. Opting for reusable water bottles and food containersreduce waste generation	O	O	O	O	O
8. Switching off electric devices when they are not inuse will reduce power consumption	O	O	O	O	O
9. Starting my own initiative or being a volunteer withenvironmental organizations can help in better environmentalmanagement	O	O	O	O	O
10. Having ethical and moral values towards environment is very important	O	O	O	O	O
11. Renewable resources are preferable over non-renewable resources	O	O	O	O	O
12. Crazy consumerism leads to more solid waste generation	O	O	O	O	O
13. Using products with low carbon footprint is eco-friendly	O	O	O	O	O
14. Avoiding single-use plastic materials can reduce the burden on environment	O	O	O	O	O
15. I prefer organically grown fruits and vegetables as they are healthy and do not deteriorate environment during production	O	O	O	O	O
16. I follow 3R's principle i.e, reduce, recycle and reuse the resources for environmental conservation	O	O	O	O	O
17. Over exploitation of water should be avoided by using only required amount	O	O	O	O	O
18. Fossil fuels can be replaced with biofuels and fabricated fuels	O	O	O	O	O
19. I respect wild life and will never irritate or hurt animals	O	O	O	O	O
20. Food is one of the prominent resource so I always avoid wasting food	O	O	O	O	O
21. I am overall responsible towards the surrounding environment	O	O	O	O	O
22. I spread awareness among people around me on clean and green environment	O	O	O	O	O
23. I try to keep my surroundings clean and green wherever and whenever possible	O	O	O	O	O
24. I consider myself as part of the environment	O	O	O	O	O
25. sustainable environmental activities are an integral part of my lifestyle	O	O	O	O	O