CORRELATIONAL ANALYSIS OF ENVIRONMENTAL AWARENESS (EAW) AND ENVIRONMENTAL ACTION (EAC) OF UNDERGRADUATE STUDENTS

Shaheen Altaf Shaikh [*] & V.S. Sumi [†]

Abstract

Environmental education has gained importance as a subject of study from school education through to higher education. In today's world of fast increasing pollution and environmental deterioration, it is also considered to be the need of the day. Being aware of environmental issues is important but what is crucial for protection of environment is environmental action. Students are the key to the future society and hence it is necessary to assess their environmental awareness and environmental action which is the objective of this study. The influence of gender on both environmental awareness and environmental action was also a determining factor in this study. The study was conducted in MANUU, Hyderabad, India. The total sample was 200 of which 100 were girls and 100 were boys. The results of this study showed that UG students had a high environmental awareness but very low environmental action. There was a significant influence of gender on the variables in the study - Environmental Awareness and Environmental Action. Girls showed better environmental awareness and environmental action as compared to boys. The government needs to take up an initiative to mobilise environmental action amongst students, so that conservation of environment for the future generations becomes a concrete reality.

Keywords: *Environmental Awareness, Environmental Action, Gender Influence, Location Influence, Correlational study.*

[*] *Associate Professor, Department of Education and Training, Maulana Azad National Urdu University, Hyderabad, Telangana, India, email - shaikh.shaheen9@gmail.com*

[†] *Assistant Professor, Department of Education and Training, Maulana Azad National Urdu University, Hyderabad, Telangana, India, e-mail – s4r2007@gmail.com*

Introduction

Environmental education has gained importance as a subject of study from school education through to higher education. In today's world of fast increasing pollution and environmental deterioration, it is also considered to be the need of the day. Environment can be defined as the surroundings in which an individual grows and develops. Environmental Awareness is nothing but concern towards environment and the cognizance of environmental problems. If the environmental issues are not solved or taken care of, the future generations may not find earth habitable. Environmental degradation is increasing rapidly, resulting in the decline of productivity of land and forests mainly due to human factors and interventions.

"Environmental attitudes provide a good understanding of the set of beliefs, interests, or rules that influence environmentalism or pro-environmental action" (Fernandez-Manzanal et al. 2007). This presumes the significant role of schools in inculcating in their student's positive values and attitudes and an active role in conservation of environment. Environmental issues are a cause of growing concern because more energy and consumption demands are leading to environmental degradation. The major hurdles in environmental protection are not only the lack of legal and economic framework, but also a lack of awareness and participation in pro environmental behaviours.

Environmental issues are becoming more and more complex by the day and the need to take action to solve them becomes more urgent and the onus for this action lies with the students – the future citizens. (Josiah, et al. (2008)). Kenis and Mathijs (2012) ; Rouser-Renouf et al. (2014) state that grass-root organization of citizen activism is "the most efficient method of achieving emission reductions". These types of environmental actions is seen to be relatively low in the general population (Leiserowitz et al. 2012). Many courses and programs are being developed and organised to encourage environmental actions (Hegarty et. al. 2011).However, feasibility studies about environmental action programs in engaging people in environmental actions are lacking.(Kenis & Mathijs, 2012; Riemer et al., 2013). The present study is trying to assess the environmental awareness and environmental action among university students. It will not be easy to solve the

environmental problems but sensitisation to environmental issues may trigger action which is the only way the current environmental conditions can be improved.

Objectives

1. To determine the level of environmental awareness of undergraduate students.
2. To find the influence of gender on level of environmental awareness of undergraduate students. To find the influence of location on level of environmental awareness of undergraduate students.
3. To determine the level of environmental action of undergraduate students.
4. To determine the level of environmental action of undergraduate students.
5. To find the influence of gender on level of environmental action of undergraduate students.
6. To find the influence of location on level of environmental action of undergraduate students.
7. To find the difference in level of Environmental Awareness (EAW) and level of Environmental Action (EAC) of undergraduate students.

Research Question/Hypothesis

1. What is the level of environmental awareness of undergraduate students?
2. There is no significant influence of gender on level of environmental awareness of undergraduate students.
3. There is no significant influence of location on level of environmental awareness of undergraduate students
4. What is the level of environmental action of undergraduate students?
5. There is no significant influence of gender on level of environmental action of undergraduate students
6. There is no significant influence of location on level of environmental action of undergraduate students.
7. There is no significant difference in level of Environmental Awareness (EAW) and level of Environmental Action (EAC) of undergraduate students.

Methodology

Survey method was used for the study. The population comprised of students studying in a university in undergraduate courses. A total of 200 students were selected by simple random sampling technique and used as sample in the study out of which 96 were girls and 104 were boys studying in MANUU University in undergraduate courses. The same students were also classified on basis of hometown location into 73 students from Urban background and 127 students from Rural background.The independent variables of the study were gender and location and the dependent variables of the study were level of Environmental Awareness (EAW) and level of Environmental Action (EAC).

Tools

Two standardised tools were used for the collection of data.

Environmental Awareness Ability Measure (EAAM) which was developed by Dr. Parveen Kumar Jha was used in this study to measure the environmental awareness of undergraduate students. The test contains a total of 51 items of which 43 items are positively worded and 8 items are negatively worded. The scale measures the following five aspects of environment awareness. • Pollution and its causes • Conservation of air, soil, forest • Conservation of energy • Health conservation • Conservation of wild life. The reliability coefficient of the EAAM is 0.61 and validity of the EAAM is 0.83. The Scoring procedure for positively worded items is that each positive answer carries the 1 mark and each negative item carries 0 mark, thescoring for negatively worded items is inverse i.e., positive answer carries 0 marks and negative answer carries 1 mark. On the total score, the scores ranged between 0-51. The scale gives a composite score of environmental awareness ability of the subject.

Environmental Action Scale which wasdeveloped by Alisat, Susan & Riemer, Manuel. (2015) was used to determine level of environmental action. The Environmental Action Scale (EAS) had 18items listing various activities related to environment.The respondents had to rate on a five point scale how often they had engaged in the environmental activities and actions. The EAS was a 5-point scale from 0 (never), (1) once, (2) sometimes,

many to 4 (frequently). The scale included two sub-factors 1) participatory actions (10 items 1,2,4,5,8,9,14,15,17 and 18) which include passive actions like attending, watching an environmental event, and 2) Leadership actions (8 items 3,6,7,10,11,12,13 and 16) which include active actions like organizing an environmental protest or petition. Reliability Coefficient for the EAS scale was 0.92.

Data Analysis

The data was analysed using Mean to determine the general environmental awareness and environmental action, SD and t-test were used to determine the significance of difference between awareness and action, significance of difference between gender and significance of difference between location.

Results for Objective 1- To determine the level of environmental awareness of undergraduate students.

The mean score of EAAM = 38.6 out of a total score of 51 which equals 75.69%. The percentage scored by the students is good and thus it can be concluded that the general performance of the undergraduate students was good on environmental awareness.

Results for Objective 2 – To find the influence of gender on level of environmental awareness of undergraduate students.

Table 1: Gender Influence on Environmental Awareness

Gender	Mean	Standard Deviation	t-value = 1.97 @ 0.05 level
Boys	37.5	7.3	2.13
Girls	39.7	5.6	

The mean score of girls on environmental awareness is 39.7 which is greater than the mean score of boys on environmental awareness which is 37.5. The t-value obtained is significant at 0.05 level which shows that the difference in environmental awareness of boys and girls is significant. Thus it can be inferred that environmental awareness of undergraduate girl students is better than the environmental awareness of undergraduate boy students.

Results for Objective 3 – To find the influence of location on level of environmental awareness of undergraduate students.

Table 2: Location Influence on Environmental Awareness

Location	Mean	Standard Deviation	t-value = 1.97 @ 0.05 level
Rural	36.9	5.8	4.58
Urban	42.4	6.0	

The mean score of urban based students on environmental awareness is 42.4 which is greater than the mean score of rural based students on environmental awareness which is 36.9. The t-value obtained is significant at 0.05 level which shows that the difference in environmental awareness of rural based students and urban based students is significant and thus it can be inferred that environmental awareness of urban based undergraduate students is better than the environmental awareness of rural based undergraduate students.

Results for Objective 4- To determine the level of environmental action of undergraduate students.

Table 3: Environmental Action Scores

	Environmental Action Score EAC/72		Participatory Action Score /40		Leadership Action Score /32		S.D.
Overall (N=200)	21.55	29.93%	16.95	42.38%	4.6	14.38%	6.23

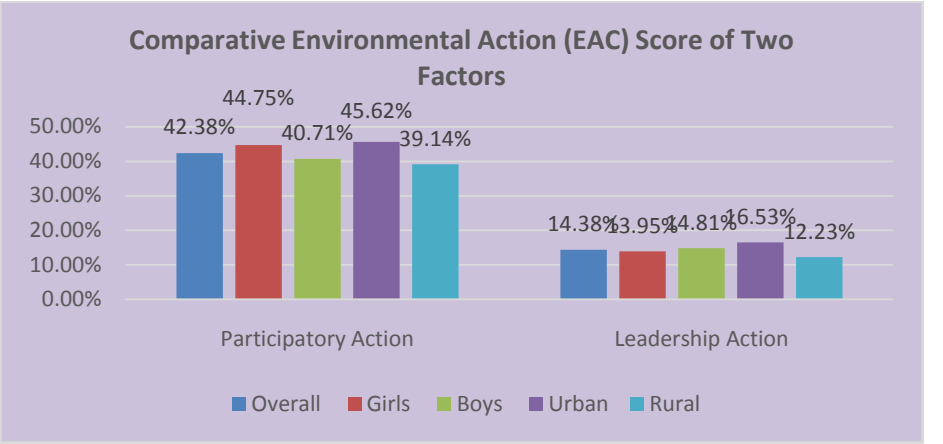

Figure 1: Comparative Environmental Action (EAC) Score of Two Factors

The mean score of all the students in Environmental Action (EAC) in terms of percentage is 29.93% which is considered to be very poor, thus it can be inferred that the overall environmental action of undergraduate students is very poor.

The scale included two sub-factors 1) Participatory actions and 2) Leadership actions. The mean percentage in participatory action was 42.38% which is a little below average. The mean percentage of leadership action was 14.38% which was very very poor. Thus it can be inferred that undergraduate students participate in environmental related activities but they lack in leading in organisation of environment related actions.

Results for Objective 5 – To find the influence of gender on level of environmental action of undergraduate students

Table 4: Gender Influence on Environmental Action

Gender	Environmental Action Score EAC/72		Participatory Action Score /40		Leadership Action Score /32		S.D.	t-value = 1.97 @ 0.05 level	
Girls (96)	22.36	31.06%	17.9	44.75%	4.46	13.95%	6.34	2.10	H_0 Rejected
Boys (104)	21.02	29.20%	16.284	40.71%	4.74	14.81%	6.17		

The mean score of girls on Environmental Action is (EAC) 31.06% which is greater than the general mean and mean score of boys which is 29.20%. The t-value obtained is significant at 0.05 level which shows that the difference in Environmental Action is (EAC) of boys and girls is significant. and thus it can be inferred that Environmental Action is (EAC) of undergraduate girl students is better than the Environmental Action is (EAC) of undergraduate boy students.

The mean percentage of girls in Participatory Action in EAC was 44.75% and boys was 40.71% which is a little below average. The t-value obtained is significant at 0.05 level which shows that the difference in Participatory Action in (EAC) of boys and girls is significant. And thus it can be inferred that Participatory Action in (EAC) of undergraduate girl students is better than the Participatory Action in (EAC) of undergraduate boy students.

The mean percentage of girls in Leadership Action in EAC was 13.95% and boys was 14.81% which is a little below average. The t-value obtained is significant at 0.05 level which shows that the difference in Leadership Action in EAC of boys and girls is significant. And thus it can be inferred that Leadership Action in EAC of undergraduate boy students is better than the Leadership Action in EAC of undergraduate girl students.

Thus it can be inferred that undergraduate students participate in environmental related activities but they lack in leading in organisation of environment related actions. Girls were better at participatory actions than boys and boys were better at leadership actions than girls.

Results for Objective 6 – To find the influence of location on level of environmental action of undergraduate students.

Table 5: Location Influence on Environmental Action

Location	Environmental Action Score EAC/72		Participatory Action Score /40		Leadership Action Score /32		S.D.	t-value = 1.97 @ 0.05 level	
Urban (73)	23.54	32.69%	18.25	45.62%	5.29	16.53%	6.54	6.08	H_0 Rejected
Rural (127)	19.57	27.18%	15.66	39.14%	3.91	12.23%	5.95		

The mean score of urban based students on Environmental Action is (EAC) is 32.69 which is greater than the mean score of rural based students on Environmental Action is (EAC) which is 27.18 The t-value obtained is significant at 0.05 level which shows that the difference in Environmental Action is (EAC) of rural based students and urban based students is significant and thus it can be inferred that Environmental Action is (EAC) of urban based undergraduate students is better than the Environmental Action is (EAC) of rural based undergraduate students.

The mean score of urban based students on Participatory Action in EAC is 45.62 which is greater than the mean score of rural based students on Participatory Action in EAC which is 39.14.The t-value obtained is significant at 0.05 level which shows that the difference in Participatory Action in EACof rural based students and urban based students is significant and thus it can be inferred that Participatory Action in EAC of urban based undergraduate students is better than the Participatory Action in EAC of rural based undergraduate students.

The mean score of urban based students on Leadership Action in EAC is 16.53 which is greater than the mean score of rural based students on Leadership Action in EAC which is 12.23. The t-value obtained is significant at 0.05 level which shows that the difference in Leadership Action in EAC of rural based students and urban based students is significant and thus it can be inferred that Leadership Action in EAC of urban based undergraduate students is better than the Leadership Action in EAC of rural based undergraduate students.

Results for Objective 7 – To find the difference in level of Environmental Awareness (EAW) and level of Environmental Action (EAC) of undergraduate students.

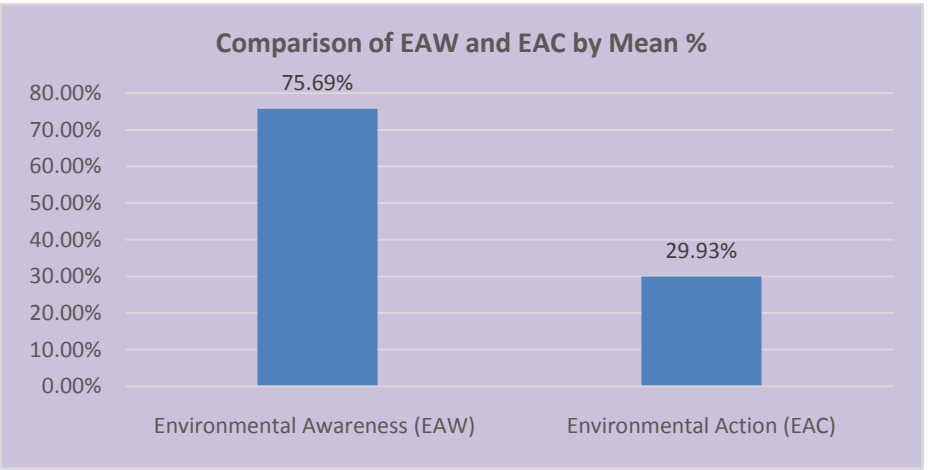

Figure 2: Comparison of Environmental Awareness & Environmental Action.

Table 6: Environmental Awareness (EAW) Vs Environmental Action (EAC)

Variables	Mean	Standard Deviation	t-value = 1.97 @ 0.05 level
Environmental Awareness (EAW)	75.69	5.9	69.61
Environmental Action (EAC)	29.93	6.23	

The undergraduate students level of Environmental Awareness (EAW) is 75.69% and level of Environmental Action (EAC) of is 29.93%. the difference in scores is huge.The t-value obtained is significant at 0.05 level and thus it can be inferred that Environmental Awareness (EAW) is better than the level of Environmental Action (EAC). It can also be inferred that even though students are aware about environmental issues they are lacking in action to overcome the issues.

Conclusion

This research confirms that environmental education helps in creating awareness towards environmental problems but such awareness is not sufficient, it is action which is required to make difference to conservation of environment. The government needs to take up an initiative to mobilise

environmental action amongst students, so that conservation of environment for the future generations becomes a concrete reality. Each and every citizen of our country and the world needs to start working / taking action for conservation of environment and such a mobilisation is only possible with proper administration, planning and governmental policy support.

References

1. Alisat, Susan & Riemer, Manuel. (2015). The Environmental Action Scale: Development and Psychometric Evaluation. Journal of Environmental Psychology. 43. 10.1016/j.jenvp.2015.05.006.
2. Anita Singh, Sony Kumari, Jaspal Singh, (2014).A Comparative Study of Environmental Awareness among Secondary School Teachers in Bareilly District U.P. India, Universal Journal of Environmental Research and Technology. 4(1), 60-64. JULY-SEPTEMBER 2018, YEAR-3, VOLUME-3 www.echetana.com CHETANA/QUATERLY/Dr Satinder Kaur (25-30) 30
3. BabuShivnath, Agarwal Mathura, (2011). Environmental Awareness among Secondary School Students. Quest - The Journal of UGC –ASC Nainital, 5(2).274-279.
4. Dono, J., Webb, J., & Richardson, B. (2010). The relationship between environmental activism, pro-environmental behaviour and social identity. Journal of Environmental Psychology, 30(2), 178-186.
5. Fernandez-Manzanal, R., Rodriguez-Barreiro, L., & Carrasquer, J. (2007). Evaluation of environmental attitudes: analysis and results of a scale applied to university students. Science Education, 91(6).
6. Hegarty, K., Thomas, I., Kriewaldt, C., Holdsworth, S., & Bekessy, S. (2011). Insights into the value of a 'stand-alone'course for sustainability education. Environmental Education Research, 17(4), 451-469.
7. Jha, P. K. (2010).Environment Awareness Ability Measure. Agra: National Psychological corporation.
8. Josiah, O., Ajiboye, Nthalivi Silo, (2008). Enhancing Botswana Children's Environmental Knowledge, Attitudes and Practices through the School Civic Clubs. International Journal of Environmental & Science Education. 3(3), 105-114.
9. Kang, T.P and Chawla, A.(2010). Environment Awareness among secondary school students, Retrieved from www.isrj.com

10. Kenis, A. & Mathijs, E. (2012). Beyond individual behavior change: the role of power, knowledge and strategy in tackling climate change. Environmental Education Research, 18(1), 45-65.
11. Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? Environmental Education Research, 8, 239-260.
12. Leiserowitz, A., Maibach, E., Roser-Renouf, C., Feinberg, G., & Howe, P. (2012) Americans' actions to limit global warming in September 2012. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication. http://environment.yale.edu/climate/publications/Behavior-September-2012/
13. Riemer, M., Lynes, J., & Hickman, G. (2013). Engaging youth in environmental change. A model for developing and assessing youth-based environmental engagement programmes. Journal of Environmental Education Research, 1-23.
14. Rouser-Renouf,C., Maibach, E.W., Leiserowitz, A. & Zhao, X. (2014). The genesis of climate change activism: from key beliefs to political action. Climatic Change (125), 163–178.
15. Shobeiri, S.M.Omidvar, B.and Prahallada, N.N.(2006). Influence of gender and type of school on environmental attitude of teacher in Iran and India. International Journal of Environmental Science and technology. 3(4), 351-358.