International Journal of Innovative Research and Review ISSN: 2347 – 4424 (Online)
An Online International Journal Available at http://www.cibtech.org/jirr.htm
2016 Vol. 4 (2) April-June, pp.20-25/Bhat et al.
Research Article

ENVIRONMENTAL AWARENESS AMONG COLLEGE STUDENTS OF KASHMIR VALLEY IN THE STATE OF JAMMU AND KASHMIR AND THEIR ATTITUDE TOWARDS ENVIRONMENTAL EDUCATION

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ABSTRACT

Environmental degradation in rural as well as in urban settlements poses a major threat to the existence of humanity today. In such a scenario, the importance and need for environmental education as a tool for environmental management and conservation cannot be over emphasized. To raise environmental literacy level among Students of Kashmir valley, Environmental Education is taught using both interdisciplinary and multi-disciplinary approaches. Studies have shown that students in urban centers are more environmentally informed as compared to those in rural areas. The aim of our study was to establish the level of awareness, attitude and participation of College students in environmental activities. The study involved a sample of four hundred college students randomly selected from different colleges of Kashmir valley. Data was primarily collected using well designed questionnaire. Analysis of the data was done by first coding them then using appropriate statistical tools in SPSS version 20. The level of global environmental challenges is now beyond serious scientific dispute. The result of the study indicated that the students due to problems of population explosion, exhaustion of natural resources and pollution of environment are not having enough awareness and skills for identifying and solving environmental problems.

Keywords: *Kashmir, Environmental Attitudes, Environmental Behavior, Environmental Education, College Students*

INTRODUCTION

The growing concern with environmental issues and their impact on general awareness is one of the most noticeable phenomena in recent years. Rapid industrialization, unplanned development and unprecedented growth in population with its accompanying poverty and deprivation are recognized as being the main causes of environmental degradation. It is observed that increase in economic activities in developing countries results in more energy and consumption demand which generally leads to environmental degradation. There is a conventional belief that such environmental degradation would resolve as soon as these countries grow economically, since that would enable them to afford environmental friendly technology as well as pro-environmental regulations and policies (Huber *et al.*, 1998; Fujisaki *et al.*, 1997). The critical environmental problems at preset are fairly widely known because of the growing awareness of all levels of society, including governments, general public and the scientific community. India is one of the fastest progressing countries and has more than 40% of young people in the world. In addressing environmental issues and improving its environmental quality, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. India has adopted various international and national strategies to solve and mitigate many environmental issues such as Environmental Courts, Environment Friendly Products, Un-leading of Petrol and Ban on Harmful Pesticides, National Waste Management Council, Public Liability Insurance and Pollution by Motor Vehicles, Regulation of Sea Shore Hotels, National River Action Plan, Solar Energy Commission and

Prohibition of Smoking in Public Places. Many environmental problems like air pollution, water pollution, soil pollution and wildlife natural habitat pollution challenge India. Owens (2000) in his study stated that increase in knowledge and awareness did not lead to pro-environmental behaviour. It is also reported that changing behaviour is very difficult and knowledge does not directly influence behavior (Fietkau & Kessel, 1981). There is a fundamental link between all natural elements and if a man abuses or exhausts one element, the natural world as a whole will suffer. Holy Prophet Muhammad (SAW) acknowledges that God's knowledge and power covers everything. Therefore, abusing one of his creations, whether it is living being or a natural resource, is a sin. He (SAW) considered all of God's creations to be equal before God and he believed animals, land, forests and water resources have rights. According to Holy Quran (4:126), "To God belongs all that is in the heavens and in the earth, for God encompasses everything". In the context of Kashmir valley, the literacy rate is increasing over many years. In order to have insightful knowledge on college student's attitude towards environmental awareness and practice, this study was undertaken. Environment includes all living and non-living objects. We live in the environment and use the environmental resources like air, land and water to meet our needs. Therefore, there is a need to create 'knowledge' about Environmental protection.

Environment has attracted the attention of school and college students and they are becoming increasingly conscious of issues such as famines, droughts, floods, scarcity of fuel, firewood and fodder, pollution of air and water, problems of hazardous chemicals and radiation, depletion of natural resources, extinction of wildlife and dangers to flora and fauna. Since, Jammu and Kashmir State incorporated environmental education as part of their curriculum and it's mandatory for all the students irrespective of their curriculum. Therefore, it is important to know the knowledge of environmental awareness among the future generation and their present practice towards environmental protection which leads for sustainable development.

This present study is intended to understand the environmental awareness and practice status among the college students of Kashmir valley.

MATERIALS AND METHODS

In the present study the survey included 400 students, 200 male and 200 female students studying in various colleges of Kashmir valley. To collect information a questionnaire was prepared keeping in view the literature available on the topic and the characteristics of the respondents viz., residence, education level of parents, type of family, family income, family size etc.

The questionnaire developed was pre-tested and validated by specialists and experts using appropriate statistical techniques. The participants who participated in this study were given a verbal explanation regarding the purpose of the present study and were assured that confidentiality would be carried out throughout this study. The data collected using stratified random sampling technique was tabulated and analyzed with the help of appropriate statistical tools using statistical SPSS version 20.

Research Hypothesis

Hypothesis 1: There will be no significant difference in awareness between male and female students studying in various colleges of Kashmir valley.

In order to test the hypothesis 1, we use Mann-Whitney U test (with usual notations) given by

$$W = N_1 N_2 + \frac{N_x(N_x+1)}{2} - T_x$$

Where, N_1 is the number of subjects in group 1; N_2 is the number of subjects in group 2. T_x is the larger of the two rank totals and N_x is the number of subjects in this group.

Hypothesis 2: There will be no relation between awareness and study variables of the respondents. In order to test Hypothesis 2, we use correlation analysis. Correlation coefficient with usual notations is estimated as

$$r_{xy} = \frac{S_{xy}}{\sqrt{S_{xx} S_{yy}}}, \text{ where } S_{xy} = \sum xy - n\bar{x}\bar{y}, S_{xx} = \sum x^2 - n\bar{x}^2, S_{yy} = \sum y^2 - n\bar{y}^2 .$$

Hypothesis of no linear relationship is tested by using student t-test and test statistic is defined $t = \frac{r_{xy}\sqrt{n-2}}{\sqrt{1-r_{xy}^2}} \sim t_{(n-2)}$. which is Student's t distribution with n-2 degrees of freedom. It may be noted that n stands for number of observations.

Hypothesis 3: There is no association between Environmental concerns and gender.

To test the hypothesis 3, we use chisquare test (with usual notations) as given by

$$X^2 = \sum_{i=1}^{2} \frac{(o_i - e_i)^2}{e_i}$$

Where, $X^2 \sim \chi_1^2$, o_i and e_i are observed and expected frequencies. We reject H_0 if p-value is less than specified level of significance.

RESULTS AND DISCUSSION

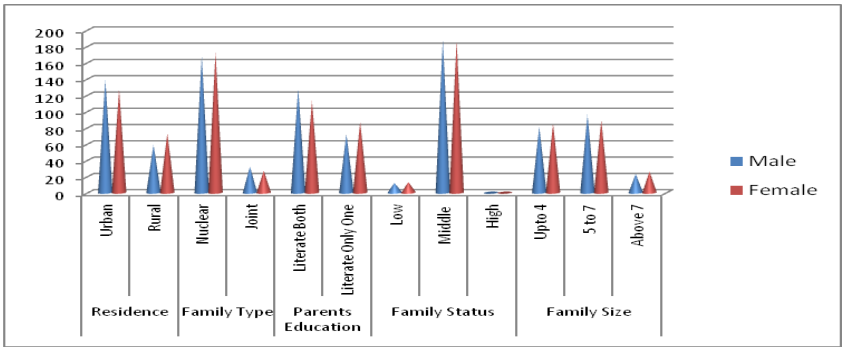

Figure 1: Distribution of Study Population

The data presented in Figure 1 shows the distribution of study population as per the characteristics, residence, education level of parents, type of family, size of family and family income. Majority of the respondents having nuclear, maximum parents of the respondents were literate. Further, maximum respondents have family size 5 to 7 and maximum respondents were from middle class families. It has been observed that demographic variables, environmental education and level of awareness regarding environmental problems are positively correlated.

Table 1: Level of Concern on Environmental Issues among College Students

Environmental Issue	Mean±SD	Mean±SD	P-Value
i) Drinking Water	3.71±1.03	3.74±.87	>0.05
ii) Swimming Water	3.73±0.92	3.69±1.12	>0.05
iii) Air Quality	3.72±0.48	3.75±0.41	>0.05
iv) Motor Vehicle Pollution	3.79±1.13	3.68±1.15	>0.05
v) Industrial Pollution	3.75±1.04	3.71±1.09	>0.05
vi) Food Contamination by Chemicals	3.29±.89	3.21±0.93	>0.05
vii) Food Contamination by Growth Hormones and Antibiotics	3.13±0.94	3.09±1.21	>0.05
ix) Bioengineered Food Supply	2.91±1.21	2.78±1.19	>0.05
x) Electromagnetic (Power Lines, Cell Phones)	2.47±1.13	2.31±1.11	>0.05

The data presented in Table 1, reveals that statistically there is a nonsignificant difference in level of concern among male and female college students (p>0.05). However, there is difference in opinion among male and female respondents and it is observed that female respondents have less extensive environmental knowledge than male respondents but show more concern. The results obtained are in agreement with the results of Fliegenschnee (1998).

Table 2: Concern on Environmental Issues and Behavior in Different Area

Environmental Issue and Behaviour	Male		Female		Chisquare	P-Value
	Yes (%)	No (%)	Yes (%)	No (%)		
i) Drinking Tap Water	164	36	174	26	1.909	>0.05
ii) Drinking Fresh Fruit Juice	157	43	108	92	26.846	<0.01
iii) Preparing/Eating Fresh Fruits & Vegetables	172	28	128	72	25.813	<0.01
iv) Preparing/Eating Fresh Meat & Poultry	87	113	156	44	49.917	<0.01
v) Transportation	117	83	124	76	0.511	>0.05
vi) Purchasing an Automobile	93	107	103	97	1.000	>0.05
vii) Driving an Automobile	78	122	92	108	2.005	>0.05
viii) Using Computers	95	105	117	83	4.857	>0.05
ix) Using Cellular Phones	97	103	131	69	11.791	<0.01
x) Your Home Location	89	111	127	73	14.533	<0.01
xi) Using Pesticides around your Home	121	79	139	61	3.560	>0.05
xii) Recycling Paper, Garbage and Yard Waste	104	96	98	102	0.360	>0.05

The data presented in Table 2, reveals that statistically there is a significant association in environmental issues and gender in item number (ii), (iii), (iv), (ix) and (x) (p<0.01). However, there is nonsignificant association in opinion between male and female respondents in other items shown in Table 2 (p>0.05). The reason may be as we have examined students irrespective of their subject. Science students are more aware than students from arts stream. The results of our study coincide with the earlier study (Sivamoorthy *et al.*, 2013).

Table 3: Responsibility of Cleanness Lies on Government Agencies

Respondent	Agree	Strongly Agree	Disagree	Strongly Disagree	Don't know
Male	5 (2.5%)	27 (13.5%)	95 (47.5%)	67 (33.5%)	6 (3%)
Female	19 (9.5%)	16 (8%)	83 (46.5%)	73 (36.5%)	9 (4.5%)
Chisquare = 12.647,		P<0.05			

The data presented in Table 3, shows that statistically there is a significant association between male and female respondents in opinion regarding the responsibility of cleanness (p<0.05). Female show more concern about environmental destruction, believes less in technological solutions and are more willing to change.

Table 4: Importance of Environmental Education in Everyday Life

Respondent	Agree	Strongly Agree	Disagree	Strongly Disagree	Don't Know
Male	59 (29.5%)	141 (70.5%)	0 (0%)	0 (0%)	0 (0%)
Female	65 (37.5%)	35 (17.5%)	0 (0%)	0 (0%)	0 (0%)
Chisquare = 34.648,		P<0.01			

The data presented in Table 4, reveals that statistically there is a significant association in opinion regarding the importance of environmental education in everyday life (p>0.05). Males show more concern towards the importance of environmental education than female students.

Table 5: Willingness to Pay More for Products whose Package does Less Damage to Environment

Respondent	No	May be	Yes
Male	59 (29.5%)	141 (70.5%)	0 (0%)
Female	65 (37.5%)	35 (17.5%)	0 (0%)
Chisquare = 7.286, p-value <0.05			

The data presented in Table 5, reveals that statistically there is a significant association in opinion regarding the responsibility towards environment (p<0.05). Majority of the respondents are willing to pay more for products whose package does less damage to environment. However, males show more concern than female respondents towards environmental issues.

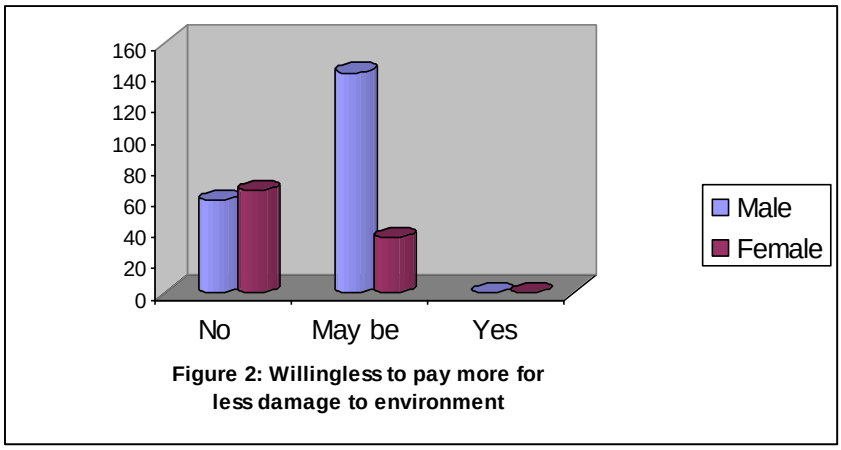

Figure 2: Willingless to pay more for less damage to environment

Recommendation and Conclusion

The world belongs to all of us. We must co-operate and work together for a better world, a better future, and a better environment. In this way, the 21st century will be the century of peace, happiness, tolerance, and brotherhood. Not only for men, but for all creatures, animals and inanimate. The research study can be further stretched to do research on developing and employing special contemporary environment awareness packages for the students through NSS (or) by forming separate department for conserving environment. The researcher recommends that environmental study should be made compulsory in school/college curriculum and should be taught all students irrespective of their gender. Further, students can be sensitized by seminars, workshops, debates, boost programs, celebrating special day like world environmental day, World earth day, World population day, wildlife day, world water day, forest conservation day etc., and also knowledge about alternatives for plastic should be imparted and promoted among student population. Co-curricular activities can play an important role in awareness as all the students show positive attitude towards environmental education. It should not be mere a study, rather it

should become part of their life. Present study attempted to describes how environmental awareness and practices can be utilized as a tool for sensitizing the young students about environmental protection. The findings of our study urge the need to make efforts to provide the necessary facilities for promoting environment awareness and friendly approach to safeguard the environment. This paper concludes with relationship between gender and environmental level of awareness and practice level, level of awareness is high but practice level is moderate and there are some differences between gender and practice level among college students. For future study, it is suggested on large sample genderwise comparison based on subject chosen by the student should be made.

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