Journal of Contemporary Educational Research and Innovations

Cosmos Impact Factor - 4.262
Info Base Impact Factor - 2.8
Global Impact Factor - 0.612

JCERI

JOURNAL OF CONTEMPORARY EDUCATIONAL RESEARCH AND INNOVATIONS

Contents

VITALITY OF NURTURING VALUE ORIENTED ENVIRONMENTAL CONSCIENCE IN EVOLVING VIRTUOUS GREEN CONSUMERS AMONG STUDENTS OF HIGHER EDUCATION

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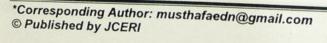## Abstract

A human dimension model of sustainable development can be attained through innovative educational efforts that mould the individuals with excellent values, morals and beliefs in tandem with knowledge and skills. Nurturing green prodigies through Environmental Value education is the need of the hour for addressing the issues related to environmental deterioration resultant of consumer actions. Fostering Green Consumer Behaviour among students through education must develop a cadre of learners who are adorned with action competence for exercising environmental stewardship. The present study aims at analysing the effect of Environmental Values on Green Consumer Behaviour of Higher Education students. A representative sample consisting of 250 undergraduate students under the University of Calicut in the State of Kerala were selected. Data was collected using standardized tools and analysed using statistical technique ANOVA using SPSS 20. The findings of the study revealed that there is significant effect of Environmental Values on Green Consumer Behaviour of undergraduate students. This implies that the Environmental Values of students influences the consumer decisions which are manifested in the form of Green Consumer Behaviour. The findings shed light on the essentiality for a value oriented environmental conscience through Environmental Value Education in tandem with Consumer Education in colleges and universities for evolving virtuous green consumers who are proactive towards maintaining the quality of environment by sustainable lifestyles.

Key words: Environmental Values, Green Consumer Behaviour, Sustainable Development, Consumer Education.

Introduction

Human values are the key to accurate decisions and virtuous actions. Values may be defined as 'concepts or beliefs' about desirable end states or behaviours which transcend specific situations and guide selection or evaluation of behaviours and events, and are ordered by relative importance (Schwartz & Bilsky, 1994). Among several decisions, the one that closely relates to day to day life of an individual is that of consumer decisions that is common irrespective of age, status and gender. Ethical consumer values are the corner stone of healthy and harmonious environment of a contemporary society. The engraved traditions, norms and beliefs formulate the consumer values of an individual and social class. In this regard, education, specifically, the Higher Education has a prominent role in nurturing a progressive generation adorned with ethical consumer values that forms part of a superior human quality since youth form a major part of consumer population around the globe. Education catalyses character formation in individuals by providing enriching life oriented educational experiences that instill strong beliefs, convictions and attitudes that aggregately functions to form and inculcate socially desirable strong values and actions. One pivotal ethical value that relates to consumers in particular and life sustenance in general is the Environmental Values which drives human actions that are proactive with respect to the environment which is the life line of human existence.

Developing ethical consumer values specifically the Environmental Values through education among the young generation is imperative to transform social behaviours of consumers, specifically in the form of Green Consumer Behaviour so as to empower a population towards growth and sustainable development. Green Consumer Behaviour is an ethical form of consumer behaviour directed towards satisfying the needs and wants without causing any detrimental impact on the environment. The virtuous ethical consumer actions can be developed among the young generation through the potential medium of education. Consumer Education that is Environmental Value oriented could pave way for nurturing young green prodigies who are capacitated with knowledge, values, skills and acumen for making rational decisions and consumer choices.

Educators and institutions must be aware of the essentiality of imparting value oriented education right from the primary, secondary, higher secondary and the higher education strata thereby traversing every point of life of an individual for a holistic development. The desirable materials pertaining to Environmental Values and Green Consumer Behaviour are to be implemented in teaching and learning environment. This is a major step to develop in the learners the habit of valuing things pertaining to life, exclusively the environment that acts as a life sustaining aspect that surrounds them. For this, the higher educational endeavours must be reoriented to give importance to affective domain learning that encompasses the development of values, attitudes and beliefs equal to that of cognitive and conative domains. By doing so, the learners transforms themselves from an ordinary citizen to an intelligent green consumer adorned with acumen essential for environmental stewardship. Founding an individual's values, an environmental friendly affective domain gives a pathway in developing self motivated naturalists. This can transcend the beliefs and thoughts to sustain environment through well educated environmentalists even among a commoner.

Need and Significance

The human quest for sustainability through education has been rapid and evolving during the past few decades. The alarming environmental crisis is a wake-up call for humanity to pursue sustainable pathways of living and development which is very crucial for the sustenance of life on the Planet Earth. A human dimension model of sustainable development can be attained through innovative educational efforts that mould the individuals with excellent values, morals and beliefs in tandem with knowledge and skills. Values are considered as important aspect to be studied while comprehending environment related behaviours (Kim, 2011; De Groot & Steg, 2008). Several researchers have found that the congruence between values and behaviour often leaded to readiness to take actions (Allen *et al.*, 2008). This in turn heeds educational institutions to nurture environmentally sensitized generation capacitated with adequate values, skills and acumen for sustainable living. Higher Educational Institutions (HEIs) have a specific and unique role and commitment in addressing the issues prevailing in the society. The institutions of higher learning therefore need to function in a highly proactive manner upholding and nurturing environmental values amongst its stakeholders specifically the learners who are the prospective decision makers of the society.

The aim of HEIs must be upbringing of a whole new generation enlightened with Environmental Values and cognizance for manifesting Green Consumer Behaviour. For this the institutions need to formulate clear cut goals, policies, plans and procedures for invigorating environment related initiatives at individual as well as institutional levels. So as to attain this, the educational pursuits should focus on the human dimension model of sustainable development wherein, the attributes and acumen of human element are nurtured, refined and utilized for developing virtuous green consumers capacitated with a value oriented conscience. Fostering Green Consumer Behaviour among students through education must develop a cadre of learners who are adorned with action competence for exercising environmental

stewardship. This can well be achieved by a rigorous concerted effort of highly competent teachers fully equipped to transform learners for being the face of the new age. This calls for the designing and implementation of innovative strategies and models of Education for Sustainability (EfS) that calibrate green values and ethos that form driving forces towards sustainable lifestyles.

Nurturing green prodigies through Environmental Value education is the need of the hour for addressing the issues related to environmental deterioration resultant of consumer actions. This paper focuses on Environmental Values and Green Consumer Behaviour of Higher Education (HE) students. This effort is undertaken since values are often considered as good predictors of human behaviour (Schwartz, 1996). Hence, the present study aims at analysing the effect of Environmental Values on Green Consumer Behaviour of undergraduate students. This will give insights on the essentiality for a value oriented environmental conscience through higher education for evolving virtuous green consumers who are proactive towards maintaining the quality of environment by sustainable lifestyles. Moreover, developing of transcendent values can be more beneficial in developing Green Consumer Behaviour among individuals (Costa-Pinto, Borges, Nique and Herter, 2011). This must rightly lay foundations for human development that reflects quality and excellence in enduring values, thoughts and actions that are pursued throughout the life.

Objectives

1. To examine the effect of Environmental Values on Green Consumer Behaviour of undergraduate students for the total sample.
2. To examine the effect of Environmental values on Green Consume Behaviour of undergraduate students for the subsamples based on gender.

Hypotheses

1. There is no significant effect of Environmental Values on Green Consumer Behaviour of undergraduate students for the total sample.
2. There is no significant effect of Environmental Values on Green Consumer Behaviour of undergraduate students for the male student sample.
3. There is no significant effect of Environmental Values on Green Consumer Behaviour of undergraduate students for the female student sample.

Methodology

Survey method has been utilised for the present study. Undergraduate students were surveyed using standardized instruments. The data collected was subject to statistical analysis for arriving at conclusions that could be generalised.

Sample

The population for the study included undergraduate students attending B. Com Degree in colleges in the Kerala State. A representative sample of 250 undergraduate students pursuing B. Com Degree course in colleges under University of Calicut were selected randomly for the study.

Tool

The researcher utilised appropriate instruments for collecting data from the sample selected for the study. Environmental Values of undergraduate students were measured by adopting The Brief Inventory of Values, which is a scale developed by Stern, Dietz and Guagnano (1998). The responses of students were rated on a 7 point Likert scale ranging from Strongly Agree (7) to Strongly Disagree (1). The data relating to Green Consumer Behaviour of the students was measured using a standardized tool developed by the investigator. It is a 5 point Likert scale that assessed the frequency of Green Consumer Behaviour with

ratings ranging from Always (5) to Never (1) for positive scale items and reverse scoring for negative scale items.

Statistical Techniques Used

The data collected from the sample was analysed using appropriate statistical techniques. The statistical techniques employed for the study are as follows.

1. Basic descriptive Statistics (Mean, Median, Mode, SD, Skewness and Kurtosis).
2. One-Way Analysis of variance (ANOVA).
3. Scheffe's Test of Post-hoc Comparison of Mean Scores.
4. Cohen's d

Data Analysis and Results

For the present study, data analysis was carried out in two stages. In the first stage, the preliminary analysis was conducted which was followed by the major analysis in the second stage. The following section provides the details of data analysis and the results obtained for the study.

Preliminary Analysis

Preliminary analysis involved the computation of the statistical constants like mean, median, mode, standard deviation, skewness and kurtosis of the variables. The details regarding the basic descriptive statistics of the independent and dependent variables are presented in Table 1.

Table - 1

Statistical Constants of Environmental Values and Green Consumer Behaviour for the Total Sample

Variable	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis
Environmental Values	58.36	58	52	6.09	.478	-.739
Green Consumer Behaviour	62.10	61	60	6	.707	.459

From Table 1 it is evident that the mean (58.36), median (58) and mode (52) obtained for Environmental Values are almost equal. The standard deviation (6.09) of the scores of Environmental Values show that the scores do not deviate much from the mean score. The skewness (.478) of the distribution shows that the distribution is positively skewed. The value of kurtosis (-.739) shows that the distribution is leptokurtic. By evaluating these statistical constants, it can be inferred that the distribution of scores of Environmental Values is approximately normal.

The statistical constants obtained for the distribution of scores of Green Consumer Behaviour shows that the mean (62.10), median (61) and mode (60) are almost equal. The standard deviation (6) shows that the scores do not deviate much from the mean value. The skewness (.707) shows that the distribution is positively skewed. The kurtosis value (.459) shows that the distribution of scores is platykurtic in nature. The overall evaluation of the statistical constants shows that the distribution of scores of Green Consumer Behaviour is approximately normal.

Major Analysis

The major analysis of the study comprises of One-Way ANOVA to determine the effect of Environmental Values on green Consumer Behaviour of undergraduate students. The details of ANOVA are presented in the following section.

Effect of Environmental Values on Green Consumer Behaviour for the Total Sample

One-Way ANOVA was carried out to find the effect of Environmental Values on Green Consumer Behaviour for the total sample. The analysis yielded sum of squares and its corresponding degrees of freedom, mean of squares of variation and F value. The significance of F value was ascertained by comparing it with the table value of F. On obtaining a significant F value, Scheffe's Test of Post-hoc comparison was also carried out to determine which among the three groups of the independent variable

Environmental values caused the difference that resulted in a significant main effect on the dependent variable Green Consumer Variable. The details of ANOVA are presented in Table 2.

Table - 2

One-Way ANOVA of Green Consumer Behaviour by Environmental Values for the Total Sample

Source of variation	Sum of squares	df	Mean square	F-value	Level of Significance
Between groups	2939.453	2	1469.727	60.324	**p<.01
Within groups	6017.843	247	24.364		
Total	8957.296	249			

**Significant at .01 level

From Table 2 it is clear that the between groups and the within groups of Environmental Values on Green Consumer Behaviour has yielded $F(2, 247) = 60.324$, **$p<.01$ which is significant at .01 level since it is greater than the table value of $F(2, 247) = 4.71$ for significance at .01 level. This implies that Environmental Values have significant effect on Green Consumer Behaviour among undergraduate students for the total sample.

Scheffe's Test of Post-hoc Comparison of Mean Scores

The Scheffe's Post-hoc Test enables to compare the means of groups of the independent variable showing the significant effect on the dependent variable. This will give insights on which among the three groups of the independent variable Environmental Values caused the difference that resulted in the significant effect on the dependent variable Green Consumer Behaviour. The results of Scheffe's Test are presented in Table 3.

Table - 3

Scheffe's Test of Post-hoc comparison between Means of Environmental Values for the Total Sample

Sl. No.	Groups Compared	Mean		F	Value of F		Level of Significance	Cohen's d
		M1	M2		.05	.01		
1	H.E.V – M.E.V	67.71	61.41	33.52	3.04	4.71	**p<.01	1.19
2	H.E.V – L.E.V	67.71	57.80	57.41	3.04	4.71	**p<.01	1.66
3	M.E.V – L.E.V	61.41	57.80	10.47	3.04	4.71	**p<.01	0.97

**Significant at .01 level

From Table 3 it is evident that the comparison of high Environmental Values and moderate Environmental Values have yielded $F(2, 247) = 33.52$, **$p<.01$ that is significant at .01 level since it is greater than the table value of $F(2, 247) = 4.71$ for significance at .01 level. Similarly, the comparison of high Environmental Values and low Environmental Values have yielded $F(2, 247) = 57.41$, **$p<.01$ that is significant at .01 level since it is greater than the table value of $F(2, 247) = 4.71$ for significance at .01 level. In the case of comparison of medium Environmental Values and low Environmental Values have yielded $F(2, 247) = 10.47$, **$p<.01$ that is significant at .01 level since it is greater than the table value of $F(2, 247) = 4.71$ for significance at .01 level.

From Scheffe's Post-hoc comparison it can be inferred that the comparisons between the groups are all significant at .01 level which implies that the three groups caused the difference that resulted in a significant effect of Environmental Values on green Consumer behaviour for the total student sample. The effect size obtained from Cohen's d shows that all the three groups have larger effect on Green Consumer Behaviour since all the values are above 0.8.

Effect of Environmental Values on Green Consumer Behaviour for the Male Student Sample

This part of analysis enables to determine the effect of Environmental Values on Green Consumer behaviour of the male student sample. The details of ANOVA are presented in Table 4.

Table - 4

One-Way ANOVA of Green Consumer Behaviour by Environmental Values for the Male Students

Source of variation	Sum of squares	df	Mean square	F-value	Level of Significance
Between groups	664.781	2	332.391		
Within groups	2301.306	112	20.547	16.177	**$p<.01$
Total	2966.087	114			

**Significant at .01 level*

From Table 4 shows that the between groups and the within groups of Environmental Values on Green Consumer Behaviour has yielded $F(2, 112) = 16.177$, **$p<.01$ which is significant at .01 level since it is greater than the table value of $F(2, 112) = 4.82$ for significance at .01 level. This means that Environmental Values have significant effect on Green Consumer Behaviour of undergraduate students for the male student sample.

Scheffe's Test of Post-hoc Comparison of Mean Scores

The Post-hoc test enables to find out which among the three groups of the independent variable caused the difference that resulted in a significant main effect of Environmental Values on Green Consumer Behaviour for the male student sample. The results of Scheffe's Test are presented in Table 5.

Table - 5

Scheffe's Test of Post-hoc comparison between Means of Environmental Values for the Male Students

S. No.	Groups Compared	Mean		F	Value of F		Level of Significance	Cohen's d
		M1	M2		.05	.01		
1	H.E.V – M.E.V	63.38	61.59	1.02	3.09	4.82	NS	0.37
2	H.E.V – L.E.V	63.38	56.35	11.91	3.09	4.82	**$p<.01$	1.22
3	M.E.V – L.E.V	61.59	56.35	12.81	3.09	4.82	**$p<.01$	1.45

**Significant at .01 level*

From Table 5 it is evident that for the two groups high Environmental Values and medium Environmental Values the obtained $F(2, 112) = 1.02$, $p>.05$ is not significant since it is less than the table value of $F(2, 112) = 3.09$ for significance at .05 level. For the groups high Environmental Values and low Environmental Values, the $F(2, 112) = 11.91$, **$p<.01$ is significant at .01 level since it is greater than the table value of $F(2, 112) = 4.82$ for significance at .01 level. In the case of the groups moderate Environmental values and low Environmental Values, the obtained $F(2, 112) = 12.81$, **$p<.01$ is significant at .01 level since it is greater than the table value of $F(2, 112) = 4.82$ for significance at .01 level.

From the Scheffe's Post-hoc comparison, it is evident that the comparison between the means of high Environmental Values - low Environmental values and moderate Environmental Values – low Environmental Values are significant at .01 level which implies that these groups caused the difference that resulted in a significant main effect of Environmental Values on Green Consumer Behaviour for the male student sample. The effect size obtained from Cohen's d shows that H.E.V - M.E.V and M.E.V - L.E.V groups have larger effect on Green Consumer Behaviour since the values are above .8 and in the case of H.E.V-M.E.V groups, the effect on Green Consumer Behaviour is small since it is below .5.

Effect of Environmental Values on Green Consumer Behaviour for the Female Student Sample

One-Way ANOVA was carried out to determine the effect of Environmental Values on Green Consumer behaviour of the female student sample. The details of ANOVA are presented in Table 6.

Table - 6
One-Way ANOVA of Green Consumer Behaviour by Environmental Values for the Female Students

Source of variation	Sum of squares	df	Mean square	F-value	Level of Significance
Between groups	1418.996	2	709.498		
Within groups	4123.330	132	31.237	22.713	**p<.01
Total	5542.326	134			

"Significant at .01 level

Table 6 reveals that the between groups and the within groups of Environmental Values on Green Consumer Behaviour has yielded $F_{(2, 132)} = 22.713$, **$p<.01$ which is significant at .01 level since it is greater than the table value of $F_{(2, 132)} = 4.78$ for significance at .01 level. This means that Environmental Values have significant effect on Green Consumer Behaviour of undergraduate students for the female student sample.

Scheffe's Test of Post-hoc Comparison of Mean Scores

The Post-hoc test carried out enabled to determine which among the three groups of the independent variable caused the difference that resulted in a significant main effect of Environmental Values on Green Consumer Behaviour for the female student sample. The results of Scheffe's Test are presented in Table 7.

Table - 7
Scheffe's Test of Post-hoc comparison between Means of Environmental Values for the Female Students

S. No.	Groups Compared	Mean		F	Value of F'		Level of Significance	Cohen's d
		M1	M2		.05	.01		
1	H.E.V – M.E.V	68.42	63.66	7.03	3.07	4.78	**p<.01	0.75
2	H.E.V – L.E.V	68.42	58.61	22.40	3.07	4.78	**p<.01	1.77
3	M.E.V – L.E.V	63.66	58.61	9.39	3.07	4.78	**p<.01	1.05

"Significant at .01 level

Table 7 shows that for the two groups high Environmental Values and medium Environmental Values the obtained $F_{(2, 132)} = 7.03$, **$p<.01$ is significant at .01 level since it is greater than the table value of $F_{(2, 132)} = 4.78$ for significance at .01 level. For the groups high Environmental Values and low Environmental Values, the $F_{(2, 132)} = 22.40$, **$p<.01$ is significant at .01 level since it is greater than the table value of $F_{(2, 132)} = 4.78$ for significance at .01 level. In the case of the groups moderate Environmental values and low Environmental Values, the obtained $F_{(2, 132)} = 9.39$, **$p<.01$ is significant at .01 level since it is greater than the table value of $F_{(2, 132)} = 4.78$ for significance at .01 level.

From Scheffe's Post-hoc comparison it can be inferred that the comparisons between the groups are all significant at .01 level which implies that the three groups caused the difference that resulted in a significant effect of Environmental Values on green Consumer behaviour for the female student sample. The effect size obtained from Cohen's *d* shows that H.E.V - L.E.V and the M.E.V - L.E.V groups have larger effect on Green Consumer Behaviour since the values are above .8 and in the case of H.E.V-M.E.V groups, the effect on Green Consumer Behaviour is medium since it is below .8.

Conclusion and Educational Implications

Environmental Values were found to have a significant effect on the Green Consumer behaviour of undergraduate students. This implies that Environmental Values forms the basis of ethical consumer decisions that in turn gets transcended in the form of Green Consumer Behaviour. The findings of the present study are in line with the findings of other studies in this area. Researchers have found a positive relation between consumers' values and Green Consumer Behaviour (Chen *et al.*, 2012; Young *et al.*, 2010). The findings of the study reaffirms the facts that have already been established by modern theorists about the inter-link between values and behaviours such as the Value-Belief-Norm theory (Stern, 1999) and the Norm Activation Model (Schwartz, 1977). The present study spot lights the significance of a value oriented education for developing environmental conscience that act as guiding principle for adopting Green Consumer behaviour among undergraduate students. Such an education should enable students to take up self-motivated actions not only in the academic context but also in future life. The Environmental Value oriented enriched higher education experiences must create self-actualised and integrated personalities for global citizenship. To materialise this institutional level initiatives and action oriented approaches are to be implemented in Higher Education for sustainability. The institution should abode professional teachers who are proficient in imparting relevant education through utilising innovative strategies, methods and programmes for holistic learning. The teachers must focus on multidimensional learning in a way that the learners learn about themselves, others and the specific context for manifesting specific behaviours. The teachers should also aim the behaviour modification of learners through adopting appropriate reinforcement strategies. Above all, the HEIs as centres of excellence should uphold values education at its heart of all teaching – learning processes elevating the intellects of learners that enhance the quality of life.

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