

Environmental Sustainability through Determinism the Level of Environmental Awareness, Knowledge and Behavior among Business Graduates

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Abstract: The study aims to examine the relationship between demographic factors such as gender, income and occupation with the environmental awareness, knowledge and behavior. Data was collected through self administrated questionnaires from students of business studies of leading business schools in Lahore. The data were analyzed through using t-statistic test and ANOVA to analyze the relationships and their effect of different demographic factors on the environmental awareness, knowledge and behavior. The result of this survey shows that the students with high income level are more environmentally knowledge able from those students whose income is less. Parents' occupation has significant impact on the overall environmental awareness. The research implications and need of future studies are also present in the study.

Keywords: Awareness, demographics, environmental problems, parents' occupation, students

INTRODUCTION

Pakistan is experiencing high population and urbanization. Ineffective use of natural resources had a negative impact on the socioeconomic development. In order to protect the natural environment and make sustainable development there is a need of protection and effective use of natural resources of earth (Nadeem and Hameed, 2008). The adverse impact of environmental conditions on global climate has increased the vulnerability of the country thus leading to adopt measures that mitigate the impact of climate change (Khan, 2003).

Many researchers have conducted studies on the level of awareness, knowledge and behavior of students (Moseley *et al.*, 2003; Knapp, 1996; Zimmermann, 1996) of both parents and students (Rovira, 2000; Musser and Diamond, 1999) and in younger's (Cottrell, 2003; Arcury and Christianson, 1993). Previous studies of many researchers concluded that people might have a different level of understanding of changing environment conditions; "a more holistic understanding of climate change and that focusing on public knowledge about the science of climate change might therefore lead to misconceptions of public understanding" (Bulkeley, 2000). On the other hand some researchers have suggested that lack of environmental knowledge probably is not a main cause of concern and therefore increasing awareness level among the consumers is not translating into the actual behavior due to various "cognitive and structural"

barriers (Bulkeley, 2000; Dunlap, 1998). Previous researches had adopted socio-economic model to predict the changing in the commitment than just focusing on the knowledge (Jaeger *et al.*, 1993).

Global environmental problems, such as climate change conditions, sustainable issues of managing water and energy resources and pollution emission from business activities, have become more complex and require society's attention. There are many ways and "one way to educate businesses students about environmental and sustainability issues through the business school curriculum" (Johannsdottir, 2009). To protect the natural environment students should be educated about the dearth and hazardous effect of environmental problems on their daily lives, this does not require enhancing their knowledge but must develop awareness and commitment to solve these problems. The awareness concept is ultimately a stimuli and driving force to acquire knowledge and "this degree of environmental awareness involves a personal commitment to work to solve Environmental problems" (Madsen, 1996). Further underlining and categorized the awareness into three layers as to achieve it through recognizing problem, factual knowledge and commitment towards environmental problem (Madsen, 1996). Awareness and knowledge of environmental problem plays an important role in developing the responsible behavior (Athman and Monroe, 2000). Johannsdottir (2009) emphasized that the business courses and knowledge communicated in business school at the Institute of higher education can fight

against climate change. Specifically, business schools can play an influential role in spreading the environmental literacy among their students (Probert, 2002). The study of Lidgren *et al.* (2006) declares that “the state of the world is not the work of ignorant people, but rather the opposite, the result of work made by people with BAs, BSs, MBAs and PhDs”. If the business students are not conscious about the current environmental problems, it is clear that in future they may not likely to act as environmentally responsible citizens. Among the other players of the society, students have an important and strategic role to play to meet the needs of our future generations.

Whereas the study of Hernandez and Monroe (2000) suggested that these factors are not affecting behavior outcome. Development and modification of environmental behavior has been focused of many studies. Duerden and Wit (2010) indicated that ultimate goal of the environmental awareness should be the promotion of the pro-environmental behavior. Environmental issue has been studied by many researchers, academicians and many among them have particularly focused the university students for example (Zsoka *et al.*, 2012; Chuanhuia and Hanweib, 2011; Moody *et al.*, 2005; Kilbourne and Polonsky, 2005; Holt, 2003; Wolfe, 2001).

The purpose of university was to give utmost services to society through producing talented pool of students to serve the community (Newman, 1959). According to Corcoran and Wals (2004) “Universities increasingly realize that their environmental impact is tremendous, not only in terms of the energy they use and the waste they generate, but perhaps first and foremost in the way they equip their graduates in dealing with sustainability issues in both their personal and professional lives.” According to the Sharon and Wright (2006) “The modern university has transcended this conceptualization of the institution to a broader purpose of educating and preparing students for an active life and social responsibility in the world”.

According to the study of Bradley *et al.* (1999) indicate that there is no significance difference between male and female students with their environmental awareness but attitude towards environmental issues differ significantly between gender. Environmental awareness is interconnected with the environmental attitude, adults particularly university students are more aware of the environmental problems (Schusler and Krasny, 2010). Many previous studies irrespective of geographic and cultural differences, supported the argument that a strong gender preference in environmental awareness, knowledge and attitude. This has been ascribed many female within the household likelihood of engaging in pro-environmentally behavior (Milfont and Duckitt, 2004) Blocker and Douglas (1997) found no significant difference exist between male and female in pro-environmental behavior and

concern. A good number of adequate research showed that Female have very strong significant environmental behavior than the male. Similarly women are found very participative proactively (Zelezny *et al.*, 2000).

The background of the socio-economic status in mainly depends on the social structure status of individually in the society and is an expression which differentiates the individual status in the society with respect to the family income, educational level and occupation status (Saifi and Mehmood, 2011). The combination of economic and social status of individual is an assessed of socioeconomic status formed on the basis of family income, education and occupation (Parson *et al.*, 2001). Generally, Socioeconomic Status (SES) include, marital status, parents education, income, parental profession and these are referred in the umbrella of demographic factors (Ballatine, 1993).

The effect of socioeconomic factors played significant role on individual behavior and most of time it is calculated through level of parent’s education, occupation, income and facilities used individually and collectively. Parents’ income has positive correlation with the students’ attitude (Parson *et al.*, 2001). Components of the social status (income, education and occupation) positively correlate with the parent’s education, occupation and income (Goks *et al.*, 2002). Mostly, high-income class claim to be more aware about environmental problems (Herrera, 1992) and income has also some inverse relation with the environmental behavior (McMillan *et al.*, 1997). Similarly a positive relation is exist in the level of education and environmental behavior, this could be possible because of the high income class individual exhibit more environmental behavior as they have many opportunities to attain high level of education and attain a socially acceptable status in society (Charles and Kate, 2012).

The occupation had significant effect on the environmental knowledge and attitude (Charles and Kate, 2012). This contradict to the study of (Herrera, 1992) argued that there is no significance association in attainment of a professional occupation with the environmental awareness and knowledge. Socio demographic factors have significant effect on environmental awareness level and knowledge (Xiao and Dunlap, 2007). Some other factors like income, education attainment and occupation are positively correlated with environmentalism. Female not married with high level of education and family income are considered more inclined towards the environmental orientation (Xiao and Dunlap, 2007).

The aim of this research was to investigate the relationships between the male and female towards environmental awareness, knowledge and behavior. In this study our main focus was to determine the effect of socio-economic status of parents on the students’ environmental awareness knowledge and behavior. The

main objective of the research was to determine that how demographic factors contribute to the environmental awareness, knowledge about its significance and behavior of university students towards environmental issues.

There are many environmental problems in Pakistan, which need consideration at all level to address these problems, young generation particularly students of universities should be aware of environment problems. Institutes of higher education have very important responsibility and task in this regard (Fernandez-Manzanal *et al.*, 2007). There have been few studies on the awareness on the environmental issues and measuring awareness among the young generations particularly among undergraduate and postgraduate level at higher education institutions with context to the socioeconomic status particularly in Pakistan. Environment awareness and knowledge of its hazardous effect on the human species is important for all the members of the society. From the above discussion the research questions are formulated: How demographic factors influence environmental awareness of university students? Which demographic factor has strongest impact on environmental awareness on university students?

Peoples at all level in their capacity need to play their part individually and collectively to save the environment. Environmental issues are of vital importance not only for parents and teachers, but also for the students. It is generally perceived that the students naturally have idea how to protect the natural environment. The essential steps in forming a good understanding towards environmental concerns should be taken by students' parents and teachers. However for this study the following hypotheses are developed:

Hypothesis 1: There is no significant difference between male and female in their environmental awareness and behavior.

Hypothesis 2: There is no significant effect of parents' income on students on the environmental awareness, knowledge and behavior.

Hypothesis 3: There is no significant effect of parents' occupation on students on the environmental awareness, knowledge and behavior.

ENVIRONMENTAL AWARENESS AND BEHAVIOR

In Pakistan political and socioeconomic conditions from the last 30 years have had an impact on the behaviors of the citizens (Khan, 2003). Behavior towards the environment may vary based on the demographic factor such as age, gender and socio-economic characteristics. The term awareness can be defined as level of knowledge gained through one's own understanding or something felt and sensed. A

variety of different environmental issues exist as a result of human activities and implementation of new technologies. Understandings of hazardous effects of different environmental problems are fore most important for the policy makers, so that they can respond to the potential threats of environmental problems in a better way by developing comprehensive solutions. Individuals and society should understand different environmental issues such as, water and air pollution, dust deposition, solid waste management, noise etc and their effect on the human life and natural resources (Ziadat, 2010).

From the last three decades, industrialized countries have realized the need to take precautions and mitigation measures nationally and internationally. In this course of action environmental education programs have become essentially necessary to protect global environment, which can facilitate and enhance decision making, different choices of action and behavior development to promote the environmentally friendly way of life (Takala, 1991). World Commission on Environment and Development published a report on "Our Common Future" in 1987 concluded with these suggestions "governments should implement strategies about how to best reduce the impact of human activities on the environment for future generations" (The Bruntland Report, 1987).

Improving environmental awareness: The education related to environment promotes a "variety of outcomes not directly related to environmentally responsible behaviors, in addition to impacts on environmental attitudes, knowledge, skills and behaviors" (Schusler and Krasny, 2010). The research confirmed that increased knowledge about the environment positively promotes the attitudes (Arcury, 1990). A number of researchers reported that students who exposed to the environmental education in high and senior high school showed and demonstrated a concern for environmental issues and an increased awareness of environmental problems (Jordan *et al.*, 1986).

Jianguo (2004) stated that "The environmental awareness and environmental quality are important indicators to judge how civilized a nation or race is". Young (2000) indicated that public awareness plays a significant role to strengthen sustainable development of any nation and for this educational programs have become an essential tool in formation of solutions of environmental problems. Hindrance in development particularly for the people in the third world countries needs environmental education to enhance the awareness of its significance.

Jaus (1984) "stated that if the students receive more instruction at these early ages on environmental education, the more positive these students' attitudes will be toward the environment". On the other hand the research findings of (Bradley *et al.*, 1999) suggest that knowledge and behavior were positively correlated and further demonstrated that increased knowledge about

the environmental issues may help develop and improve responsible behavior. Understanding the differences of behavior and attitudes among the Nations is important determinant to protect world's common problem. Mutual collaboration across the world is necessary to improve environmental conditions of this planet (Shields and Zeng, 2012).

Demographic variable and relationships with environmental awareness: In adult girls, a positive tendency was observed showing high relationship with the environmental behavior (Ray and Lovejoy, 2003). Boehnke *et al.* (1986) observed a general effect of gender that found boys have more inclination towards adopting the responsible behavior than girls, while (Crandall *et al.*, 1965) found the same as opposite studies in a USA sample. Further reported that a negative relation of adults with the obtaining the higher education. Education is inconsistent with the environmental behavior (Milfont and Duckitt, 2004) and negative relationship exists with increasing education level in adults (Johnson *et al.*, 2002). Furthermore the environment educations must begin at an early stage of children education, as its effectiveness and importance has been recognized by many researchers (Gist, 1998).

Some scholars demonstrated that individuals with greater education and high socio-economic status are less likely to perceive environmental issue as problem for human as a serious risks (O'Connor *et al.*, 1999). On the other hand researchers have noted that there is significant difference in men and women in consideration and evaluation of the environmental problems (Agarwal, 1992). Many researchers have conducted studies on the assessment of environmental attitude and behavior in USA, concluded that women express more concern about environment than do the men (Bord *et al.*, 1998). Agarwal (1992) expressed class gender effects of environmental concern and explained as poor women showed more concern over the environmental effect as compared with their counterpart men.

Wealth is negatively correlated and family influences are positively correlated with the environmental behavior. Environmental and preservation behavior of adults have a strong relationship with the parents' socio-economic status (Milfont, 2009). Research indicated that the women in the Middle East are more environmental consciousness than the male, it could be possible for number of reason because women are usually engaged in day to day child care activities and cleaning and maintenance of the house garbage (Ziadat, 2010).

Education plays a significant role in raising the awareness related to the environmental problems. The graduate and post graduate students of the university are well aware about the environmental problems and

showed more tendencies towards protecting the natural resources of the earth (Ziadat, 2010). Environmental awareness affected differently in gender, the young male and female awareness positively correlated with the environmental knowledge and behavior as compared with the older age people (Ziadat, 2010). In addition to this younger have more positive behavior towards the environmental issues as compared with the older citizens' (Kellstedt *et al.*, 2008). The study of Schultz (2000) has found differences in environmental behavior and conduct in females and males. In the same way Gonzalez and Amerigo (2000) show that male students of business studies have least concern towards the environmental issues than their counterpart female students.

MATERIALS AND METHODS

The population for this study was consisted of the students from leading business schools from Lahore. The demographics information was included that many previous studies have determined including age, education, parents income, parent occupation. These demographics factors have been used by many researchers in determinants of environmental awareness, behavior and knowledge (Buttel and Fillin, 1976). The purpose of choosing students of university for this study is that today's students is the policy maker of the future thus indicating future trends of the country.

The principal data was collected through a structured 400 survey questionnaires. The questionnaires were designed based on the previous studies. The survey was conducted during the spring session in May and June through structured questionnaires from leading business schools of Lahore. These leading institutes are ranked annually by Higher Education Commission of Pakistan (HEC, 2013). List of HEC ranking is attached as Table 1. The questionnaires were used included a wide range of items and consisted of four parts:

- Demographic information of respondents
- Questions about students' awareness about the environmental issues
- Questions about students' knowledge about the environmental issues
- Questions about students' behavior towards the environmental issues

To meet the objective of the research, representative sample of students from business schools from Lahore were selected engaged in under graduation and graduation business degree courses. Students were chosen through systematic sampling method from three universities and filled the questionnaire on spot. The data was collected through employing the

Table 1: Ranking of universities by business studies

No.	Institute	Teaching quality	QA criteria	Research	Total score
1	Lahore University of Management Sciences, Lahore	30.38	14	24.83	69.21
2	Institute of Business Administration Karachi	17.09	15	8.42	40.51
3	Iqra University, Karachi	20.09	14	5.96	40.05
4	Sukkar, Institute of Business Administration, Sukkar	17.32	15	7.31	39.64
5	National College of Business Administration and Economics, Lahore	22.11	1	14.59	37.70
6	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Karachi	11.51	11	8.94	31.46
7	Institute of Management Sciences, Peshawar	9.14	14	8.30	31.44
8	Lahore School of Economics, Lahore	13.48	11	4.61	29.09
9	Imperial College of Business Studies, Lahore	20.11	7	0.00	27.11
10	Institute of Management Sciences, Lahore	10.60	11	2.47	24.06
11	Institute of Business Management, Karachi	10.29	10	1.74	22.03
12	Institute of Business and Technology, Karachi	17.80	2	0.25	20.05
13	KASB Institute of Technology, Karachi	11.66	7	0.35	19.01

Table 2: Shows respondents' demographic profile

Demographics		N = 347	(%)
Gender	Male	175	50.40
	Female	172	49.60
Age	17-20	220	63.40
	21-23	127	36.60
Education	Undergraduate	244	70.30
	Graduate	103	29.70
Parents occupation	Employed	118	34.00
	Self employed	48	13.80
	Professional	86	24.80
	Retired	52	15.00
	Others	43	12.40
Parents income	<10000	22	6.30
	10000-25000	60	17.30
	25000-40000	79	22.80
	40000-55000	175	50.40
	>55000	11	3.20

systematic sampling techniques (Kish, 1964) this involves selection of every k^{th} unit from the sample (Fisher *et al.*, 2007). In this survey the questionnaires were handed over to every 4th students entering in the department.

Respondents were asked to indicate their response on 5-point likert scale ranging from 1-Strongly agree, 2-Agree, 3-Indifference, 4-Strongly disagree and 5-disagree. The scale measurement of environmental awareness was employed and developed by Vlosky *et al.* (1999). The scale of items regarding environmental behavior was adopted from (Stern, 2000) and (Leeming *et al.*, 1995). To measure the environmental knowledge, scale adopted from (Kaiser and Wilson, 2000; Leeming *et al.*, 1995). The reliability test predicts the precision and accuracy of the measurement procedures. The data reliability was measured through Cronbach's Alpha and scores means is 0.77. The model is considered reliable if value of Cronbach's Alpha is greater than 0.71 (Cooper and Schindler, 2005). The reliability statistics test gives Cronbach's Alpha 0.77. This Cronbach's Alpha is sufficient to predict the reliability of the items as supported by (Cooper and Schindler, 2005). The collected data were analyzed through using SPSS V.16 descriptive analysis and standard analysis testing. Descriptive statistics used to calculate frequency, mean and standard deviation analyze the results. The one way ANOVA method used was and analysis of

independence and test for normality of dependent variable along with Levene's test were measured. The data were analyzed according to male and female (gender), education level of attainment, parents income and occupation. t-test or Mann-Whitney U test within each of these categories were used where data were not normally distributed and analysis of variance or Kruskal-Wallis analysis were used where data were not normally distributed.

Respondent's profile: Total Number of 400 questionnaires was administrated through systematic sampling, out of which 347 were found useable according to our study and 57 survey forms were rejected due to incomplete information provided. Most respondents were male 50.4% and female 49.6% male student. The age of respondents was from 17 to 23 years old. Table 2 shows respondents' demographic profile.

RESULT ANALYSIS

Table 3 shows that the overall mean score for the level of environmental behavior is 3.52 (out of 5), this scores is greater than the average. From this it is seems that the respondents are in favor to behave as environmental friendly behavior. The highest mean scores from all items of environmental behavior is take initiative to encourage others to behave more environmentally behavior. This could be possible because of that our majority of the respondents were Muslims and Islam has give more focused on cleanness of the environment. For the environmental Awareness over mean out of 5 are 2.83, the results shows that it is above average and younger have the perception that they are better informed about the adverse effect on this planet. The mean score of the items teachers encourages you to care of environment is 2.60.

This support the study result of Rohweder (2004) proposed that teachers should be devoted environmental awareness' and it could promote the idea to protect the environment. Who found that only teachers devoted to environmental education would promote the cause? The overall mean of the environmental knowledge is high

Table 3: Shows that the overall mean scores

	Mean	S.D.	N
I am mostly aware of environment impact on human life through media.	3.93	1.132	347
Having your parents encourage you to care for the environment.	3.71	1.418	347
I think I am better informed about environmental issues than most other people.	3.51	1.496	347
Are you agree watching television make you aware with an environmental message.	3.45	1.220	347
Having a teacher encourage you to care for the environment.	3.74	1.162	347
Humans are severely abusing the environment.	3.52	1.434	347
What extent do you agree that world environmental day is celebrated on 24 th March of every year?	3.79	1.293	347
The earth has plenty of natural resources if we just learn how to develop them.	3.29	0.883	347
Maintaining economic growth is more important than protecting the natural environment.	3.30	0.915	347
Humans are severely abusing the environment.	3.38	1.415	347
What extent do you agree that world environmental day is celebrated on 24 th March of every year?	3.71	1.377	337
Humans are severely abusing the environment.	3.47	1.411	347
Personally working as an individual and on your own, can influence the solution of environmental issues.	3.10	1.425	347
What extent do you agree that world environmental day is celebrated on 24 th March of every year?	3.78	1.292	347
When I want to buy a product, I would look at the ingredient label first to see if it contains things that are environmentally damaging.	3.22	1.428	347
I choose to buy products that are environmentally-friendly even if they are more expensive.	3.31	1.407	347
I am willing to act more behaviorally.	3.35	1.392	347
I prefer to use both sides of the paper.	3.57	1.518	347
Mostly I avoid using plastic bags.	3.52	4.090	347
I perceive myself as very concerned about environmental issues in my community.	3.06	2.537	347

S.D.: Standard deviation

Table 4: Mean scores of male and female: group statistic

	Gender	N	Mean	S.D.	S.E.M.
Behavior	Male	158	3.2866	0.75291	0.05990
	Female	189	3.3651	0.74001	0.05383
Awareness	Male	158	3.5206	0.87333	0.06948
	Female	189	3.7249	0.88221	0.06417
Knowledge	Male	158	3.2866	0.75291	0.05990
	Female	189	3.3651	0.74001	0.05383

S.D.: Standard deviation; S.E.M.: Standard error of mean

Table 5: Independent samples test

	t-test for equality of means				
	t	df	Sig. (2-tailed)	Mean difference	S.E. difference
Behavior	-0.976	345.000	0.330	-0.07846	0.08041
	-0.974	332.098	0.331	-0.07846	0.08053
Awareness	-2.158	345.000	0.032	-0.20430	0.09466
	-2.160	335.327	0.031	-0.20430	0.09458
Knowledge	-0.976	345.000	0.330	-0.07846	0.08041
	-0.974	332.098	0.331	-0.07846	0.08053

than all the variables, the mean scores out of 5 is 3.62. The mean scores with standard deviation for the male for environmental behavior, awareness and knowledge were $M = 3.28$, $S.D. = 0.75$, $M = 3.52$, $S.D. = 0.873$, $M = 3.28$, $S.D. = 0.752$, respectively. The female their mean scores and standard deviation were $M = 3.36$, $S.D. = 0.74$, $M = 3.72$, $S.D. = 0.88$, $M = 3.36$, $S.D. = 0.74$, respectively. The detailed results are summarizes in Table 4. t-test was carried out to check that either there is significant difference in environmental behavior, awareness and knowledge between male and female. There was found no statistical significance difference between the means scores of environmental behavior where $t = -0.976$, $df = 345$, $p > 0.05$ and knowledge $t = -0.976$, $df = 345$, $p > 0.05$.

However the mean score of awareness $t = -2.15$, $df = 345$, $p < 0.05$ were statistically significant.

The female their mean scores and standard deviation were 3.36 (0.74), 3.72 (0.88), 3.36 (0.74) respectively. The detailed results of t-test are summarizes in Table 5. The Analysis of Variance

(ANOVA) was applied for assessing the group differences and compare means of the groups. ANOVA is applied to measure the effect of independent variables on the dependent variables. H1. It is found that a significant difference is exist between male and female in their level of environmental attitudes. The analysis of independent sample t-test was performed to see differences between gender (male and female) on environmental awareness. The results provided in the Table 5 for gender and environmental awareness. Form the results it is concluded that there is significance difference in environmental awareness of male and female. Since hypothesis H1 was not supported since $p > 0.05$. This shows that no statistically significant difference is found between male and female students when it is compared with their environmental awareness (Table 6 and 7).

The hypothesis 2 was answered by performing analysis of variance test for independent variable income and the dependent variables (environmental awareness, knowledge and behavior) in group. ANOVA test was performed by taking income as independent

Table 6: Compare means of group difference

ANOVA		S.S.	df	M.S.	F	Sig.
Awareness	Between groups	31.971	4	7.993	11.501	0.000
	Within groups	237.684	343	0.695		
	Total	269.656	347			
Knowledge	Between groups	3.757	4	0.939	1.702	0.149
	Within groups	188.725	343	0.552		
	Total	192.482	347			
Behavior	Between groups	3.757	4	0.939	1.702	0.149
	Within groups	188.725	343	0.552		
	Total	192.482	347			

S.S.: Sum of square; M.S.: Mean square

Table 7: Descriptive statistics of income with environmental awareness

Variables	Income	N	Mean	S.D.	S.E.
Awareness	<10000	22	3.5568	0.79031	0.16850
	10000-25000	60	3.5000	0.91016	0.11750
	25000-40000	79	3.6582	0.81765	0.09199
	40000-55000	175	3.6657	0.91623	0.06926
	>55000	13	3.7727	0.88356	0.26640
	Total	347	3.6318	0.88281	0.04739

S.D.: Standard deviation; S.E.: Standard error

Table 8: Statistically difference in income and level of environmental knowledge

Tukey HSD dependent variable	(I) income (Rs)	(J) income (Rs)	Mean difference (I-J)	S.E.	Sig.
Knowledge	10,000<	10000-25000	-4.70846*	1.43514	0.010
		25000-40000	-4.54085*	1.40440	0.012
		40000-55000	-3.48364	1.35650	0.079
		>55000	3.48364	1.35650	0.079
		Total			

S.E.: Standard error

Table 9: Descriptive statistics for behavior, knowledge and awareness and income

Variables	Income	N	Mean	S.D.	S.E.
Behavior	<10000	22	14.7273	9.74524	2.07769
	10000-25000	60	12.9167	5.81434	0.75063
	25000-40000	79	13.0253	3.60902	0.40605
	40000-55000	173	13.3006	4.82145	0.36657
	>55000	13	16.8182	2.04050	0.61523
	Total	347	13.3739	5.18236	0.27901
Knowledge	<10000	22	21.4091	5.97343	1.27354
	10000-25000	58	19.6552	3.81388	0.50079
	25000-40000	79	19.8228	4.23889	0.47691
	40000-55000	175	20.8800	4.33542	0.32773
	>55000	13	24.3636	4.73862	1.42875
	Total	347	20.5768	4.43238	0.23863
Awareness	<10000	22	3.5568	0.79031	0.16850
	10000-25000	60	3.5000	0.91016	0.11750
	25000-40000	79	3.6582	0.81765	0.09199
	40000-55000	175	3.6657	0.91623	0.06926
	>55000	13	3.7727	0.88356	0.26640
	Total	347	3.6318	0.88281	0.04739

S.D.: Standard deviation; S.E.: Standard error

variable and means of environmental awareness, knowledge and behavior as dependent variables. There is no statistically significant difference for behavior ($F = 1.702$, $d.f = 4$ and $p > 0.05$) and knowledge ($F = 1.702$, $d.f = 4$ and $p > 0.05$). Furthermore, environmental awareness is significantly difference ($F = 11.501$, $d.f = 4$ and $p < 0.05$). Since results of environmental awareness is significant, for deeper understanding the difference between each income group with their level of environmental awareness, post hoc analysis test was performed which revealed that

parents income between 10,000 to 25,000 (Mean = 3.5568, S.D. = 0.79031) and income between 10000 to 25000 (Mean = 3.5000, S.D. = 0.91016) scored lowest values when results were compared with other level of income. The mean scores of the parents income between 25000 to 40000 ($M = 3.6582$, S.D = 0.81765) and 40000 to 55000 ($M = 3.6657$, S.D. = 0.91623) are high when compares to the other income groups. The summary of the descriptive statistics, analysis of variance and post hoc analysis present in Table 8 and 9 respectively. The scale of annual incomes was: 1,

Table 10: Descriptive statistics

		N	Mean	S.D.	S.E.	Max.
Awareness	Employed	118	3.4661	0.93594	0.08616	5.00
	Self employed	48	3.0990	0.96720	0.13960	5.00
	Professional	86	3.9215	0.82539	0.08900	5.00
	Retired	52	3.6683	0.58937	0.08173	4.75
	Others	43	4.0581	0.60954	0.09295	5.00
	Total	347	3.6318	0.88281	0.04739	5.00
Knowledge	Employed	118	3.2809	0.74896	0.06895	4.86
	Self employed	48	3.2292	0.66141	0.09547	5.00
	Professional	86	3.5000	0.66889	0.07213	4.86
	Retired	52	3.2335	0.79817	0.11069	4.71
	Others	43	3.3488	0.87304	0.13314	5.00
	Total	347	3.3294	0.74586	0.04004	5.00
Behavior	Employed	118	3.2809	0.74896	0.06895	4.86
	Self employed	48	3.2292	0.66141	0.09547	5.00
	Professional	86	3.5000	0.66889	0.07213	4.86
	Retired	52	3.2335	0.79817	0.11069	4.71
	Others	43	3.3488	0.87304	0.13314	5.00
	Total	347	3.3294	0.74586	0.04004	5.00

S.D.: Standard deviation; S.E.: Standard error; Max.: Maximum

Table 11: Analysis of environmental awareness, knowledge and behavior with parents occupation

Descriptive					
Variables	Income	N	Mean	S.D.	S.E.
Awareness	<10000	22	3.5568	0.79031	0.16850
	10000-25000	60	3.5000	0.91016	0.11750
	25000-40000	79	3.6582	0.81765	0.09199
	40000-55000	175	3.6657	0.91623	0.06926
	>55000	13	3.7727	0.88356	0.26640
	Total	347	3.6318	0.88281	0.04739

0000< and between 10000-25000, between 25000-40000, between 40000-55000 and >55000. An analysis of Tukey HSD was performed using income as independent variable and environmental knowledge as dependent variable. Further analysis shows that the parents with annual income of Rs 10000< showed the lowest knowledge when compared with an annual income between 25000-40000. There was statistically difference in income and level of environmental knowledge. The hypothesis 3 was answered by performing analysis of variance test for independent variable occupation and the dependent variables (environmental awareness, knowledge and behavior) in group. Analysis of variance was performed using as income as independent variable and means dependent variables.

The results shows that parents who are employed (M = 3.4661, S.D. = 0.93594) and self employed (Mean = 3.0990, S.D. = 0.96720) scored are lower when we compared with the professional (M = 3.9215, S.D. = 0.82539) and retired (M = 3.6683, S.D. = 0.58937). The students whose parents are professional and retired shows a significant different in the level of environmental awareness' as compared to those whose parents are either employed or self-employed. The summary of the descriptive statistics analysis of present in Table 10.

The results show that there is significance difference between the groups of environmental awareness. The results shows in table, groups differ from each other. We can interpret the results as there is significance difference in the environmental awareness between the groups who are the professional and

retired. But there is no statistically significance difference between the occupations of employed, self employed. Students who parents are Professionals and retired occupations shows high level of environmental awareness (employed vs. self employed: $p = 0.078$, professional vs. employed; $p = 0.001$, retired vs. employed = 0.591, tukey HSD). Based on the results it is cleared that there was statistically significant difference between the groups of environmental awareness as measured by the ANOVA. Tukey post hoc test revealed that occupation (professional and retired) have significant effect on the environmental awareness in students.

CONCLUSION

There are many different socioeconomic factors that are effect on the student's environmental awareness, knowledge and behavior. It is concluded that level of environmental awareness was higher in students whose parents are employed and having low income. Findings of this study clearly support that notion university students of the business education have affect on environmental awareness and behavior from their parents' socio-economic status. Form the above analysis, we can draw conclusion that female shows more environmental behavior male counterpart students. It is concluded that this study is consisted with the Zelezny *et al.* (2000) found female students exhibit more pro-environmental behavior than the male students. It could be due to the reason that most of the female are engaged in cleanness of home and take other social responsibilities at home. Similarly in line with

this conclusion (Ewert and Baker, 2001) supported that female students had higher mean scores of pro-environment behavior than male students. Results clearly indicate that business students irrespective of their culture background and parents income are differed in their environmental awareness and behavior. Low level of awareness in the male students is mainly because that they are not often engaged in domestic responsibilities (Table 11).

Analysis of the results provides a strong indication that there is need to create awareness among the students, this which will turn to a positive environmental behavior. Female students are more environmentally aware than male students. The higher level of awareness level in female indicates that in their spare they inclined towards popular source of information watching TV and use of social media. Socio-economic status income and occupation had significant impact on the environmental awareness' among our business students This is contradict to the findings of Arcury and Christianson (1990, 1993) explained that income had no impact on the environmental awareness. The respondents matched with the occupation and asses their environmental awareness, knowledge and behavior. The students with parents' occupations are either professional and retired are more environmentally aware than the students whose parents occupation is employed or self employed. This is likely due to they put more focused on means of earning and had least interest what is happening around him. This predict that the parents occupation have significant impact on the development of environmental knowledge and behavior. In order to sustain civic development, sustainability considerations have to be made integral part of education (Ghauri *et al.*, 2011).

I hope that this research will provide a foundation of understanding what important factors contribute in creating the awareness and developing behavior in students, particularly in the developing countries inadequate research is found in this area. Previous available literature on environmental awareness supported there exist association with the demographic variables such as sex (male, female, age, income and occupation). On the other side there are extensive studies available which contradicts the relationships between the environmental awareness and socio demographic factors. Further study is need to explore and understanding which demographic factor is strongly and positively associated with the environmental awareness, knowledge and behavior by undertaking a large population from different cities.

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