ORIGINAL RESEARCH PAPER

Home Science

A STUDY OF ENVIRONMENTAL KNOWLEDGE AND VALUES OF UNDERGRADUATE STUDENTS OF THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA IN RELATION TO THEIR FAMILY RELATED VARIABLES.

KEY WORDS: Environmental Knowledge, Environmental Value

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ABSTRACT

This exploratory study aimed at studying the environmental knowledge and values of the undergraduate students. A sample of 900 students was taken from faculties of Arts and commerce, Science, Technology, Medicine and Family and Community Sciences of The Maharaja Sayajirao University of Baroda. A tool containing profile of the student, test of environmental knowledge and statements related to environmental values was prepared and survey was carried out.

Findings revealed that level of environmental knowledge and values in nuclear and small sized families was higher. The students from higher family income showed higher level of environmental knowledge and values. A significant difference was found in environmental knowledge and values of the undergraduate students in relation to their father as well as mother's education level. Students, whose parental education level was higher, showed higher level of environmental knowledge and values.

INTRODUCTION

Every human being has a great variety of feelings for different aspects of his or her surroundings. True environmental values go beyond valuing a river for its water, a forest for its timber and non-wood forest products, or the sea for its fish, environmental values are inherent in feelings that bring about sensitivity for preserving nature as a whole. (Bharucha 2004). The present study was carried out to study the level of knowledge and values of college students regarding environment in relation to the selected variables. As college students have studied about environment in their schools and also at their home from parents, they are well aware about the need to save the environment. This paper aims at presenting how factors related to family influenced the environmental knowledge and values of the undergraduate students of The Maharaja Sayajirao University of Baroda, Vadodara. The family related variables taken for the study were Family Type, Family Size, Monthly Family Income, Place of Residence, Mother's Education and Father's Education.

Family is the basic and universal social structure of human society. It fulfils needs and performs functions, which are indispensable for the continuity, integration and change in the social system.

It determines the development of individuals, in that; it is a major source of nurturance, emotional bonding and socialization. In contemporary urban society, families present a peculiar combination of traditional and modern values. The new identities and changing value patterns also affect the attitude of the individual members of the family. (Bahadur, and Dhawan, 2008)

"A family's Socio-economic status differences in children's reading and educational outcomes are ubiquitous, stubbornly persistent and well documented" (Aikens and Barbarin, 2008).

The relationship between family and environmental knowledge and values is due to a complex interaction of a number of variables, it appears to be generally accepted that family income impacts to a considerable extent on various aspects of students' learning experiences like families with high income can opt for more aesthetic aspect of human existence or "quality of life", such as better environment. Also, People under severe financial constraint often do not have the time, money or inclination to engage in measures to ensure ecological as well as economic sustainability. (Ahmar, and Anwar, 2013)

A family's life styles have close links with nature and its resources. Thus the environmental problems that manifest in rural areas of the country are largely due to over-use or misuse of resources mostly be cause of sheer poverty, ignorance and lack of alter natives. The denudation of vegetative cover due to expansion of agricultural activities, indiscriminate collection for firewood and the overgrazing by cattle and other livestock and consequent soil erosion are good examples of the impoverishment of environ mental resources. The growing use of chemical fertilizers, insecticides, pesticides, weedicides and non-availability of systems for the disposal of com-munity wastes leading to the contamination of water courses and creation of insanitary living conditions in the rural areas. (Raja, 2012)

Parental education also plays a major role in children's values towards environment. A well-educated mother may be more active and aware about the environmental concerns and the ways to protect and help environment compared to an illiterate mother. She will be more exposed to day to day environment. So she can better teach her children the environmental values.

Mother's with different education levels and abilities may raise their kids differently. So, it's well worth exploring how these differences play out role in gaining environment knowledge and values in their children.

More educated father may be more disciplined in his values about environment and hence can more transfer his habits or behavior related to environment to his children. More education may lead to better job. Better job means having more economical "surplus" which may allow individuals to pay more attention to the "luxury good" for environmental quality. More income help parents to provide environmental knowledge and concern through conversation, books, magazines and opportunities to travel which can make children more knowledgeable about environment and teach them value environment more.

Thus, it is of interest to find out that how environmental knowledge and values of the undergraduate students are influenced by their families.

Based on the above discussion the following were the objectives of the study:

1. To study environmental knowledge of the undergraduate students in relation to the selected variables:

i. Family Type
ii. Family Size
iii. Monthly Family Income
iv. Place of Residence
v. Mother's Education
vi. Father's Education

2. To study environmental values of the respondents in relation to the selected variables:

i. Family Type
ii. Family Size
iii. Monthly Family Income
iv. Place of Residence
v. Mother's Education
vi. Father's Education

METHODOLOGY

A structured questionnaire was prepared. The questionnaire consisted of the profile of the undergraduate students such as Family Type, Family Size, Monthly Family Income, Place of Residence, Mother's Education and Father's Education; Fifty four multiple choice questions related to environmental knowledge and forty three statements describing the environmental values of the students with three point response systems.

Purposive convenient sampling method was used by the researcher. Survey method was used to collect the data. The sample for the study was selected from faculties of Arts and commerce, Science, Technology, Medicine and Family and Community Sciences of The Maharaja Sayajirao University of Baroda. The sample size of 180 was selected from each group of faculties. Both boys and girls were selected from first year, second year and third year randomly. Thus total sample size was 900 students.

RESULTS AND DISCUSSION

1. Family type and Family size wise Environmental Knowledge and Environmental Values of the respondents.

Table 1: T-Test of Environmental Knowledge and values of the Respondents in Relation to their Type of Family. n = 900

Family type	N	Environmental knowledge			Environmental values		
		Mean	t-Value	P-Value	Mean	t-Value	P-Value
Nuclear Family	628	30.40	0.68	0.01	63.08	2.21	0.02
Joint Family	272	27.43			61.36		

T- test results showed a significant difference in the environmental knowledge and values of the respondents in relation to their family type (Table 1).

Table 2: ANOVA of Environmental Knowledge and values of The Respondents in Relation to their Family Size. n = 900

Family size	N	Environmental knowledge			Environmental values		
		Mean	F- Value	P- Value	Mean	F- Value	P- Value
Large	100	26.85	5.717	0.03	61.40	1.926	.146
Medium	365	28.77			62.10		
Small	435	30.73			63.22		

ANOVA result indicated that there was a significant difference in environmental knowledge of the respondents in relation to their family size (Table 2) but no significant difference in environmental values of the respondents.

Thus, we can see that environmental knowledge and values of the respondents were influenced by the type and size of family. Student's belonging to the nuclear and small size families were found having more environmental knowledge and values as compared to the students from joint and large size families.

A child's family and home environment has a strong impact on his/her language and literacy development and educational achievement. This impact is stronger during the child's early years but continues throughout their school and college years. (Cole, J. 2011)

The nuclear family is generally believed to be the ideal arrangement to raise a family. Parenting interventions are different in nuclear families as they are more focused and specific to the children's needs. Nuclear families enjoy more freedom in discovering and taking advantage of opportunities for the development of the family members. The child rearing practices in nuclear families are better as parents influence more due to close interactions.

In small size families, the child is in direct contact with his or her parent and the number of adult role model decreases. Children in such families are encouraged to function in an individualized manner, take initiative, and act independently. Thus, children's experiences in growing up in nuclear and small size families can be influenced deeply by the parent's beliefs, values and attitudes.

In today's families, it is common to have dual incomes. Both parents work to provide financial stability for the household, creating a larger cash flow to supply the basic family needs of housing, food and healthcare. The parent's concern for saving resources like electricity water, their consumer behavior, recycling habits and other environment friendly habits get transferred into their children because of their close interactions.

By reaching agreements on discipline and modeling appropriate behavior, parents act as a team to strengthen and reinforce child behavior. Children get consistent messages about behavioral expectations toward environment. Nuclear families have more daily routines, like eating dinner together, adding to consistency of passing on knowledge and values related to their lives.. (study.com, 2003)

Therefore, these may be the reason that level of environmental knowledge and values in nuclear and small size families found higher. The close parental interactions, economic stability and better opportunities provided in to the family set up and freedom to perform environment friendly practices may have contributed in their enhancement of environmental knowledge and values related to environment.

2 Monthly Family Income wise Environmental Knowledge and Environmental Values of The Respondents

Table 3: ANOVA of Environmental Knowledge and Values of The Respondents in Relation to their Monthly Family Income. n = 900

Monthly Family Income	N	Environmental knowledge			Environmental values		
		Mean	F- Value	P- Value	Mean	F- Value	P- Value
High	300	30.40	13.28	0.01	63.47	6.15	0.02
Medium	295	31.38			63.34		
Low	305	26.78			60.90		

Tables 3 showed that family income of the respondents made the difference in the environmental knowledge and values of the students. The students from high family income showed higher level of environmental knowledge and values.

Similar results were found by Gupta and Gupta (2014) that high socio- economic status college students were more aware about electronic waste than low socio-economic status college students. A study by Kong, Ytrehus, Hvatum and Lin (2014) also showed that higher the family income of college students, the more priority was put on environmental concerns.

Maslow (1970) and Inglehart (1981) proposed theory of hierarchy of needs which states that an individual will place a higher priority on his or her unmet material needs such as food and shelter versus non physiological needs such environment protection. Therefore the students from lower income group may have felt less concerned about environment.

It can be argued that because members of the lower classes are more likely to live and work in places with poor physical conditions and environmental hazards, they have grown used to this environment and, as a result, are less aware that they inhabit in polluted, overcrowded conditions. On the other hand, both the middle and upper classes are more attuned to and concerned about the "deterioration of the physical environment" (Morrison et al. 1972)

Some scholars have found that because the upper and middle classes are more politically active than the lower classes and

environmental concern is just one of the many instances of the upper classes' general concern regarding social problems (Martinson and Wilkening 1975; Althoff and Greig 1977).

Higher income means more and better access and availability of resources. With higher income the family is able to adopt practices which are eco friendly but costlier. This facilitates formation of certain behavioral traits and practices which contribute to the inculcation of values related to clean and safe environment and its conservation and sustainability. High income means better availability of resources and hence better quality of life. This can lead them to afford environment friendly behaviors and practices. Thus, the students from higher family income showed higher level of environmental knowledge and values.

3. Place of Residence wise Environmental Knowledge and Environmental Values of the Respondents.

Table 4: T-Test of Environmental Knowledge and Values of the Respondents in Relation to their Place of Residence. n = 900

Place of residence	N	Environmental knowledge			Environmental values		
		Mean	t- Value	P- Value	Mean	t- Value	P- Value
Urban	620	29.11	1.87	0.13	62.15	0.46	0.07
Rural	280	30.37			63.47		

We can see form the table 4 that environmental knowledge and values of the undergraduate students did not differ in relation to their place of residence.

The similar results were found by Gupta and Gupta (2014) that behavior pattern showed by undergraduate students about environment were irrespective of their locality. Muderrisoglu and Altanlar (2010) also showed that locality had no effect on environmental attitudes and behaviors of undergraduate students.

Regardless of where they live, the public appears to be sympathetic to the cause of the environment. Being raised in an urban or rural area might not be particularly important. The place of socialization is less of a factor than opportunity. These findings highlight the importance of providing services and facilities to facilitate public participation in Environmentally Supportive behaviour. (Huddert-Kennedy, E., Beckley, T. & McFalane, B.; 2009)

The urban versus rural residents can be studied under three principles: relationship to natural resources, a local-distant rationale (proximity to pollution versus nature), and post-materialistic satisfaction (emphasizing self-expression and the quality of life more than to give high priority to protecting the environment).(Inglehart 1995)

These days, both rural and urban people understand the importance of natural resources as they both face the problems in their living due to the scarcity of these resources. The villages are also facing pollution problems and urban people are trying to combat these problems in many ways. The standard of living of the rural people is also rising these days. There are people living in slums in urban areas also. Thus the gap between the rural and urban is getting reduced slowly. Both urban and rural students get same exposure of learning environment education through text books.

All the sources of non formal and informal sources of information are reaching to urban as well as rural areas. Mass media is reaching out equally to urban and rural area which may have nullified the effect of place of residence. Thus, no significance difference was found in environmental knowledge and values among the students from rural and urban areas.

1. Mother's education and Father's Education wise Environmental Knowledge and Environmental Values of the respondents.

Table 5: ANOVA of Environmental Knowledge and Values of the Respondents in Relation to their Mother's Education. n = 900

Mother's education	N	Environmental knowledge			Environmental values		
		Mean	F- Value	P- Value	Mean	F- Value	P- Value
1. High education	355	32.04	14.87	0.01	63.59	4.43	0.01
2. Medium education	360	28.25			62.42		
3. Low education	185	27.06			60.86		

Table 6: ANOVA of Environmental Knowledge and Values of The Respondents in Relation to their Father's Education n = 900

Father's education	N	Environmental knowledge			Environmental values		
		Mean	F- Value	P- Value	Mean	F- Value	P- Value
1. High education	439	31.42	12.48	0.01	63.49	6.01	0.03
2. Medium education	385	27.96			62.15		
3. Low education	76	26.24			59.32		

Thus, we can see from tables 5 and 6 that there was a significant difference in environmental knowledge and values of the undergraduate students of the Maharaja Sayajirao University of Baroda in relation to their father as well as mother's education level. Students, whose parental education level was higher, showed higher level of environmental knowledge and values.

It has been shown that mother's education increases the child's performance in school. Maternal education has positive impacts both on cognitive skills and behavioral problems of children, but the latter are more sustained than the former in college also. (Behrman and Rosenzweig, 2002).

Maternal education also reduces the incidences of behavioral problems. They are more likely to invest in their children through books, providing musical instruments, special lessons, or availability of a computer. Even more educated working mothers do help their children in their studies or taking them on outings.

A father's level of education is the strongest factor determining a child's future success at school, according to research. (Adams, 2014). More educated fathers feel an increased sense of responsibility for the education of their children, and seem for the most part to be concerned that their children improve academically and socially.

When fathers become more involved in their children's school work and school activities, children feel better about themselves. The involvement of fathers, as well as mothers, in their children's schools is important for children's achievement and behaviour". Also, families with high parental involvement in their children's schools are "more likely to visit a library, museum or historical site with their children and are more likely to have high educational expectations for their children" (U.S. Department of Education, 1997).

The influence of a father's involvement on academic achievement extends into adolescence and young adulthood. Numerous studies find that an active and nurturing style of fathering is associated with better verbal skills, intellectual functioning, and academic achievement among adolescents. (Goldstine, H. S. 1982)

Fathers' (higher) commitment to their child's education and their involvement with the school are also associated with children's better behaviour at school, including reduced risk of suspension or expulsion (Goldman, 2005). Such behaviours will be carried with them to college level also.

Parent involvement in their child's education has long been

attributed to positive effects in the classroom. Most often, mothers play the largest role in a child's education, but children need support from both parents to reach their academic potential. In fact, a father's involvement in their child's education leads to more learning, better performance in school and healthier behavior. Additionally, students whose father plays an active role in their education typically enjoy school more, have more positive peer relationships and become more responsible adults. (notredme, 2012)

The first institution of a child where he learns is his home. A child passes most of his time with his parents and learns from his parents and the environment provided to him by his parents in home. Parents play a vital role in the education of their child, whatever child's age is, (either he read in college or in school). (studyandexam,2010)

Parents are the first teachers and role models for their children, and therefore have a strong influence on their learning. This impact is stronger during the child's early years but continues throughout their school and college years. (Cole, J, 2011)

It was found that parents with low literacy levels are less likely to help their children with reading and writing; feel less confident in doing so (Williams et al., 2003); are less likely to have children who read for pleasure (Parsons and Bynner, 2007) and are more likely to have children with lower cognitive and language development levels (De Coulon, Meschi and Vignoles, 2008).

Both fathers and mothers, separately and together, impact on their children's environmental knowledge and values. As, more educated parents may be aware of the negative effects of environmental problems, such as air pollution, water pollution and garbage. They must be talking much about such problems with their children, to help the environment and believe it was important to live in harmony with nature. (Peter and Batya, 1998)

Thus, we can say that more educated parents are more likely to encourage their children for importance of following environment friendly practices. They can keep watch or become more involved in their children's school work, activities and behaviors. They may remain linked with their children through discussion about current issues related to environment. Educated parents have the ability to transform resources to achieve intended output. Therefore, this can be the reason for the finding that students with higher parental education were having high environmental knowledge and values.

Conclusion

It was found that environmental values of the students differed significantly in relation to their family type, family size, monthly family income, father's as well as mother's education level. It can be seen that family play a vital role in gaining environmental knowledge and inculcation of environment values among undergraduate students. Thus by creating awareness among parents regarding environment conservation and asking them for teaching their children the value of environment can help in raising level of environment knowledge and inculcating values regarding environment protection among the students.

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