

# STUDY OF ECOLOGICAL ATTITUDE OF SENIOR SECONDARY LEVEL BOYS AND GIRLS STUDENTS OF TEHRI AND PAURI GARHWAL DISTRICTS OF UTTARAKHAND

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## ABSTRACT

Ecology is a functional unit of nature where organisms always live as a community and interact with each other with its surrounding environment. This structural and functional system of community and environment is ecosystem. Today, various human activities are causing ecological crisis and creating a situation of natural imbalance. Ecological and environmental attitudes are beliefs or values about given environmental issues. Environmental issues include environmental degradation, air and water pollution, radioactive pollution, green house effect, global warming, interrelationship between environment and society, impact of economic growth and technology on the environment, and many other environmental problems. In short, ecological approach is related to ecological problems. Environmental values, society's attitude and relationship towards the environment, all affect the environmental balance. Keeping this perspective in mind, the related study was conducted.

**Keywords-** Ecological attitude, senior secondary, environmental balance.

## 1. INTRODUCTION

Ecological and environmental attitudes are perceptions or values about given environmental issues. Environmental issues include the relationship between environment and society, effect of economic growth and technology on the environment, environmental degradation, air and water pollution, green house effect, global warming and numerous environmental problems (Tuna, 2002). In recent years, the problems of exploitation of our resources, destruction of soils and environmental degradation through man's activities have increasingly become a subject of public discussion (Singh et.al. 2003). Environmental education is equally significant and is the need of our which raises awareness, increase knowledge and help change attitude and behaviour of the people. Ecological attitudes are related to ecological problems. Environmental values, the relationship between the environment and society, and perceptions of natural source consumption directly affect over all environmental balance (Dunlap and Van Liere, 1978). Ecological problems such as air, and water, pollution, garbage and climate change are the results of human behaviour. Only change in human attitude can reduce these ecological problems.

The main objective of this study is to find out the ecological attitude of senior secondary level boys and girl students of Tehri and Pauri districts of Uttarakhand.

## 2. OBJECTIVE

The present study has been designed to achieve the following objective:

To find out the level of ecological attitude among the senior secondary level boys and girls students of Tehri and Pauri Garhwal districts of Uttarakhand

## 3. HYPOTHESIS

The following null hypothesis was formulated:

There is no significant difference between senior secondary level boys and girls students of Tehri and Pauri Garhwal districts of Uttarakhand in respect to their level of ecological attitude.

## 4. REVIEW OF RELATED LITERATURE

Ecological attitudes are perceptions or values about given ecological issues. Ecological issues include the relationship between ecology and society, effects of economic growth and technology on ecology and environment, ecological degradation, air and water pollution, green house effect, global warming and numerous other environmental problems. Outdoor ecology programs typically concentrate on promoting conservation and environmental protection including the desire to increase awareness and concern about nature as well as shaping behavior towards the environment in order to reduce human impact on nature (Armstrong and Impara 1992). Environmental knowledge and education are closely associated each other. An understanding of modern environmental issues requires high level of environmental knowledge, and likelihood of high environmental knowledge is correlated to high level of education (Inglehart, 1995; Arcury, 1986; 1987; 1990). The effect of education on ecological attitudes is not only direct; its effect is also indirect.



Muttaqui (1981), Shukla (1986), Shah Nabaz (1990), Sharma (1991), Patel (1997) and Bisht (2009) conducted their investigations on environmental related issues and the findings of their studies suggested that sex was an important factor in determining the level of environmental awareness of the students. In their investigation they revealed significant difference between male and female students in respect to their awareness about environment. Girls have significantly high awareness about environment in comparison to male students.

Gupta et.al. (1981) studied environmental awareness among the students of rural and urban schools and non formal education centers. The study was conducted on 20 students of rural schools, 35 students of urban schools and 60 students of non formal centers. They found that rural students were found to have better environmental awareness than the urban students.

Shah Nabaz (1990) and Shablok (1995) revealed that locality had great impact and influence on the level of environmental awareness of students. Sabhlok (1995) in her investigation found that Government and private school students differed significantly on their level of awareness towards environment.

Shukla (1986) conducted research to compare the impact of socio-economic status of students on environmental awareness. In his study he found that girls showed deeper awareness than the boys. Socio-economic status of students drew no more effect on environmental awareness but in some results showed that students of lower SES had low environmental awareness.

Choudhary (2010) made an attempt to study the attitude towards awareness of environmental education among B.Ed. college students in Chennai city. The main findings of the study were: (i) girls have high level of awareness and attitude towards environmental education than the boys. Tamil medium students have high level of awareness and attitude towards environmental education than the English medium students. .

Patel (1986) made an attempt to study the effect of reading and discussion on the attitude of pupil towards environmental awareness. The main findings of the study were: (i) there was a significant difference in the discussion pattern of rural and urban students. This difference was in favours of urban students. (ii) Significant difference was found in the discussion pattern of boys and girls. This difference was in favours of girls. (iii) Significant difference was found in the approaches of reading and discussion. (iv) Significant difference was found in the environmental awareness of rural and urban students. (V) Significant difference was found in the environmental awareness of girls and boys. This difference was in favours of girls.

Gopinath (2014) investigated the level of environmental awareness among secondary school students in a district of Kerala in relation to gender, locale of study and medium of instruction. Results of the study reveal that (i) Girls have more environmental awareness as compare to boys; (ii) urban students have more environmental awareness as compare to rural students and (iii) Malayalam medium students have more environmental awareness as compare to english medium students.

Sandhu (2015) investigated the environmental awareness of secondary school students in relation to gender and locale. The findings of the study reveal that – (i) female secondary school students showed significantly more environmental awareness as compared to male secondary school students; and (ii) urban secondary school students showed significantly more environmental awareness as compared to rural secondary school students.

Ashok Kumar Badoni (2017) studied the ecological attitude of rural and urban senior secondary students of district Tehri and Pauri of Uttarakhand. The findings of the study reveal that urban senior secondary students had scored higher mean scores as compared to rural senior secondary students.

Harish Mittu (2019) studied attitude of secondary school students towards environmental pollution in relation to locale and type of school.

Results of the study reveal that- (i) Urban and rural secondary school students differ significantly from one another with respect to their attitude towards environment pollution. (ii) Private and government secondary school students differ significantly from one another with respect to their attitude towards environment pollution.

## 5. METHODOLOGY

**5.1 Population of the Study:** The present study was conducted in Tehri and Pauri Garhwal districts of Uttarakhand state. All students studying in XI and XII classes were considered as the population of the study.

**5.2 Sample and sampling technique:** In the present investigation, a sample of 300 (130 girls and 170 boys) was selected randomly from different schools of district Pauri and Tehri Garhwal.

### 5.3 Tool Used for the collection of data-

**Ecological Attitude and Cognitive Scale (EACS):** For the collection of data related to; ecological attitude; ecological attitude and cognitive scale (EACS) was used. This scale was developed and standardized by



Rajamanickam (1999). It consists of 40 items. It can be administered on any population either individually or in groups within a period of 30 minutes. It is satisfactorily reliable and valid scale. This 40 item ecological attitude and cognitive scale consists of four sub-scales such as (1) Oral Obligation Scale. (2) The Real Obligation scale (3) the Emotional Obligation scale, and (4) the Cognitive scale.

- (1) **Oral Obligation Scale:** This sub-scale is intended to assess an individual's oral commitment to deal with ecological problems. The Person's oral expression would reveal whether he/ she are willing to solve the problems. He/ she may express a favourable attitude or an unfavourable attitude toward the environmental issues and problems. There are ten statements referring to the ecological issues, of which five are positive statement and five are negative statements. The respondent has to answer with either right or wrong response. The possible higher score in this scale is 10 and the low score is zero (0). The high score indicates favourable attitude toward the ecological problem and the low score unfavourable attitude toward the problem. The statements are 1, 4, 7, 10, 13, 16, 19, 22, 25, and 28.
- (2) **The Real Obligation Scale:** The real obligation scale is to test one's practical approach toward the ecological problems. Whether the person has done really anything in the past to solve the problems and also whether he/she is doing anything at present is tested by this scale. This scale also reveals the person's mode of approach to solve the existing ecological problem. There are ten statements referring to the actual commitment of the person in solving the environmental problem, of which five are positive statements and five negative statements. They are answered with right and wrong responses. The possible highest score in this scale is 10 and lowest score is zero (0). The high score indicates the favourable attitude of the person toward solving the problem and the low score indicates the unfavourable attitude of the person toward the problem. The statements are: 2, 5, 8, 11, 14, 17, 20, 23, 26, and 29.
- (3) **The Emotional Obligation Scale:** This scale is used for the purpose of finding out the degree of feeling the individual expresses when he faces with some ecological problems and issues. What sort of feeling is aroused in a person and how he/ she expresses the level of feeling associated with the environmental problems and issues? There are ten statements referring to the feeling aspect toward the environmental issues, of which five are positive statements and five are negative statements. All the statements are answered with right or wrong answers. The highest score in this scale is 10 and the lowest score is zero (0). The high score indicates the person's favourable attitude toward the issues and problems and the low score indicates the unfavourable attitude toward the issues and problems. The statements are 3, 6, 9, 12, 15, 18, 21, 24, 27, and 30.
- (4) **The Cognitive Scale:** The cognitive scale is intended to assess a person's knowledge about the ecological issues and problems. It is assumed that if a person is really interested in these problems he may know more about solving the problems. There are ten statements of multiple choices and under each statement five answers are given, of which one is right and the person has to underline the right answer. Thus the scale tests one's extent of knowledge about the ecological problems. The last statement is given with a blank space and person has to fill up the blank with the correct answer out of five possible answers given. The high score in the cognitive scale indicates that the person actually knows about the ecological problems and issues, a low score indicates that he/ she is not aware of the problems and issues or has poor understanding about the problems. The statements are 31, 32, 33, 34, 35, 36, 37, 38, 39, and 40.

#### 5.4 Administration of the Tool and Collection of Data:

The data was tabularized as per the objectives of the study.

**5.5 Statistical Techniques Used:** To test the null hypothesis the Mean and S.D.values was calculated and to compare the sub group of the sample 't' test was calculated.

### 6. DELIMITATION OF THE STUDY

The study was delimited to the various institutions located in district Tehri and Pauri of Uttarakhand.

### 7. RESULTS AND ANALYSIS

The data was analyzed and interpreted using the 't' test technique to achieve the objectives and verifying the hypotheses of the study.

**TABLE-01-** Mean and SD Scores of Girls and Boys secondary school students of Tehri district on different dimensions of Ecological attitude and Cognition Scale(EACS).

S.N.	Dimensions of EACS	Girls Students (N = 75 )		Boys Students (N=75)		't' Value(df=148)
		Mean	SD	Mean	SD	



1.	Oral Obligation	6.97	1.95	6.41	2.0	2.54*
2.	Real Obligation	7.55	1.30	7.18	1.74	2.50*
3	Emotional Obligation	7.08	1.34	6.85	1.59	1.52
4.	Cognitive Aspects	7.87	1.29	7.60	1.26	1.84
5.	Overall EACS	29.47	5.88	28.04	6.59	2.68**

\*\* Significant at 0.01 level of significance.

\*Significance at 0.05 level of significance.

Data presented in the table-1 shows that a significant difference exists between the boys and girls students of Tehri district on different dimensions of ecological attitude and cognition scale i.e. oral obligation( $t=2.54$ ), real obligation( $t=2.50$ ) at 0.05 level of significance. While no significant variation was found between dimensions emotional obligation ( $t=1.52$ ) and cognition aspects ( $t=1.84$ ).

Overall significant difference was found ( $t=2.68$ ) at 0.01 level of significance. In all these cases girl students was found having significantly higher mean scores than the boys students.

**TABLE-02-** Mean and SD Scores of Girls and Boys secondary school students of Pauri district on different dimensions of Ecological attitude and Cognition Scale(EACS).

S.N.	Dimensions of EACS	Girls Students (N = 70 )		Boys Students (N=80)		't' Value(df=148)
		Mean	SD	Mean	SD	
1.	Oral Obligation	8.09	1.37	7.95	1.43	0.88
2.	Real Obligation	7.41	1.15	6.87	1.88	3.98**
3	Emotional Obligation	7.66	1.55	7.40	1.57	1.43
4.	Cognitive Aspects	7.67	1.28	7.10	1.71	3.79**
5.	Overall EACS	30.83	5.35	29.32	6.59	2.90**

\*\* Significant at 0.01 level of significance.

From the data displayed in table -2 it can be concluded that no significant difference was found between boys and girls students of Pauri district on ecological attitude and cognitive scale dimensions i.e. oral obligation ( $t=0.88$ ) and emotional obligation ( $t=1.43$ ). On the other hand significant difference was found between both the students on dimensions i.e. real obligation ( $t=3.98$ ;  $p=0.01$ ) and cognitive aspects ( $t=3.79$ ;  $p=0.01$ ). Overall significant difference was found ( $t=2.90$ ;  $p=0.01$ ). In all these cases the girls' students scored higher mean values than boys students.

An overview of both the tables indicates that secondary girls' students of Pauri district had scored higher mean value (30.83) than secondary girls' students of Tehri district (29.47), boys' students of Pauri district also scored higher mean value (29.32) than district Tehri (28.04).

Muttaqui (1981), Shukla (1986), Shah Nabaz(1990), Sharma (1991), Patel (1997), Yilmaz, Boone and Andersen (2004), Jenkins and Pells (2006), Bisht (2009), and Sandhu (2015) conducted their investigations on environmental related issues and the findings of their studies suggested that sex was an important factor in determining the level of environmental awareness of the students. In their investigation they revealed significant difference between male and female students in respect to their awareness about environment. Girls have significantly high awareness about environment in comparison to male students.

## 8. CONCLUSION

The null hypothesis that There is no significant difference between senior secondary level students of Tehri Garhwal and Pauri Garhwal districts of Uttarakhand in respect to their sex (male/female students) in respect to their level of ecological attitude is partially rejected and partially accepted. The findings related to above hypothesis are as follows:

1. A significant difference was found between boys and girls senior secondary students of Tehri district on dimension- oral obligation at 0.01 level of significance and on dimensions- real obligation and cognitive aspects at 0.05 level of significance.
2. On dimension- emotional obligation no significant variation was found.



3. Overall a significant variation was found between boys and girls senior secondary students of Tehri district at 0.01 level of significance.
4. Girls senior secondary students of Tehri district scored higher mean values in all the dimensions of EACS as compared to boys' senior secondary students.
5. In the case of boys and girls senior secondary students of Pauri district a significant difference was found in only one dimension i.e. oral obligation at 0.01 levels as well as on overall ecological attitude at 0.05 level of significance.
6. No significance variation was found between boys and girls senior secondary students on the dimensions- real obligation, emotional obligation, and cognitive aspects.
7. Girls' senior secondary students had scored higher mean values in all the dimensions of EACS as compared to boys' senior secondary students.

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