

## Attitudes of adolescents towards various aspects of environment

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### ABSTRACT

The present study is an attempt to investigate the attitude of adolescent boys and girls towards environmental issues. Taj Environmental Attitude Scale (Taj, 2001) was administered to 280 subjects (unevenly distributed over sexes) selected on the basis of random stratified sampling procedure. The subjects were 18-20 years old male and female undergraduate students from the constituent colleges of Punjab Agricultural University, Ludhiana. The scale specifically studied the environmental attitude over the six dimensions viz., Health and hygiene, Wild life, Forests, Polluters, Population explosion and Environment concerns. Data were analyzed using frequencies and percentages. Results revealed that almost an equal number of adolescents possessed favourable and unfavourable attitude towards environmental issues (44.64% and 43.22%, respectively). Across the two sexes, majority of boys (62.22%) had unfavourable environmental attitude whereas, more number of girls (47.23%) had a favourable environmental attitude. In depth analysis across varying dimensions of environmental issues revealed that the adolescents were most aware regarding the causes and consequences of population explosion and environmental concerns. However, they had poor knowledge regarding the importance of afforestation and the harmful impact of various polluters.

## INTRODUCTION

Educating the people of a nation on the issues of environmental concerns relating to depleting natural resources, eradication of many natural species, increasing pollution, global warming resulting in ecological imbalances and natural calamities, health concerns arising because of poor wastage management systems and other diverse issues appear to be vital for the sustenance of the globe in all its grandeur.

The sustained existence and survival of man in his environment is determined by the ways, manners and attitudes of man, as he strives to secure guarantee for himself, a continuous supply of his basic needs from his environment. But, through lack of appreciation/ favourable attitude towards environment, the main and perhaps the only source of livelihood, man has often created problems for himself through his direct or indirect destruction of his environment and its potential. It is therefore, eminent for a concentrated effort to be made to develop right attitudes towards environment which ensure responsible action towards environment and sustainable development (Udo Bude, 1992).

Thus, it is imperative to investigate the attitudes of adolescents, youths and adults towards environment and its allied aspects. It can be worthwhile not only to get an insight into the attitudes, but also for changing and modifying attitudes of youth/ adults through positive programmes such as outdoor visits, games, simulations, as well as socio-drama, street plays and awareness campaigns etc.

Effective environmental education programmes which build an appreciation of the natural world we are striving to protect, as well as, of the specific hazards threatening the world, should be incorporated in their curriculum. Environmental education enhances knowledge based awareness that will lead to cultivation of responsible attitude towards environment, without losing sight of value system of society and individual.

Environmental knowledge and awareness would be of no meaning without cultivation of right attitude towards environment. So, attitude is a pre-requisite for fostering valuing approach and responsible action which is the ultimate goal of environmental education.

The studies of environmental attitudes have special significance because it is assumed that attitudes influence

behaviour. Studies conducted to test this are equivocal. Some studies have demonstrated a weak link between awareness of pollution and inquiries about pro-environmental groups (Hummel, 1977). O'Riordan (1976) in a review article has also arrived at the same conclusion.

Present study was conducted primarily with the following objectives: to identify the attitudes of adolescents towards various aspects of environment, to study the gender differentials in the attitudes of adolescents towards environment and to investigate the attitudinal disparities among the six areas *viz.*, population explosion, health and hygiene, polluters, wildlife, forests and environmental concerns dealt within the scale.

## METHODS

### Sample:

Present study was conducted on a sample of 280 subjects both males and females between the age of 18 to 20 years. The sample was randomly selected from the students studying in the various undergraduate courses in the Punjab Agricultural University, Ludhiana.

### Tool used:

Taj Environmental Attitude Scale (TEAS) of Taj (1981) was used to assess attitudes of adolescents across six areas of environment. The six areas dealt within the scale were attitudes towards:

- Population explosion
- Health and hygiene
- Polluters
- Wildlife
- Forests
- Environmental concerns

The subjects were individually administered the Taj Environmental Attitude Scale with specific instructions to read each statement and mark the answer. Scoring was done according to the procedure laid down and the obtained data were analyzed using appropriate statistical procedures.

## OBSERVATIONS AND ANALYSIS

Table 1 presents the socio-personal profile of the respondents. The data revealed that the majority of the subjects (80%) were in the age group of 18.5 to 19.5 years and about 17.50 per cent were aged 18 to 18.5 years. Very few (2.50%) were more than 19.5 years of age. Also, the subjects were unevenly distributed over the two sexes with 83.93 per cent females and only 16.07 per cent males. As regards the religion of the subjects, the majority were Sikhs (63.21%) followed by 33.21 per cent Hindus and 3.57 per cent from other religions.

Table 2 depicts the per cent distribution of adolescent boys and girls according to their attitude towards environmental

**Table 1: Socio-personal profile of the respondents (n=280)**

Socio-personal profile	Frequency	Percentage
<b>Age (years)</b>		
18 -18.5	49	17.50
18.5 - 19.5	224	80.00
19.5 - 20	7	2.50
<b>Gender</b>		
Male	45	16.07
Female	235	83.93
<b>Religion</b>		
Hindu	93	33.21
Sikh	177	63.21
Others	10	3.57

issues. The results revealed that almost an equal number of adolescents possessed favourable and unfavourable attitude towards environmental issues (44.64% and 43.22%, respectively). However, very few adolescents (5%) had strongly favourable attitude and about 7.14 per cent had strongly unfavourable attitude towards the various dimensions of environmental awareness.

**Table 2 : Distribution of boys and girls according to their overall attitude towards environmental issues**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	1 (2.22)	13 (5.53)	14 (5.00)
Favourable (3.37-2.93)	14 (31.11)	111 (47.23)	125 (44.64)
Unfavourable (2.93-2.49)	28 (62.22)	93 (39.57)	121 (43.22)
Strongly unfavourable (<2.49)	2 (4.44)	18 (7.66)	20 (7.14)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages

Across the two sexes majority of boys (62.22%) had unfavourable environmental attitude as compared to merely 39.57 per cent girls who had unfavourable environmental attitude. However, more number of girls (47.23%) had a favourable environmental attitude as compared to the boys (31.11%).

Table 3 indicates the attitude of adolescents towards the dimension of health and hygiene. The results related to overall attitude exhibited that the 36.07 per cent of adolescents had a favourable attitude towards this dimension. A similar trend was observed across both the sexes, with more number of boys (44.44%) and girls (34.47%) having favourable attitude towards this dimension. The results suggested that a fairly high number

**Table 3 : Distribution of boys and girls according to their environmental attitude towards dimension of health and hygiene**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	8 (17.78)	74 (31.49)	82 (29.29)
Favourable (3.37-2.93)	20 (44.44)	81 (34.47)	101 (36.07)
Unfavourable (2.93-2.49)	9 (20.00)	62 (26.38)	71 (25.36)
Strongly unfavourable (<2.49)	8 (17.78)	18 (7.66)	26 (9.29)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages

of adolescents were aware of hazardous impact of the over usage of food additives and pesticides. Also, they were aware of the health hazards of environmental pollution as well as the improper disposal of industrial and toxic wastes.

The distribution of adolescents according to their environmental attitude towards wildlife is depicted in Table 4. The results highlighted that only 12.86 per cent of the adolescents had a strongly favourable and 30 per cent reported favourable environmental attitude towards the 'wildlife' dimension. However, more than 50 per cent of the subjects had the undesirable and unfavourable environmental attitude towards this domain. Across the two sexes girls were found to have a more favourable environmental attitude (13.62% and 32.34%) as compared to the boys (8.89% and 17.78%). A very high percentage of boys (53.33% and 20.00%) possessed either unfavourable or strongly unfavourable attitude towards 'wildlife'. On the strength of the results depicted, it can be generalized that majority of adolescents, particularly boys were ignorant of the pressing need of preserving the 'wildlife' through mercy and compassion towards animals and honouring

**Table 4 : Distribution of boys and girls according to their environmental attitude towards dimension of wild life**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	4 (8.89)	32 (13.62)	36 (12.86)
Favourable (3.37-2.93)	8 (17.78)	76 (32.34)	84 (30.00)
Unfavourable (2.93-2.49)	24 (53.33)	86 (36.60)	110 (39.29)
Strongly unfavourable (<2.49)	9 (20.00)	41 (17.45)	50 (17.86)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages

the legislation meant for prevention of killing animals.

Distribution of adolescents according to their environmental attitude towards 'forests' is depicted in Table 5. Data presented revealed that merely 17.50 per cent of adolescent boys and girls had a favourable attitude towards the 'forests' dimension of environmental awareness whereas, 41.79 per cent reported unfavourable and 37.50 per cent reported strongly unfavourable attitude towards this dimension. The probe into gender differentials in responses brought to light that majority of boys and girls (42.22% and 41.70%, respectively) had unfavourable environmental attitude towards the conservation of 'forests'. Also, about 28.89 per cent of boys and 39.15 per cent of girls were found to have strongly unfavourable attitude as compared to merely 6.67 per cent boys and 2.55 per cent girls who had strongly favourable attitude. Hence, the results suggested that adolescents possessed poor knowledge of the importance of afforestation programmes and ill effects of acid rain and deforestation. Thus, majority of them were ignorant of the significant role forests play in maintaining the balance in ecosystem.

**Table 5 : Distribution of boys and girls according to their environmental attitude towards forests**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	3 (6.67)	6 (2.55)	9 (3.21)
Favourable (3.37-2.93)	10 (22.22)	39 (16.60)	49 (17.50)
Unfavourable (2.93-2.49)	19 (42.22)	98 (41.70)	117 (41.79)
Strongly unfavourable (<2.49)	13 (28.89)	92 (39.15)	105 (37.50)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages

Environmental attitude of the adolescents towards various 'polluters' was investigated and presented in Table 6. The results revealed that very few adolescents (1.43%) had strongly favourable and 25.36 per cent had favourable environmental attitude towards the 'polluter' dimension of the environmental attitude. This dismal picture suggested that a vast majority of adolescents (58.21% unfavourable and 15 per cent strongly unfavourable) were ignorant of the sources of pollution and impact of pollutants in our environment. The picture was similar across the two sexes with majority of boys and girls having either unfavourable (66.67% and 56.60%, respectively) or strongly unfavourable (17.78% and 14.47%, respectively) attitude towards the knowledge regarding the various 'polluter' in damaging the environment. Thus, the majority of adolescents need to be educated on issues like the

**Table 6 : Distribution of boys and girls according to their environmental attitude towards polluters**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	0 (0.00)	4 (1.70)	4 (1.43)
Favourable (3.37-2.93)	7 (15.56)	64 (27.23)	71 (25.36)
Unfavourable (2.93-2.49)	30 (66.67)	133 (56.60)	163 (58.21)
Strongly unfavourable (<2.49)	8 (17.78)	34 (14.47)	42 (15.00)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages (%)

destruction of ozone layer, coming up of more hydro stations, more vehicles on road, green house, gas emissions, excessive energy consumption, disposal of toxic wastes into sources of water, more mining projects and the use of plastic bags.

Adolescent's attitude towards the issues related to 'population explosion' was probed and is presented in Table 7. The observation of the results revealed that about 50 per cent of the adolescents had a strongly favourable and almost 25 per cent had a favourable attitude towards the growing menace of population explosion. Therefore, population explosion was found to be an area of environmental attitude with which adolescents were well versed as compared to the other areas. They were aware of the negative effects of the ever increasing pressures on the national resources and the impact on the quality of life of the people. This could be attributed to the number of campaigns and the programmes at national level, focused to control the growth rate of the country and educate people to limit the family size.

**Table 7 : Distribution of boys and girls according to their attitude towards population explosion**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	24 (53.33)	118 (50.21)	142 (50.71)
Favourable (3.37-2.93)	14 (31.11)	56 (23.83)	70 (25.00)
Unfavourable (2.93-2.49)	6 (13.33)	39 (16.60)	45 (16.07)
Strongly unfavourable (<2.49)	1 (2.22)	22 (9.36)	23 (8.21)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages

Data were also analyzed to investigate the attitude of the adolescents towards the various issues related to environment concerns. The results are presented in Table 8. This dimension

encompasses the concerns related to extending knowledge regarding causes and control of environmental pollution, banning the use of the plastic bags, proper disposal of garbage and industrial wastes and exploiting the perennial sources energy for power generation (wind energy and solar energy). It also relates to an individual's responsibility to save the environment and enacting stringent laws to preserve resources and environment for good quality of life for future generation.

The results in this regards revealed that majority of adolescents (45.71%) possessed a favourable attitude and as much as 24.64 per cent display strongly favourable attitude towards the various environmental concerns. However, about 25.71 per cent and 3.93 per cent were found to have an unfavourable and strongly unfavourable attitude towards various issues of environmental concern. A similar picture was presented across the two sexes with majority of boys and girls having favourable and strongly favourable attitude towards environment concerns.

**Table 8 : Distribution of boys and girls according to their attitude towards environment concern**

Attitude category	Boys (n=45)	Girls (n=235)	Overall (n=280)
Strongly favourable (>3.37)	7 (15.56)	62 (26.38)	69 (24.64)
Favourable (3.37-2.93)	21 (46.67)	107 (45.53)	128 (45.71)
Unfavourable (2.93-2.49)	17 (37.78)	55 (23.40)	72 (25.71)
Strongly unfavourable (<2.49)	0 (0.00)	11 (4.68)	11 (3.93)
Total	45 (100.00)	235 (100.00)	280 (100.00)

Figures in parentheses denote percentages

Table 9 depicts per cent distribution of adolescents' attitude across various dimensions of environmental issues. The frequency distribution of favourable and unfavourable attitude of adolescent boys depicted that significantly more number ( $p = 0.05$ ) of boys had a favourable attitude toward issues related to health and hygiene, population explosion and environment concerns. On the other hand, significantly more number of adolescent boys reported unfavourable attitude for the dimensions of wildlife, forest and polluters. Similar trend was observed in case of adolescent girls except for the dimension of wildlife where no significant differences were found in favourable and unfavourable attitude. The analysis of the overall attitude of adolescents revealed the similar picture with significantly more number of adolescents having favourable attitude and concern for health and hygiene, population explosion and environment concerns, whereas the trend was reverse for the issues related to wildlife, forests and

polluters.

Table 10 brings to light the gender differentials in attitude of adolescents across various dimensions of environmental issues. Across all the dimensions of environmental issues significant gender differentials in the attitude of adolescents were evident only in the issues concerning wildlife. In case of wildlife significantly more number of girls displayed a favourable attitude as compared to boys.

Table 11 presents the ranking of the 'favourable environmental attitude' of adolescent boys and girls across the different areas of 'environmental awareness'. The results indicated that adolescents had most favourable attitude towards the areas of 'population explosion' (75.71%) followed by 'environmental concerns' (70.36%) and 'health and hygiene'

(65.36%). The most unfavourable attitude was found to be in the area of 'forests' (79.29%) followed by 'polluters' (73.21%) and 'wild life' (57.14%). The gender wise analysis brought to light that both boys and girls had most favourable attitude towards the 'population explosion' (84.44% and 74.04%, respectively) followed by 'environmental concerns' and 'health and hygiene' (62.22% each in case of boys and 71.91% and 65.96%, respectively in case of girls).

However, regarding the unfavourable attitude it was observed that the poorest attitude in case of boys was for 'polluters' (84.44%) followed by 'wild life' (73.33%) and 'forests' (71.11%). Whereas in case of girls the poorest attitude was for 'forests' (80.85%) followed by 'polluters' (71.06%) and 'wild life' (54.04%). The dismal picture obtained for these three

**Table 9 : Per cent distribution of adolescents attitude across various dimensions of environmental issues**

Dimension	Attitude of boys (n=45)				Z-value	Attitude of girls (n=235)				Z-value	Overall (n=280)				Z-value
	Favourable		Unfavourable			Favourable		Unfavourable			Favourable		Unfavourable		
	f	%	f	%		f	%	f	%		f	%	f	%	
Health and hygiene	28	62.22	17	37.78	2.319*	155	65.96	80	34.04	6.919*	183	65.36	97	34.64	7.268*
Wild life	12	26.67	33	73.33	4.420*	108	45.96	127	54.04	1.753	120	42.86	160	57.14	3.381*
Forests	13	28.89	32	71.11	4.000*	45	19.15	190	80.85	13.377*	58	20.71	222	79.29	13.861*
Polluters	7	15.56	38	84.44	6.537*	68	28.94	167	71.06	9.133*	75	26.79	205	73.21	10.987*
Population explosion	38	84.44	7	15.56	6.535*	174	74.04	61	25.96	10.425*	212	75.71	68	24.29	12.170*
Environment concerns	28	62.22	17	37.78	2.319*	169	71.91	66	28.09	9.502*	197	70.36	83	29.64	9.635*

\* indicates significance of value at  $P \leq 0.05$ .

**Table 10 : Gender differentials in attitude of adolescents across various dimensions of environmental issues**

Dimension	Favourable attitude of boys		Favourable attitude of girls		Z-value
	f	%	f	%	
Health and hygiene	28	62.22	155	65.96	0.482
Wild life	12	26.67	108	45.96	2.396*
Forests	13	28.89	45	19.15	1.477
Polluters	7	15.56	68	28.94	1.857
Population explosion	38	84.44	174	74.04	1.491
Environment concerns	28	62.22	169	71.91	1.304

\* indicates significance of value at  $P \leq 0.05$

**Table 11: Ranking of favourable environmental attitude of adolescents across various dimensions of environmental issues**

Dimension	Attitude of boys			Attitude of girls			Overall		
	Favourable (%)	Unfavourable (%)	Ranks	Favourable (%)	Unfavourable (%)	Ranks	Favourable (%)	Unfavourable (%)	Ranks
Health and hygiene	62.22	37.78	2.5	65.96	34.04	3	65.36	34.64	3
Wild life	26.67	73.33	5	45.96	54.04	4	42.86	57.14	4
Forests	28.89	71.11	4	19.15	80.85	6	20.71	79.29	6
Polluters	15.56	84.44	6	28.94	71.06	5	26.79	73.21	5
Population explosion	84.44	15.56	1	74.04	25.96	1	75.71	24.29	1
Environment concerns	62.22	37.78	2.5	71.91	28.09	2	70.36	29.64	2

dimensions of environmental attitude viz., forests, polluters and wild life is suggestive of urgent interventions and preventive measures for adolescents in the direction of forests and wild life conservation as well as controlling the pollutants degrading the environment. Kotia *et al.* (2009) investigated the relationship of knowledge about environmental issues and fear appeals with attitudes and behaviour. The study revealed a significant positive relationship of 'fear appeals with attitudes' and 'attitudes with behaviour'. However, knowledge about environmental issues was found to have a weak negative relationship with behaviour. Fishbein (1967) also expressed that attitudes are influenced by social norms. These norms together with attitudes predict behavioural intentions which in turn predict overt behaviour.

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