

Influence of gender and type of school on environmental attitude of teachers in Iran and India

^{1*}S. M. Shobeiri, ²B. Omidvar and ³N. N. Prahallada

¹University of Payam-e-Noor, Department of the Education, Tehran, Iran

²Faculty of the Environment, University of Tehran, Tehran, Iran

³Regional Institute of Education (NCERT), Mysore, India

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ABSTRACT: The present study reports on secondary school teacher's environmental attitude in India and Iran. One thousand and four teachers were selected through the stratified random sampling technique from 103 secondary schools of Mysore city (India) and Tehran city (Iran). Subjects consisted of 505 male and 499 females. They were assessed using the Taj Environmental Attitude Scale (TEAS) developed by Hasseen Taj (2001). Results revealed that there are significant differences between Indian and Iranian teachers in their level of environmental attitude. Also there are significant differences between them in environmental attitude across and within two groups with regard to their gender. Also in overall, type of school management (Government and private) is not a factor, which can affect teachers environmental attitude.

Key words: Environmental attitude, gender, school, teacher

INTRODUCTION

Today man is living in a world of crises. The social, economic, political and value crisis are some of the threats that are quite alarming. Added to this, in the recent decades, the environmental crisis has become another important factor that has made everyone in the world to think of its gravity. Ever since man has been on this earth, there has been a constant interaction between him and the natural world. In the beginning, man lived in harmony with nature, but as his numbers grew and his scientific discoveries and inventions led him on the path of industrialization, he became the predator and his increasing demands on the environment and its resources have led to its exploitation and degradation. (Mercy and Arjunan, 2005) The role of education in understanding protecting and solving problems related to environment has been realized all over the world since 1970. Education for environment might succeed if it deliberately directed towards school children. Realizing on education (1986) emphasized that "there is a paramount need to create a consciousness of the environment. It must permit all

ages of sections of the society, beginning with child (Chethana, 2003). Environmental education has developed as pragmatic educational response to the problems and concerns of environment. The concept of environmental education is still evolving and awaiting institutionalisation in the educational systems. As such there is a dire need to understand the subject in proper perspective. Environmental education has two components, viz., environment and education. Environmental education is the process of recognizing values and the clarifying concepts in order to develop the skill and attitudes necessary to understand and appreciate the interrelatedness among man, his culture and his biophysical surroundings (Council of Europe, 1976). The key to successful environmental education is the classroom teacher. If teachers do not have knowledge, skill and commitment to environmentalise their curriculum, it is unlikely that an environmentally literate student will be produced. For this, special training to prospective teachers is necessary. There is a need for a new personal and individualized behaviour based on global ethics, which can be realized only through the

*Corresponding author, Email: sm_shobeiri@pnu.ac.ir
Tel.: +9821 2244 2048; Fax: +9821 2244 2048

enlightenment and training of educational professionals. Thus there is a need for interested teachers and teacher educators (Shobeiri, 2005). By and large, research in this area indicates that although environmental education is taken up as a subject in the curriculum the subject faces certain limitation in regard to its proper implementation. The teacher should be aware of the environmental education aspects only then he can make the future generation aware of the environmental problems and their solutions. Taking into consideration this situation, the investigators felt a need to conduct a study to know about the environmental awareness of secondary school teachers in relation to residential background. Gender and type of school management so that necessary actions could be taken up to come forward with prolific result for enhancing the efficacy of the content provided to them as well as sustain their inner urge for desirable actions. .so, in this paper Influence of gender and type of school on environmental attitude of teachers in Iran and India has been performed and the state of awareness in this area is monitored. The study has been performed at the University of Mysore from 2003 till 2005.

MATERIALS AND METHODS

The present study is an attempt to examine the environmental attitude of secondary school teachers in relation to residential background, gender and type of school. This section explains the hypotheses, sampling, instrument, procedure, scoring and statistical techniques used for the study.

Following null hypotheses were formulated for testing the assumptions:

Hypothesis 1: There is no significant difference in the level of environmental attitude among secondary school teachers in Tehran and Mysore.

Hypothesis 2: There is no significant difference between male and female teachers in their level of environmental attitude.

Hypothesis 3: There is no significant difference between Government and private school teachers in their environmental attitude.

Sampling

A sample of 103 (46 Indian and 57 Iranian) secondary school was selected for the research work using the stratified random sampling technique. After selecting

schools 1004 teachers (505 male and 499 female) were selected randomly from these schools in Mysore city (India) and Tehran city (Iran). The teachers were selected both from government and private schools (Shobeiri, 2005).

Instrument

The tool used in the present investigation was the Taj Environmental Attitude Scale (TEAS) developed by Hasseen Taj (2001), Bangalore University. This tool measures environmental attitude of teachers as consisting of six areas dealt within the scale are attitude toward: (i) Population, (ii) Health and hygiene, (iii) Polluters, (iv) Wild life, (v) Forests and (vi) Environmental concerns. There are several items in each. Thus constituting the total of 61 items on the scale. For Indian teachers, the original English version and for Iranian teachers translated version in Persian was used. Initially, the Persian version was administered as a pre-test to 50 male and 50 female Iranian teachers to find out the suitability of the instruments. With a few minor revisions, the main study in Iran (510 out of 1004 teachers) was performed based on the suggestion given by the teachers on the pre-test. The split-half reliability has been found to be 0.79.

Procedure

In Iran and India, the Investigator personally visited all the selected schools and met the teachers for explaining the purpose of study and instructed them as how to respond to the questionnaire. Also, for teachers, whenever, they had doubt in understanding questions, Investigator made those questions very clear to them.

Scoring

Each item alternative is assigned a weight age ranging from 4 (strongly agree) to 1 (strong disagree) for favorable items. In case of unfavorable items the scoring is reversed, i.e. from 1 (strongly agree) to 4 (strongly disagree). The attitude score of an individual is the sum total of item scores on all the six areas. The range of scores is from 61 to 244 with the higher score indicating the more favorable attitude towards environment and vice versa (Shobeiri, 2005).

Statistical analysis

Using SPSS statistical package, (Kinnear, 2003) Two-way ANOVA (Analysis Variance) was employed to find out the difference in various aspects from the level of

environmental attitude including gender, type of school and country in each aspect.

RESULTS

In this study the level of environmental attitude has been identified on the basis of their scores on the Taj environmental attitude scale under two levels using the criteria the average of the maximum weight age and minimum weight age for the total number of items in the scale \pm SD of the scores obtained on the scale. Table 1 shows number and percentage of Indian and Iranian teachers under different level of environmental attitude. The finding from table 1 indicates that there is a significant difference ($\chi^2 = 17.56$, $p < 0.001$) in the level of teacher's environmental attitude in India and Iran. It was found that nearly 35 % of Indian teachers and 48 % of Iranian teachers exhibited average level of environmental attitude. But, the number of Indian teachers with high level of environmental attitude (62.2 %) is more than their counterparts in Iran (52.2 %). In addition, an attempt has been made to find the differences between teachers in two countries regarding to the level of environmental attitude for each of the six sub factors of the teacher environmental attitude scale, as mentioned before. Weight age for each of the six sub factors were calculated based on the mean scores obtained and then ranked from the highest percent to the lowest percent. The details are made available in Tables 2, 3 and 4. The findings of Tables 2, 3 and 4 reveal that the three top ranking aspects of environmental attitude for Indian teachers are: Population explosion, environmental concern and health and hygiene. Three top ranking aspects of environmental attitude for Iranian teachers are: population explosion, environmental concern and health and hygiene. In both of the countries population explosion and environmental concern are

two aspects of environmental attitudes, which have made teachers to be attitude about their environment. Results indicate that in both the countries the level of environmental attitude of teachers in forests sub factor is low. In addition teachers are unaware above wild life aspect of their environment. The above findings corroborated with findings of Bahrainy and Amini (2001), who found that so far these organization have lacked the ability to prepare the context for people involvement in environmental conservation.

The finding of this study reveals that there is a significant difference between two countries in terms of level of teachers environmental attitude. The study found that nearly 35 % of Indian teachers and 48 % of Iranian teachers exhibited average level of environmental attitude. But, the number of Indian teachers with high level of environmental attitude (65.20 %) is more than their counterparts in Iran (52.20 %). From the table 1 it is clear that there is a significant difference ($\chi^2 = 17.56$, $p < 0.001$) between the levels of environmental attitude of teachers in both countries. Therefore the previously formulated hypothesis is rejected. The results of the analysis of variance (ANOVA) test are presented in table 5, 6, 7 and 8. These tables presented below show F-value, significance and mean value of students environmental awareness scores based on their country as well as gender and type of school. The Tables 5 and 6 are examined and interpreted in the following way. In the overall comparison the statistical results indicate that there is a significant difference in the level of environmental attitude between male and female teachers.

Tables 5 and 6 indicate that there is a significant difference between Indian and Iranian teachers in three sub factors of environmental attitude. In sub factors like 'Wild life' ($F=86.712$, $p<0.000$), forests ($F = 14.123$, $p < 0.000$) and 'Polluters' ($F=112.428$, $p < 0.000$).

Table 1: Number and percentage of teachers falling under different levels of environmental attitude

Level of score limit environmental attitude of teachers		Average (117-170)	High (171-244)	Total
India	No.	172	322	494
	%	34.8	65.2	100.0
Iran	No	244	266	510
	%	47.8	52.2	100.0
Total	No	416	588	1004
	%	41.4	58.6	100.0

Table 2: Rank order of environmental attitude of teachers (India)

Rank	Dimensions	Mean	SD	% weight age
1	Pollution explosion	16.04	2.54	78.28
2	Environmental concern	42.83	4.96	74.65
3	Health and hygiene	15.15	2.54	73.93
4	Wild life	17.08	3.17	69.46
5	Polluters	72.90	7.79	68.41
6	Forests	13.33	2.30	65.05

In these three sub factors wild life, forests and polluters Indian teachers scored significantly higher than Iranian teachers. In the other sub factors of environmental attitude (health and hygiene, population explosion and environmental concern), no difference were found between teachers of India and Iran.

In four sub factors like Health and hygiene ($F=5.008$, $p < 0.025$), polluters ($F=29.044$, $p < 0.000$), population explosion ($F=39.399$, $p < 0.000$) and environmental concern ($F = 41.269$, $p < 0.000$), there is a significant difference between male and female teachers.

In four sub factors like health and hygiene, polluters, population explosion and environmental concern female teachers scored significantly higher than male teachers. However, in other sub factors of environmental attitude both male and female teachers scored almost equally.

The significant interaction effects between countries and gender reveal that in three sub factors of environmental attitude namely, wild life ($F=9.999$, $p < 0.002$), forests ($F = 4.344$, $p < 0.037$) and 'Population explosion' ($F=4.257$, $p < 0.039$). There is a significant difference between teachers in both countries. In India female teachers have more attitudes on wild life, forests and population explosion. Results of the interaction effect for other sub factors of environmental attitude were not significant.

The results of this study indicate that there is a significant difference between male and female teachers with regard to their level of environmental attitude. This finding is in agreement with the findings of Rou, Sabhlok (1995) and Shabina (1999), who reported that there is significant difference between male and female teachers in their level of environmental attitude. The female teachers have better attitude about their environment. However the study conducted by Shaila (2003) indicates that the gender has no effect on environmental attitude. The present study reveals that in four sub factors like health and hygiene ($F = 5.008$, p

< 0.025), polluters ($F = 29.044$, $p < 0.000$), population explosion ($F = 39.399$, $p < 0.000$) and environmental concern ($F = 41.269$, $p < 0.000$), there is a significant difference between male and female teachers. In four sub factors namely health and hygiene, pollutes, population explosion and environmental concern female teachers scored significantly higher than male teachers. The present study reveals that in four sub factors like health and hygiene ($F = 5.008$, $p < 0.025$), polluters ($F = 29.044$, $p < 0.000$), population explosion ($F = 39.399$, $p < 0.000$) and environmental concern ($F = 41.269$, $p < 0.000$), there is a significant difference between male and female teachers. In four sub factors namely health and hygiene, pollutes, population explosion and environmental concern female teachers scored significantly higher than male teachers.

Table 4: Rank order of environmental attitude of teachers (overall)

Rank	Dimensions	Mean	SD	% weight age
1	Pollution explosion	15.96	2.50	77.87
2	Environmental concern	42.81	4.92	74.61
3	Health and hygiene	15.13	2.02	73.84
4	Polluters	70.70	6.61	66.35
5	Wild life	16.22	2.95	65.94
6	Forests	13.07	2.23	63.76

Table 5: Mean scores for various dimensions of teachers environmental attitude with reference to country and gender

Environmental attitude of teachers	Gender	India	Iran	Overall
Health and hygiene	Male	15.06	14.91	14.98
	Female	15.25	15.31	15.28
	Overall	15.15	15.11	15.13
Wild life	Male	16.70	15.55	16.12
	Female	17.48	15.16	16.29
	Overall	17.08	15.35	16.20
Forests	Male	13.15	12.92	13.03
	Female	13.51	12.69	13.09
	Overall	13.33	12.80	13.06
Polluters	Male	71.99	67.16	69.55
	Female	73.83	69.82	71.78
	Overall	72.90	68.49	70.66
Population explosion	Male	15.40	15.54	15.47
	Female	16.69	16.19	16.43
	Overall	16.04	15.87	15.95
Environmental concern	Male	41.82	41.85	41.84
	Female	43.86	43.72	43.79
	Overall	42.83	42.78	42.81
Total	Male	174.06	167.89	170.95
	Female	180.34	172.82	176.50
	Overall	177.17	170.35	173.71

Table 3: Rank order of environmental attitude of teachers (Iran)

Rank	Dimensions	Mean	SD	% weight age
1	Pollution explosion	15.87	2.45	77.45
2	Environmental concern	42.78	4.88	74.56
3	Health and hygiene	15.11	1.50	73.74
4	Polluters	68.49	5.42	64.28
5	Forests	12.80	2.15	62.46
6	Wild life	15.35	2.73	62.42

Table 6: Result of two-way ANOVA for mean teachers environmental attitude score in various areas with reference to country and gender

Environmental attitude of teachers	Source of variation	F-value	Significance
Health and hygiene	Between countries (A)	0.130	0.719
	Between gender (B)	5.008	0.025
	Interaction (A x B)	0.719	0.397
Wild life	Between countries (A)	86.712	0.000
	Between gender (B)	1.063	0.303
	Interaction (A x B)	9.999	0.002
Forests	Between countries (A)	14.123	0.000
	Between gender (B)	0.211	0.646
	Interaction (A x B)	4.344	0.037
Polluters	Between countries (A)	112.428	0.000
	Between gender (B)	29.044	0.000
	Interaction (A x B)	0.966	0.326
Population explosion	Between countries (A)	1.321	0.251
	Between gender (B)	39.399	0.000
	Interaction (A x B)	4.257	0.039
Environmental concern	Between countries (A)	0.036	0.849
	Between gender (B)	41.269	0.000
	Interaction (A x B)	0.071	0.790
Total	Between countries (A)	52.655	0.000
	Between gender (B)	35.211	0.000
	Interaction (A x B)	0.518	0.472

A (1.1000), B (1.1000) and AxB (1.1000)

However, in other subfactors of environmental attitude both male and female teachers scored almost equally. The table 6 indicates that in the overall teachers environmental attitude, there is a significant difference with respect to male and female teachers ($F = 32.211$, $p < 0.000$). Therefore the previously formulated hypothesis is rejected. The tables 7 and 8 are examined and interpreted in the following way. In the overall comparison the statistical results indicate that there is no significant difference in the level of environmental attitude between government and private school teachers. Comparison of environmental attitude of teachers with respect to countries: Tables 7 and 8 indicate that there is a significant difference between two countries in three subfactors of environmental attitude. In three subfactors namely 'Wild life' ($F=83.607$, $p<0.000$), forests ($F= 14.440$, $p < 0.000$) and polluters ($F=102.961$, $p < 0.000$), Indian teachers scored significantly higher than Iranian teachers. Comparison of environmental attitude of teachers with respect to schools: There is a significant difference between government and private schools only on one sub factor of teachers environmental attitude, namely population explosion ($F=1.106$, $p < 0.019$). In private schools, teachers scored significantly higher attitude on

Table 7: Mean scores for various dimensions of teachers environmental attitude with reference to country and type of school

Environmental attitude of teachers	Type of school	India	Iran	Overall
Health and hygiene	Government	14.92	15.18	15.06
	Private	15.33	15.04	15.19
	Overall	15.15	15.11	15.13
Wild life	Government	16.92	15.62	16.21
	Private	17.20	15.07	16.20
	Overall	17.08	15.35	16.20
Forests	Government	13.42	12.85	13.10
	Private	13.26	12.76	13.03
	Overall	13.33	12.80	13.06
Polluters	Government	71.83	69.01	70.27
	Private	73.70	67.95	71.01
	Overall	72.90	68.49	70.66
Population explosion	Government	15.76	15.76	15.76
	Private	16.24	15.98	16.12
	Overall	16.04	15.87	15.95
Environmental concern	Government	42.23	42.98	42.64
	Private	43.28	42.58	42.95
	Overall	42.83	42.78	42.81
Total	Government	174.82	171.57	173.03
	Private	178.93	169.08	174.31
	Overall	177.17	170.35	173.71

population explosion compared with government school teachers. Interaction effects: The significant interaction effect between country and type of school reveals that in four sub factors of teachers environmental attitude namely, health and hygiene, wild life, polluters and environmental concern there is a significant difference between teachers in both countries. In India private school teachers scored significantly higher on health and hygiene ($F = 4.236$, $p < 0.040$), wild life ($F=4.862$, $p<0.028$), polluters ($F=12.009$, $p < 0.001$) and environmental concern ($F=5.499$, $p<0.019$) than their counterparts in Iran.

This study indicates that in the overall comparison there is no influence of the type of school (government and private) on level of teacher's environmental attitude. This finding is in agreement with findings of Dinakara (2000) and Shaila (2003) who reported that there is no significant difference between teachers of government and private schools in their level of environmental attitude. However the study conducted by Rou (1995), indicate that the type of school management has influence on environmental attitude. When the government school teachers were compared with the private school teachers, they were found to differ significantly, in favor of the former group.

Table 8: Result of two-way ANOVA for mean teachers environmental attitude score in various areas with reference to country and type of school

Environmental attitude of teachers	Source of variation	F-value	Significance
Health and hygiene	Between countries (A)	0.021	0.884
	Between schools (B)	0.988	0.321
	Interaction (A x B)	4.236	0.040
Wild life	Between countries (A)	83.607	0.000
	Between schools (B)	0.551	0.458
	Interaction (A x B)	4.862	0.028
Forests	Between countries (A)	14.440	0.000
	Between schools (B)	0.726	0.394
	Interaction (A x B)	0.053	0.818
Polluters	Between countries (A)	102.961	0.000
	Between schools (B)	0.933	0.334
	Interaction (A x B)	12.009	0.001
Population explosion	Between countries (A)	0.712	0.399
	Between schools (B)	4.761	0.029
	Interaction (A x B)	0.694	0.405
Environmental concern	Between countries (A)	0.006	0.937
	Between schools (B)	1.106	0.293
	Interaction (A x B)	5.499	0.019
Total	Between countries (A)	46.570	0.000
	Between schools (B)	0.717	0.397
	Interaction (A x B)	11.792	0.001

dfs A (1.1000), B (1.1000) and AxB (1.1000)

DISCUSSION AND CONCLUSION

The present study reveals that there is a significant difference between government and private school teachers. Only on one sub factor of teachers environmental attitude namely, population explosion ($F = 1.106, p < 0.019$). In private schools, teachers scored significantly higher attitude on population explosion compared with government school teachers. The Table 8 indicates that in the overall comparison there is no significant difference between government and private school teachers ($F = 0.717, p < 0.397$). Therefore it could be concluded that the type of school is not significantly related to teacher's environmental attitude. Therefore the previously formulated hypothesis is accepted.

In this study the hypothesis No.1 to 3 pertains to teachers environmental attitude. Each of three hypotheses were analyzed, interpreted and compared with other studies and Conclusions have been drawn. The following are the summary of the findings relation to the three hypotheses:

Hypothesis 1: The study indicates a significant difference in the level of environmental attitude among secondary school teachers in India and Iran. The number of Indian teachers with high level of environmental attitude (62.2 %) is more than their counterparts in Iran (52.2 %). More than 58 % of

teachers in both the countries informed that their level of environmental attitude is high. 35 % of Indian teachers and 48 % of Iranian teachers showed an average level of environmental attitude.

Hypothesis 2: Gender has influence on environmental attitude of teachers. In both the countries female teachers shown better attitude than males towards environment.

Hypothesis 3: In both the countries type of school management has no influence on environmental attitude of teachers.

Teachers can play an important role in educating their students about environment which is possible only when the teachers themselves have the necessary level of environmental attitude for this purpose, the government should introduce and enrich environmental education programmers in both in service and preserves teacher education programmers.

REFERENCES

- Bahrainy, H. and Amini, F., (2001). The role of environmental non-governmental organizations in citizens participation for environmental conservation in Iran. *J. Environ. Stud.*, Report series of the environment University of Tehran. **26** (26), 4-12.
- Chethana, S., (2003). Effect of background variables on the environmental attitude of 9th. standard students. M. A. Dissertation, Department of Studies and Research Education, Karnataka State Open University, Mysore. 131-153.
- Dinakara, S. A., (2000). Environmental awareness, environmental attitude and teaching practices of elementary school teachers of Mysore district in environmental related topics. M. A. Dissertation, Department of Education, Mysore University. 121-139.
- Kinnear, P. R., (2003). *SPSS for Windows*, Psychology Press, U.S.A. 329-363.
- Mercy, A. and Arjunan, N. K., (2005). Environmental attitude and pro-environmental behaviour among secondary school children. *EDUTRACKS*, A. Monthly Scanner of Trends in Education. **4** (6), 32-34.
- Sabhlok, R., (1995). A study of the awareness and attitude of teachers and students of high schools toward environmental education in Jabalpur district. *Indian Edu. Abstr.*, **1** (24), 62-63.
- Shabina Jinarajan, A. K., (1999). A study of environmental awareness and attitude towards environmental education of student teachers of Bangalore city. M.Phil. Dissertation, Department of Education, Bangalore University. 7-15.
- Shaila, V., (2003). Effect of background variables on the environmental attitude of secondary school teachers. M.Ed. Dissertation, Department of Education, Bangalore University. 124-145.
- Shobeiri, S. M., (2005). A comparative study of environmental awareness and attitude of teachers and students of secondary schools in India and Iran, PhD thesis, Department of Education, University of Mysore. 165-181.

AUTHOR(S) BIOSKETCHES

Shobeiri, S. M., Ph.D., Lecturer of education, University of Payam-e-Noor, Tehran, Iran.

Email: sm_shobeiri@pnu.ac.ir

Omidvar, B., Ph.D., Assistant professor, Department of Environment, University of Tehran, Tehran, Iran, P. O. Box: 14155-6135, Email: bomidvar@ut.ac.ir

Prahalada, N. N., Ph.D., Professor in education, Regional Institute of Education (NCERT), Mysore-570 006, India. Email: nnprahalada@yahoo.com

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