



A Correlational Study of Environmental Awareness Ability and Knowledge of Communicable Diseases Among Higher Secondary Students

KEYWORDS

Environmental awareness ability, Knowledge of communicable diseases, and Higher secondary students.

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ABSTRACT *In the present study the researcher has attempted to study the relationship between Environmental awareness ability and knowledge of communicable diseases among higher secondary students. The investigation was carried out on 800 higher secondary students using the Praveen Kumar Jha's Environmental awareness ability scale. The tool knowledge of communicable diseases was constructed and validated by the investigator. Descriptive Statistics, Differential Analysis Correlation and Regression Analysis were used to analyse the data. The findings of the study on environmental awareness ability and knowledge of communicable diseases shows that*

INTRODUCTION

The survival of the human beings mainly depend upon their harmony with nature. There is a close interaction between these two, i.e., man and the nature. His privilege to use the earth's resources can be compensated by his responsibility to cherish, to protect and to use them carefully. If man degrades the nature; nature is not going to help and the disaster is inevitable. Man exploits and uses the resources from the earth for his well being. The resource utilization pollutes the environment in many ways. Therefore the understanding of such impact of resource utilization against the environment is essential. We should protect the natural gifts like soil, water, air, forest and become the guardian of the earth.

Environmental awareness is the ability to understand the problems of environment through the relevant experiences and the assistance extended to the society and its individuals to solve these environmental problems.

Communicable diseases may be caused by numerous different micro-organisms such as bacteria, viruses, fungi, parasites and prions. These diseases can be common occurrences in school-age children due to the close proximity of children and adults in schools and childcare centers. The prevention and control of the spread of Communicable diseases is a particular concern in these settings and should be a priority.

Exposure to a variety of Communicable diseases in a school population is inevitable. Most cases of illness are sporadic, but occasionally an outbreak of a particular illness can occur in a school. So the awareness towards communicable diseases is a must in today's society.

OBJECTIVES OF THE STUDY

1. To find out the level of higher secondary students' Environmental awareness ability.
2. To find out the level of higher secondary students' knowledge of Communicable diseases.
3. To find out whether there is any significant differences in Environmental awareness ability of higher secondary students with respect to the following background variables:

- a) Gender [Male / Female]
 - b) Locality of school [Rural / Urban]
 - c) Subject Group [Arts / Science]
 - d) Parental Education [Illiterate / School education / College education]
4. To find out whether there is any significant difference in knowledge of Communicable diseases of higher secondary students with respect to the following background variables:
 - a) Gender [Male / Female]
 - b) Locality of school [Rural / Urban]
 - c) Subject Group [Arts / Science]
 - d) Parental Education [Illiterate / School education / College education]
 5. To find out whether there is any significant relationship between knowledge of Communicable diseases and Environmental awareness ability of higher secondary students.
 6. To find out whether there is any significant linear effect on knowledge of Communicable diseases and Environmental awareness ability.

HYPOTHESES OF THE STUDY

1. The level of Environmental Awareness ability among higher secondary students is unfavourable.
2. The level of Knowledge of Communicable Diseases among higher secondary students is low.
3. There is no significant difference in Environmental Awareness Ability of Higher secondary students with respect to the following background variables:
 - a) Gender [Male / Female]
 - b) Locality of school [Rural / Urban]
 - c) Subject Group [Arts / Science]
 - d) Parental Education [Illiterate / School education / College education]
4. There is no significant difference in knowledge of Communicable Diseases of higher secondary students with respect to the following background variables:
 - a) Gender [Male / Female]
 - b) Locality of school [Rural / Urban]
 - c) Subject Group [Arts / Science]
 - d) Parental Education [Illiterate / School education / College education]
5. There is no significant relationship between knowledge

of Communicable Diseases and Environmental Awareness ability of higher secondary students.

- There is no significant linear effect on knowledge of Communicable Diseases on Environmental Awareness ability.

METHOD OF STUDY

Normative survey method has been carried out in the present investigation.

SAMPLE OF THE STUDY

The sample consists of 800 higher secondary students of Ramanathapuram district where random sampling technique, was used in the selection of the sample.

TOOLS USED FOR THE STUDY

Environmental Awareness ability scale

It was constructed and validated by **Praveen Kumar Jha (1971)** which consists of seventy one statements, based on the five dimensions such as Causes of Pollution, Conservation of soil, Forest, air, etc., Energy conservation, Conservation of human health, Conservation of wild-life and animal husbandry.

Knowledge of Communicable Diseases scale

Knowledge of Communicable Diseases Test constructed and validated in English & translated into Tamil version by the investigator with the help of Guide (2013).

STATISTICAL TECHNIQUES USED

The following statistical techniques were used to analyse the data collected from the sample.

- Descriptive Statistics – Mean and Standard Deviation
- Differential Analysis – ‘t’-Test, ‘F’-Test
- Correlation Analysis – coefficient of correlation ‘r’ and
- Regression Analysis

ANALYSIS AND INTERPRETATION OF THE DATA

null HYPOTHESIS: 1

The level of Environmental awareness ability among higher secondary students is low.

Table 1.0

Mean and Standard Deviation of Environmental Awareness Ability

Variable	N	Mean	S.D
Environmental awareness ability	800	32.65	5.33

Interpretation

The null hypothesis is analyzed in the light of the mean scores for the total group. The mean score for the present study is found to be 32.65 which laid in between the scores of 16 and 36. Therefore, it can be concluded that the higher secondary students have average level of Environmental awareness ability.

ANALYSIS OF ENVIRONMENTAL AWARENESS ABILITY OF THE BACKGROUND VARIABLES

It may be remembered that the present study attempts to find the levels of the Environmental awareness ability of higher secondary students. The data regarding background variables namely gender, locality of school, type of subject and Parental education have been collected from higher secondary students.

Table 2

Mean Scores of Environmental Awareness Ability of higher secondary students belonging to different background variables

Sl. No	Background variables	Category	N	Mean	S.D
1.	Gender	Male	323	32.26	5.22
		Female	477	32.91	5.40
2.	Locality of school	Rural	315	32.06	5.37
		Urban	485	33.03	5.28
3.	Subject groups	Arts	330	33.32	5.08
		Science	470	32.18	5.46
4.	Parental education	Illiterate	226	32.86	4.85
		School education	502	32.76	5.41
		College education	72	31.23	6.07

It is found from Table 2.0 that mean scores of Environmental Awareness ability for different background variables are found to be in between 16 and 36. Thus, higher secondary students with different background variables are having average level of Environmental Awareness Ability.

NULL HYPOTHESIS: 2

There is no significant difference between the male and female higher secondary students in respect of their Environmental awareness ability.

Table 3

Mean Difference between male and female higher secondary Student's Environmental Awareness Ability

Variable	Group	N	Mean	S. D	't' value	Level of significance at 0.05 level
Environmental awareness ability	Male	323	32.26	5.22	1.72	Not Significant
	Female	477	32.91	5.40		

Interpretation:

The 't' value is found to be 1.72 and it is not significant. Hence, the null hypothesis No. 2 is accepted. It is concluded that there is no significant difference between male and female higher secondary students in respect of their Environmental Awareness Ability.

NULL HYPOTHESIS: 3

There is no significant difference between the rural and urban higher secondary students in respect of their Environmental awareness ability.

Table 4

Mean Difference between rural and urban higher secondary Student's Environmental Awareness Ability

Variable	Group	N	Mean	S. D	't' value	Level of significance at 0.05 level
Environmental awareness ability	Rural	315	32.06	5.37	2.62	Significant
	Urban	485	33.03	5.28		

Interpretation

The 't' value is found to be 2.62 and it is significant. Hence, the null hypothesis is rejected. It is concluded that there is significant difference between rural and urban higher secondary students in respect of their Environmen-

tal awareness ability.

NULL HYPOTHESIS: 4

There is no significant difference between the arts and science group higher secondary students in respect of their Environmental awareness ability.

Table 5
Mean Difference between arts and science group higher secondary Student's Environmental Awareness Ability

Variable	Group	N	Mean	S. D	't' value	Level of significance at 0.05 level
Environmental Awareness Ability	Arts	330	33.32	5.08	3.02	Significant
	Science	470	32.18	5.46		

Interpretation

The 't' value is found to be 3.02 and it is significant. Hence the null hypothesis is rejected. It is concluded that there is significant difference between arts and science group higher secondary students in respect of their Environmental awareness ability.

NULL HYPOTHESIS: 5

There is no significant difference among the different parental educational qualifications of higher secondary students in respect of their Environmental awareness ability.

Table 6
ANOVA for the higher secondary student's Environmental Awareness Ability with respect to different parental education

Variable	Source of variance	Sum of squares	df	Mean square	'F' value	Level of significance at 0.05 level
Environmental awareness ability	Between Groups	160.564	2	318.071	1.94	Not Significant
	Within groups	130431.796	797	163.653		
	Total	1311067.939	799			

Interpretation

The above table indicates that the 'F' value (1.94) of Environmental awareness ability is not significant. The null hypothesis is accepted. There is no significant difference among the different parental educational qualifications of higher secondary students in respect of their Environmental awareness ability.

null HYPOTHESIS: 6

The level of knowledge of Communicable diseases among higher secondary students is low.

Table 7.0
Mean and Standard Deviation of knowledge of Communicable diseases

Variable	N	Mean	S.D
Knowledge of Communicable Diseases	800	25.42	4.20

Interpretation

The null hypothesis is analyzed in the light of the mean scores for the total group. The means score for the present

study is found to be 25.42 which is laid in between the scores of 21.22 to 29.62. Therefore, it can be concluded that the higher secondary students have average level of knowledge of Communicable diseases.

ANALYSIS OF KNOWLEDGE OF COMMUNICABLE DISEASES OF THE BACKGROUND VARIABLES

It may be remembered that the present study attempts to find out the levels of the knowledge of Communicable Diseases of higher secondary students. The data regarding background variables namely gender, locality of school, type of subject and parental educational status have been collected from higher secondary students. The mean, S.D and N values of the background variables are given in the following Table 8.

Table 8
Mean Scores of knowledge of Communicable diseases of higher secondary students belonging to different background variables

Sl. No	Background variables	Category	N	Mean	S.D
1.	Gender	Male	323	25.08	4.17
		Female	477	25.65	4.20
2.	Locality of school	Rural	315	24.99	4.20
		Urban	485	25.70	4.17
3.	Subject groups	Arts	330	25.50	4.13
		Science	470	25.37	4.24
4.	Parental education	Illiterate	226	25.51	4.05
		School education	502	25.32	4.25
		College education	72	25.88	4.28

It is found from Table 8.0 that the mean scores of knowledge of Communicable diseases for different background variables are found to be in between 21.22 to 29.62. Thus, higher secondary students with different background variables are having average level of knowledge of Communicable diseases.

NULL HYPOTHESIS: 7

There is no significant difference between the male and female higher secondary students in respect of their knowledge of Communicable diseases.

Table 9
Mean Difference between male and female higher secondary Student's knowledge of Communicable diseases

Variable	Group	N	Mean	S. D	't' value	Level of significance at 0.05 level
Knowledge of Communicable Diseases	Male	323	25.08	4.17	1.90	Not Significant
	Female	477	25.65	4.20		

Interpretation

The 't' value is found to be 1.90 and it is not significant. Hence the null hypothesis is accepted. It is concluded that there is no significant difference between male and female higher secondary students in respect of their knowledge of Communicable Diseases.

NULL HYPOTHESIS: 8

There is no significant difference between the rural and urban higher secondary students in respect of their knowl-

edge of Communicable Diseases.

Table 10.0
Mean Difference between rural and urban higher secondary Student's knowledge of Communicable Diseases

Variable	Group	N	Mean	S. D	't' value	Level of significance at 0.05 level
Knowledge of Communicable Diseases	Rural	315	24.99	4.20	2.34	Significant
	Urban	485	25.70	4.17		

Interpretation

The 't' value is found to be 2.34 and it is significant. Hence the null hypothesis is rejected. It is concluded that there is significant difference between rural and urban higher secondary students in respect of their knowledge of Communicable diseases.

NULL HYPOTHESIS: 9

There is no significant difference between the arts and science group higher secondary students in respect of their knowledge of Communicable Diseases.

Table 11
Mean Difference between arts and science group higher secondary Student's knowledge of Communicable Diseases

Variable	Group	N	Mean	S. D	't' value	Level of significance at 0.05 level
Knowledge of Communicable diseases	Arts	330	25.50	4.13	0.46	Not Significant
	Science	470	25.37	4.24		

Interpretation:

The 't' value is found to be 0.46 and it is not significant. Hence the null hypothesis is accepted. It is concluded that there is no significant difference between arts and science group higher secondary students in respect of their knowledge of Communicable Diseases.

NULL HYPOTHESIS: 10

There is no significant difference among the different parental educational qualifications of higher secondary students in respect of their knowledge of Communicable diseases.

Table 12
ANOVA for the higher secondary student's knowledge of Communicable diseases with respect to different parental educational qualifications

Variable	Source of variance	Sum of squares	df	Mean square	'F' value	Level of significance at 0.05 level
Communicable Disease Knowledge	Between Groups	22.503	2	11.251	0.64	Not Significant
	Within groups	14073.292	797	17.658		
	Total	14095.795	799			

Interpretation

The above table indicates that the 'F' value (0.64) of knowledge of Communicable diseases is not significant. The null hypothesis is accepted. There is no significant dif-

ference among the different parental education of higher secondary students in respect of their knowledge of Communicable Diseases.

NULL HYPOTHESIS: 11

There is no significant relationship between the knowledge of Communicable diseases and Environmental Awareness ability of higher secondary students.

Table 13.0
Relationship between knowledge of Communicable diseases and Environmental Awareness ability

Knowledge of Communicable Diseases and Environmental Awareness Ability	Correlation value 'r'	Level of significance at 0.05 level
	0.50	Significant

Interpretation

The 'r' value is found to be 0.50 and it is positive and significant. Hence, the null hypothesis is rejected. It is concluded that there is significant relationship between the knowledge of Communicable diseases and Environmental awareness ability of higher secondary students.

NULL HYPOTHESIS: 12

There is no significant linear effect on knowledge of Communicable Diseases on Environmental Awareness ability.

Table 14.0
Linear influence of Environmental Awareness Ability on the knowledge of Communicable diseases

Variable	R Square value	Unstandardized Coefficients		Standardized Coefficients	't'	Level of significant at 0.05 level
		B	Std. Error			
Environmental awareness ability	0.209	0.393	0.024	0.499	16.286	S

Interpretation

The R² value is 0.209, for the entire sample, which denotes that 20.9 %, of the variance of the knowledge of Communicable diseases of the higher secondary students are contributed by the Environmental awareness ability. The remaining 79.1% of the variance would have been influenced by other factors which have not been studied in the present investigation. The 't' value reveals that the Environmental Awareness ability has linear influence on the Knowledge of Communicable diseases of the higher secondary students.

FINDINGS

1. **Environmental awareness ability of higher secondary students is average.**
2. **The female students have high level of Environmental awareness ability than the male students.**
3. **The urban higher secondary students have high level of Environmental awareness ability than the rural higher secondary students.**
4. **The Arts subject higher secondary have high level of Environmental awareness ability than the science subject students.**
5. **The students whose parents are having college education have high level of Environmental awareness ability than the remaining categories of students.**
6. **There is no significant difference between male and**

- female higher secondary students in respect of their level of Environmental awareness ability.
7. There is significant difference between rural and urban higher secondary students in respect of their level of Environmental awareness ability.
 8. There is significant difference between arts and science group higher secondary students in respect of their level of Environmental awareness ability.
 9. There is no significant difference among the different parental education of higher secondary students in respect of their level of Environmental awareness ability.
 10. Knowledge of Communicable diseases among higher secondary students is average.
 11. The female students have high level of knowledge of Communicable diseases than the male students.
 12. The urban higher secondary students have high level knowledge of Communicable diseases than the rural higher secondary students.
 13. The Arts & Science subject higher secondary students have more or less same level knowledge of Communicable diseases.
 14. The students whose parents are having college education have high level knowledge of Communicable diseases than the remaining categories of students.
 15. The students whose parents are having school education have high level knowledge of Communicable diseases than the remaining categories of students.
 16. There is no significant difference between male and female higher secondary students in respect of their level knowledge of Communicable diseases.
 17. There is significant difference between rural and urban higher secondary students in respect of their level knowledge of Communicable diseases.
 18. There is no significant difference between arts and science group higher secondary students in respect of their level knowledge of Communicable diseases.
 19. There is no significant difference among the different parental education of higher secondary students in respect of their level knowledge of Communicable diseases.
 20. There is significant relationship between the knowledge of Communicable diseases and Environmental awareness ability of higher secondary students.
 21. There is significant linear influence of Environmental awareness ability on the knowledge of Communicable diseases the higher secondary students.

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