

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

This Chapter presents data analysis and Interpretation. This has presented the Statistical techniques used in data analysis and interpretation.

4.2 DATA ANALYSIS AND INTERPRETATION

To realize the first objective of the study i.e. ‘to study the environmental awareness among higher secondary school students’ the collected data analyzed quantitatively using % analysis.

First statement wise score is given to each student according to the category they have chosen. Then total score for each student was obtained by adding score on each statement. The total score of the students were organize in ascending order. Then the score have been divided into three categories, namely Least Favourable (30-60), Moderately Favourable (61-120), and Highly Favourable (121-150), students who fall under each category were counted and % analysis was done of that frequency.

The analyzed data has been presented through Table-1

Table- 1 Favourableness of Attitude

Least Favourable (30-60)		Moderately Favourable (61-120)		Highly Favourable (121-150)	
No. of Students	Percentage (%)	No. of Students	Percentage (%)	No. of Students	Percentage (%)
2	0.33	362	60.33	236	39.34

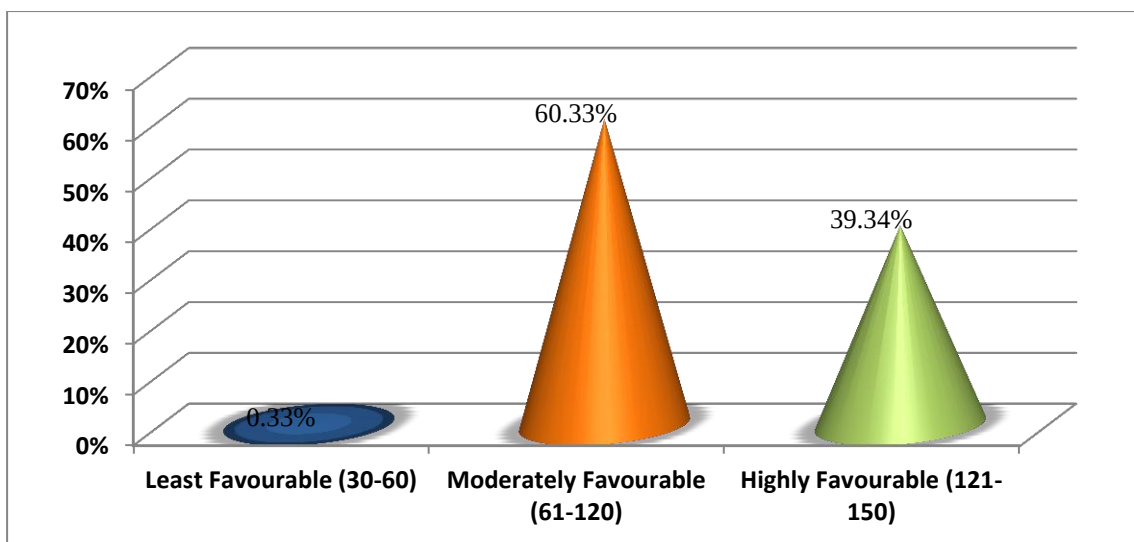


Chart: 1 Favourableness of Attitude

As a whole 0.33 % of higher secondary students have least favourable attitude towards environment whereas 60.33 % of higher secondary students have moderately favourable attitude and 39.34 % of higher secondary students have highly favourable attitude towards environment

Table- 2 Favourableness of Attitude School Wise

School	Least Favourable (30-60)		Moderately Favourable (61-120)		Highly Favourable (121-150)	
	No. of Students	Percentage (%)	No. of Students	Percentage (%)	No. of Students	Percentage (%)
T V Patel	2	1.57	97	76.38	28	22.05
Pioneer	-	-	95	79.17	25	20.83
Bavis Gam	-	-	36	46.15	42	53.85
Sharda	-	-	57	55.88	45	44.12
R P T P	-	-	77	44.51	96	55.49

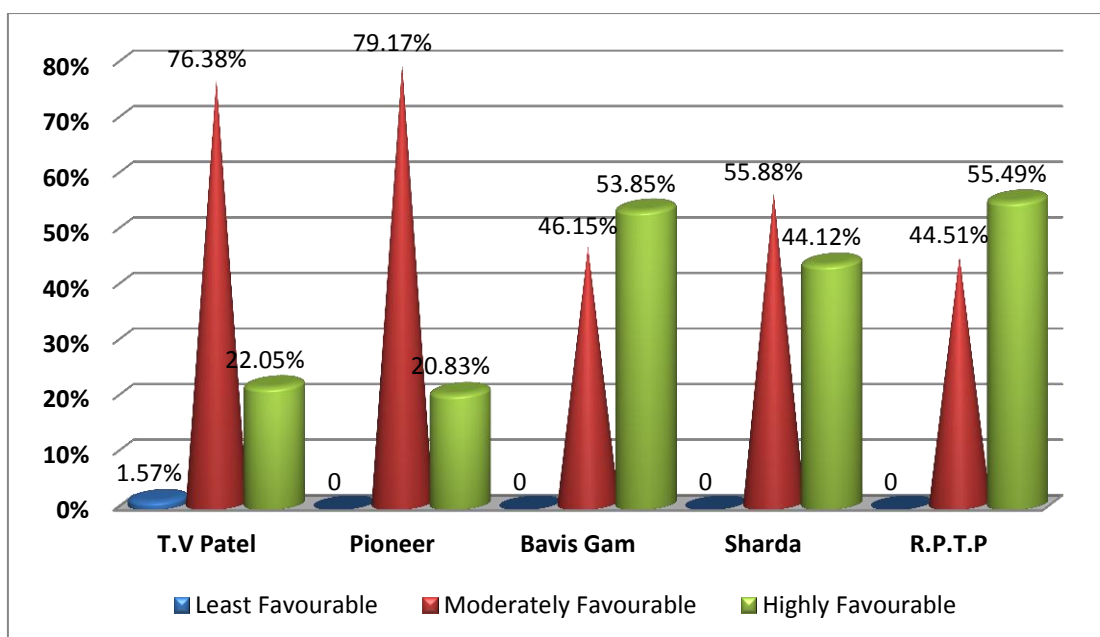


Chart: 2 Favourableness of Attitude- School wise

From the analysis of collected data, it is revealed that 1.57 % of T.V Patel School students have Least Favourable attitude where as 76.38 % of students have Moderately Favourable attitude and 22.05 % have Highly favourable attitude. 79.17% of the Pioneer high school students have Moderately Favourable attitude and 20.83% have Highly Favourable Attitude. 46.15% of the Bavis gam vidyalaya students have Moderately Favourable attitude and 53.85% have Highly Favourable Attitude. 55.88% of the Sharda high school students have Moderately Favourable attitude and 44.12% have Highly Favourable attitude. And 44.51% of the R.P.T.P high school students have Moderately Favourable attitude and 55.49% have Highly Favourable attitude

To realize the second objective i.e. ‘to study the environmental awareness among higher secondary school students gender-wise’ researcher has found out environmental awareness Attitude Score and Achievement Score of male and female students, and t value was computed. The analyzed data have been presented below.

Table-3(a) Mean, SD, SEm, t-value, Gender wise, Attitude Scale

Gender	No. of Students	Mean	SD	SEm	df	t-value
Male	427	115.82	15.53	0.75	598	0.62
Female	173	116.60	13.43	1.02		

Here calculated value of t is 0.62 which is less than table t value of 2.58 and 1.96 at 0.01 and 0.05 level respectively for 598 degree of freedom (df). Therefore null hypothesis is not rejected. It means there is no significant difference between the Mean Attitude Score of higher secondary school students gender-wise.

Table-3(b) Mean, SD, SEm, t-value, Gender wise, Achievement Test

Gender	No. of Students	Mean	SD	SEm	df	t-value
Male	427	15.12	4	0.19	598	3.54
Female	173	16.29	3.55	0.27		

Here calculated value of t is 3.54 greater than table t value of 2.58 and 1.96 at 0.01 and 0.05 levels respectively for 598 degree of freedom (df). Therefore null hypothesis is rejected. It means there is significant difference between the Mean achievement Score of higher secondary school students gender-wise.

To realize the third objectives i.e. ‘to study the environmental awareness among higher secondary school students stream-wise’ researcher has formulated null hypothesis ‘there is no significant difference between the Mean Attitude Score of higher secondary school students stream-wise.’

**Table-4(a) Mean, SD, SEm, t-value, Stream wise (Arts& Science)
Attitude Scale**

Stream	No. of Students	Mean	SD	SEm	df	t-value
Arts	209	107.25	14.84	1.03	424	12.2
Science	217	123.11	11.66	0.79		

The Computed t value 12.2 is greater than the table t value of 2.59 and 1.97 at 0.01 and 0.05 levels for 424 degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Attitude Score of higher secondary school students of arts stream and science stream, in favour of science stream.

**Table-4(b) Mean, SD, SEm, t-value, Stream wise (Arts& Science)
Achievement Test**

Stream	No. of Students	Mean	SD	SEm	df	t-value
Arts	209	13.50	3.72	0.26	424	28.73
Science	217	17.12	3.58	0.24		

The Computed t value 28.73 is greater than the table t value of 2.59 and 1.97 at 0.01 and 0.05 level for 424 degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Achievement Score of higher secondary school students of arts stream and science stream, in favour of science stream.

Table-5(a) Mean, SD, SEm, t-value, Stream wise (Arts & Commerce)
Attitude Scale

Stream	No. of Students	Mean	SD	SEm	df	t-value
Arts	209	107.25	14.84	1.03	381	7.26
Commerce	174	117.78	13.43	1.02		

The Computed t value 7.26 is greater than the table t value of 2.59 and 1.97 at 0.01 and 0.05 level for 381 degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Attitude Score of higher secondary school students of arts stream and commerce Stream, in favour of commerce stream.

Table-5 (b) Mean, SD, SEm, t-value, Stream wise (Arts & Commerce)
Achievement Test

Stream	No. of Students	Mean	SD	SEm	df	t-value
Arts	209	13.50	3.72	0.26	381	6.08
Commerce	174	15.75	3.48	0.26		

The Computed t value 6.08 is greater than the table t value of 2.59 and 1.97 at 0.01 and 0.05 level for 381 degree of freedom. Therefore Null Hypothesis is rejected. It means there is significant difference between the mean achievement score of higher secondary school students of arts stream and commerce stream, in favour of commerce stream.

Table-6 (a) Mean, SD, SEm, t-value, Stream wise (Commerce & Science)
Attitude Scale

Stream	No. of Students	Mean	SD	SEm	df	t-value
Commerce	174	117.78	13.43	1.02	389	4.13
Science	217	123.11	11.66	0.79		

The Computed t value 4.13 is greater than the table t value of 2.59 and 1.97 at 0.01 and 0.05 level for 381 degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Attitude Score of higher secondary school students of commerce stream and science stream, in favour of science stream.

Table-6 (b) Mean, SD, SEm, t-value, Stream wise (Commerce & Science)
Achievement Test

Stream	No. of Students	Mean	SD	SEm	df	t-value
Commerce	174	15.75	3.48	0.26	389	3.91
Science	217	17.12	3.58	0.24		

The Computed t value 3.91 is greater than the table t value of 2.59 and 1.97 at 0.01 and 0.05 level for 381 degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Achievement Score of higher secondary school students of commerce stream and science stream, in favour of science stream.

To realize the Fourth objectives i.e. ‘to study the environmental awareness among higher secondary school students school-wise’ researcher has formulated null

hypothesis; there is no significant difference between the Mean Attitude Score of higher secondary school students school wise.

Table 7(a) ANOVA test- School wise Attitude Scale

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Pioneer High School	122	13287	108.9	263.6
T V Patel High School	125	13528	108.2	228.0
RPTP High School	173	21154	122.3	135.7
Bavis Gam Vidyalaya	78	9571	122.7	153.1
Sharda High School	102	12085	118.5	137.7

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	24641.86	4	6160.5	33.57	2.86E-25	2.39
Within Groups	109200.1	595	183.5			
Total	133842	599				

The Computed F value 33.57 is greater than the table F value of 3.36 and 2.39 at 0.01 and 0.05 levels for (4, 599) degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Attitude Score of higher secondary school students, school wise.

Table 7(b) ANOVA Test- School Wise Achievement Test**SUMMARY**

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Pioneer High School	122	1679	13.8	10.7
T V Patel High School	125	1737	13.9	16.0
RPTP High School	173	2947	17.0	13.5
Bavis Gam Vidyalaya	78	1371	17.6	11.3
Sharda High School	102	1543	15.1	12.4

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1447.19	4	361.8	27.91	2.92E-21	2.39
Within Groups	7713.928	595	12.96			
Total	9161.118	599				

The Computed F value 27.91 is greater than the table F value of 3.36 and 2.39 at 0.01 and 0.05 levels for (4, 599) degree of freedom. Therefore null hypothesis is rejected. It means there is significant difference between the Mean Achievement Score of higher secondary school students, school wise.

4.3 CONCLUSION

In this chapter, the researcher included data analysis and interpretation of the results. Researcher used attitude scale and achievement test for students, this scale related with environmental awareness and the data were collected successfully.

The next chapter is about findings, educational implication and conclusion.