# Chapter – IV

# PRESENTATION &

# ANALYSIS OF DATA

# CHAPTER – IV

## PRESENTATION & ANALYSIS OF DATA

❑      Introduction

❑      Techniques followed in Data Analysis

❑      Interpretation of the Data

❑      Hypothesis Testing.

# CHAPTER – IV
# PRESENTATION AND ANALYSIS OF DATA

## INTRODUCTION :

Statistics is a body of mathematical technique or processes for gathering, organizing and analyzing. Quantitative statistics is a basic tool of measurement, evaluation and research. Statistical data describe group behaviour or group characteristics obtained from a number of individual observation, which are combined to make generalizations possible. The researcher who uses statistics is concerned with more than the manipulation of data. Statistical method goes to the fundamental purposes of description and analysis. By statistics we can analyze and interpret the data and can draw conclusion.

Interpretation of data refers to that important part of the investigation, which is associated with the drawing of inference from the collected facts after analytical study. It is extremely useful and important part of the study because it makes possible the use of collected data. Statistical facts by themselves have no utility. It is the interpretation that makes it possible for us to utilize collected data in various fields of activity.

## Techniques Followed in Data Analysis

The scores obtained were school wise, block wise and gender wise, of the students.

The mean score and standard deviations for each group categorized were computed using the formula given below:-

$$M = \frac{\sum x}{N}$$

$$M = \frac{\sum fx}{N}$$

Where $\sum x$ represents the sum of scores

| | | |
|---|---|---|
| Where $\sum x$ | = | Sum of scores |
| | = | Respective frequency of items |
| x | = | Represent the mid point of the class interval |
| N | = | Total Number of items |

$$S.D = \sqrt{\frac{\sum (X-m)^2}{N}} = \sqrt{\frac{\sum x^2}{N}}$$

| | | |
|---|---|---|
| where X | = | Score of individual |
| M | = | Mean of the given set of sores |
| x | = | Deviation of each score from the mean |

Same connotation as above the mean scores were compared using a t-test statistics. The formula given below was used.

$$t = \frac{M_1 - M_2}{D}$$

$$\sigma_D = \sigma \sqrt{\frac{1}{N_1} + \frac{1}{N_2}}$$

$$\sigma = \sqrt{\frac{\sum x_1{}^2 + \sum x_2{}^2}{(N_1 - N_2) + (N_2 - 1)}}$$

Where

| | | |
|---|---|---|
| $M_1 - M_2$ | = | The Difference between the mean of group 1 and 2 respectively |
| $\sigma$ | = | Standard deviation |
| $\sigma D$ | = | Pooled standard deviation |
| $N_1$ & $N_2$ | = | Total Number of students in group 1 and 2 respectively. |

The Correlations between the various variables were computed using the formula below:-

$$r = \frac{N\sum fxy - \sum fx \sum fy}{\sqrt{N\sum fx^2 - (\sum fx)^2 \cdot N\sum fx^2 - (\sum fy)^2}}$$

Where  r  =  Co efficient of correlation between the two variables.

x and y  =  deviations from the means of the two distribution x and y respectively. All the other variables with the same connotation.

The correlation between attitude and the School achievement test of the students was computed using the point biserial correlation formula given below:-

$$r_{pb} = \frac{M_1 - M_2}{\sigma} \times \frac{2}{\sqrt{Pq}}$$

Where

rpb  =  point biserial correlation

σ  =  Standard diviaiton of the whole group.

P and q  =  proportion of group 1 and 2 respectively.

Table for scores which the research have collected from tribal schools of VI standard students.

## CHAPARA BLOCK

Name:    **Excellence Govt. Higher Secondary School Chapara**

| No. of Students | Environment Attitude Score Out of 34 | Teacher made school achievement score out of 350 |
|---|---|---|
| 1 | 23 | 285 |
| 2 | 11 | 128 |
| 3 | 12 | 152 |
| 4 | 16 | 129 |
| 5 | 21 | 159 |
| 6 | 22 | 195 |
| 7 | 25 | 131 |
| 8 | 14 | 224 |
| 9 | 25 | 198 |
| 10 | 16 | 124 |
| 11 | 16 | 138 |
| 12 | 18 | 126 |
| 13 | 14 | 153 |
| 14 | 18 | 167 |
| 15 | 20 | 104 |
| 16 | 13 | 198 |
| 17 | 16 | 115 |
| 18 | 18 | 182 |
| 19 | 17 | 130 |
| 20 | 18 | 263 |
| 21 | 24 | 119 |
| 22 | 18 | 134 |
| 23 | 19 | 203 |
| 24 | 18 | 199 |
| 25 | 16 | 143 |
| 26 | 22 | 219 |
| 27 | 24 | 284 |
| 28 | 22 | 134 |
| 29 | 22 | 117 |
| 30 | 24 | 137 |
| No. 30 | Total -562.00 | Total -4990.00 |

**Name :    Govt. Girls Higher Secondary School Chapara**

| No. of Students | Environment Attitude Score | Teacher made school achievement Test score |
|---|---|---|
| 1 | 24 | 131 |
| 2 | 24 | 144 |
| 3 | 19 | 167 |
| 4 | 18 | 195 |
| 5 | 2 | 130 |
| 6 | 22 | 156 |
| 7 | 17 | 120 |
| 8 | 22 | 143 |
| 9 | 18 | 127 |
| 10 | 14 | 122 |
| 11 | 26 | 145 |
| 12 | 18 | 146 |
| 13 | 24 | 151 |
| 14 | 21 | 152 |
| 15 | 21 | 123 |
| 16 | 22 | 95 |
| 17 | 7 | 67 |
| 18 | 24 | 84 |
| 19 | 18 | 223 |
| 20 | 21 | 139 |
| **No. 20** | **Total -382** | **Total -2760** |

## LAKHNADAWN BLOCK

Name :     **Excellence Govt. Higher Secondary School Lakhnadawn.**

| No. of Students | Environment Attitude Score | Teacher made school achievement Test score |
|:---:|:---:|:---:|
| 1 | 30 | 141 |
| 2 | 24 | 164 |
| 3 | 24 | 151 |
| 4 | 22 | 128 |
| 5 | 25 | 232 |
| 6 | 30 | 168 |
| 7 | 20 | 132 |
| 8 | 21 | 113 |
| 9 | 21 | 209 |
| 10 | 20 | 113 |
| 11 | 20 | 106 |
| 12 | 18 | 72 |
| 13 | 28 | 143 |
| 14 | 16 | 144 |
| 15 | 24 | 175 |
| 16 | 18 | 214 |
| 17 | 21 | 216 |
| 18 | 30 | 171 |
| 19 | 20 | 113 |
| 20 | 11 | 221 |
| 21 | 22 | 145 |
| 22 | 24 | 120 |
| 23 | 23 | 105 |
| 24 | 24 | 157 |
| **No. 24** | **Total - 536** | **Total - 3653** |

**Name :** **Govt. Girls Higher Secondary School Lakhnadawn**

| No. of Students | Environment Attitude Score | Teacher made school achievement Test score |
|---|---|---|
| 1 | 26 | 146 |
| 2 | 26 | 137 |
| 3 | 26 | 247 |
| 4 | 26 | 167 |
| 5 | 20 | 125 |
| 6 | 24 | 116 |
| 7 | 22 | 187 |
| 8 | 24 | 118 |
| 9 | 24 | 177 |
| 10 | 30 | 99 |
| 11 | 18 | 142 |
| 12 | 18 | 79 |
| 13 | 20 | 102 |
| 14 | 22 | 173 |
| 15 | 22 | 158 |
| 16 | 26 | 101 |
| 17 | 30 | 96 |
| 18 | 24 | 151 |
| 19 | 16 | 136 |
| 20 | 24 | 95 |
| 21 | 24 | 167 |
| 22 | 22 | 69 |
| 23 | 26 | 118 |
| 24 | 16 | 93 |
| **No. 24** | **Total - 556** | **Total -3199** |

Analysis of Environment attitude of score of two different blocks Chapara and Lakhnadawn.

**Table-I : Mean score on the Environmental Attitude for VI standard Student at the gender level of Chapara Blocks:-**

| S.No | Name of School | No. of Student | Mean Score (M) | Standard Deviation (S.D.) | t-Value | Reference to Significance |
|---|---|---|---|---|---|---|
| **Statistical Analysis of difference** | | | | | | |
| 1. | Excellence boys Higher Secondary School Chapara | N-30 | 18.73 | 3.89 | 0.2720 | 01.01 and 0.05 |
| 2. | Govt. Girls High School chapara | N-20 | 19.1 | 5.17 | | |

**Comparison of means as shown in Graph - I**



**Comparison of Means**

32
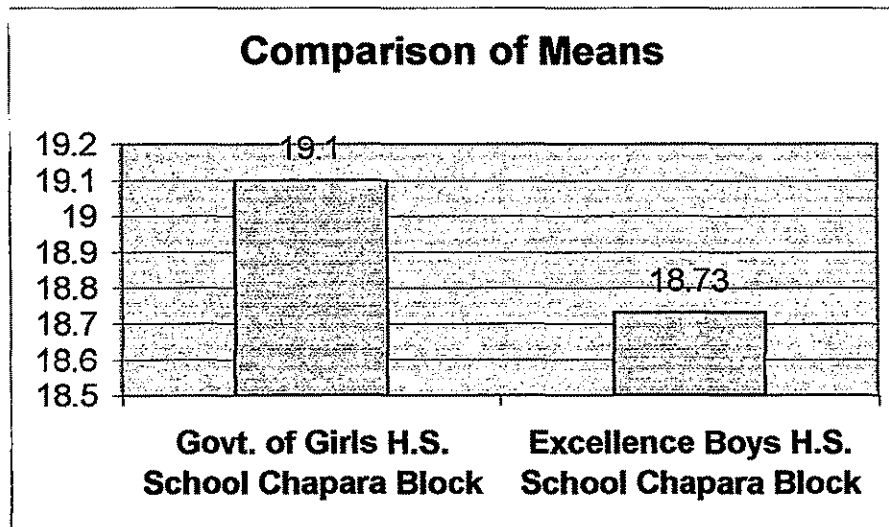
**Table :- II**

Mean scores on the Environment Attitude for VI standard students at the gender level of Lakhnadawn block.

| S.No | Name of School | No. of Student | Mean Score (M) | Standard Deviation (S.D.) | T-Value | Reference to Significance |
|------|----------------|----------------|----------------|----------------------------|---------|---------------------------|
| | **Statistical Analysis of different** | | | | | |
| 1. | Excellence boys Higher Secondary School Lakhnadawn | N – 24 | 22.416 | 4.55 | 0.61 | 01.01 and 0.05 |
| 2. | Govt. girls higher school Lakhnadawn | N – 24 | 23.16 | 3.75 | | |

**Comparison of means as shown in Graph - II**



Comparison of Means
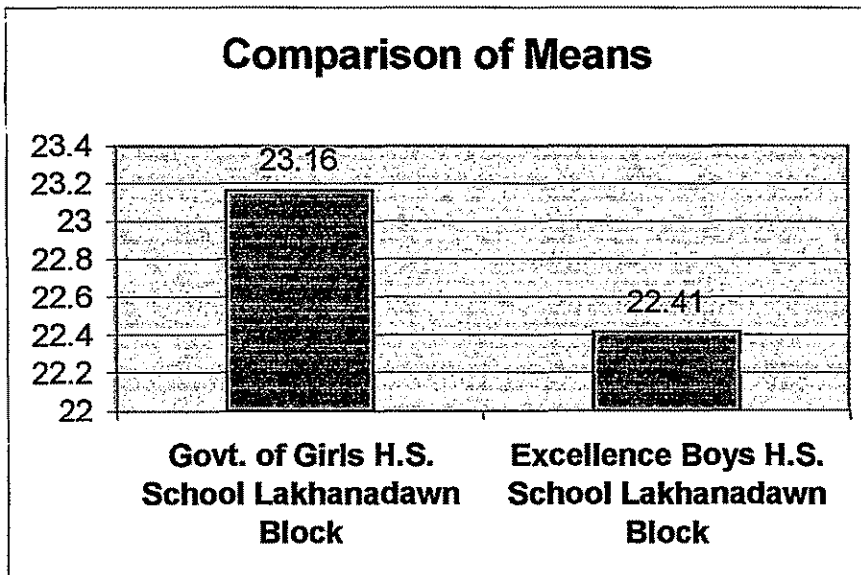
## Interpretation

There is no significant difference in environmental attitude between girls and boys Higher Secondary School of VI standard students of Lakhnadawn and Chapara block.

### Testing of the Hypothesis - I:

Analysis of mean score according to gender shows that the Girls Higher Secondary School score is significantly greater than the Boys Higher Secondary School scores the difference between Girls and Boys Higher Secondary School at Chapara and Lakhnadawn block were found not to be significant. Hence Hypothesis - I is accepted.

Hence the hypothesis that there is no significant difference in environmental attitude between girls and boys of a VI standard tribal school students is accepted.

**Table-III : Mean scores on the Environment Attitude for VI Standard Girls School Students at the two different blocks (LAKHNADAWN)**

| Statistical Analysis of differences | | | | | | |
|---|---|---|---|---|---|---|
| S.No | Name of School | No. of Student | Mean Score (M) | Standard Deviation (S.D.) | t-Value | Reference to Significance |
| 1. | Govt. Girls High Secondary School Chapara block | 20 | 19.1 | 5.71 | 2.77 | 0.01 and 0.05 |
| 2. | Govt. Girls Higher Secondary School Lakhnadawn block | 24 | 23.16 | 3.73 | | |

**Comparison of means as shown in Graph - III**



Comparison of Means

35
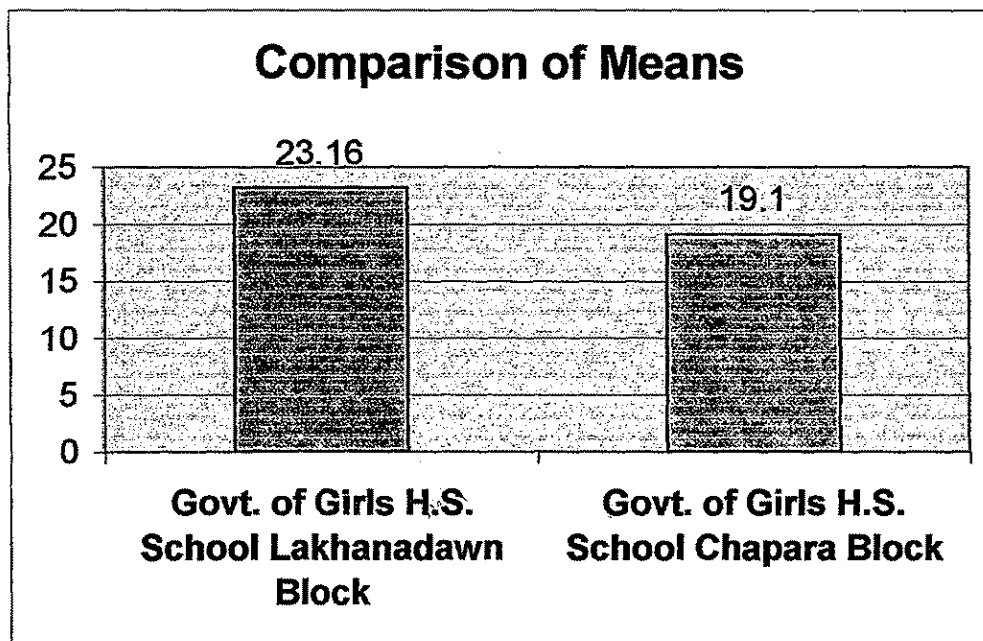
**Table-IV : Mean scores on the Environment Attitude for VI Standard Boys School Students at the two different blocks (LAKHNADAWN & CHAPARA)**

| S.No | Name of School | No. of Student | Mean Score (M) | Standard Deviation (S.D.) | t-Value | Reference to Significance |
|------|----------------|----------------|----------------|---------------------------|---------|---------------------------|
| | **Statistical Analysis of differences** | | | | | |
| 1. | Excellence Boys H.S. School Lakhnadawn block | 24 | 22.416 | 4.55 | 3.2 | 0.01 and 0.05 |
| 2. | Excellence Boys H.S. School Chapara block | 30 | 18.73 | 8.89 | | |

**Comparison of means as shown in Graph - III**



36
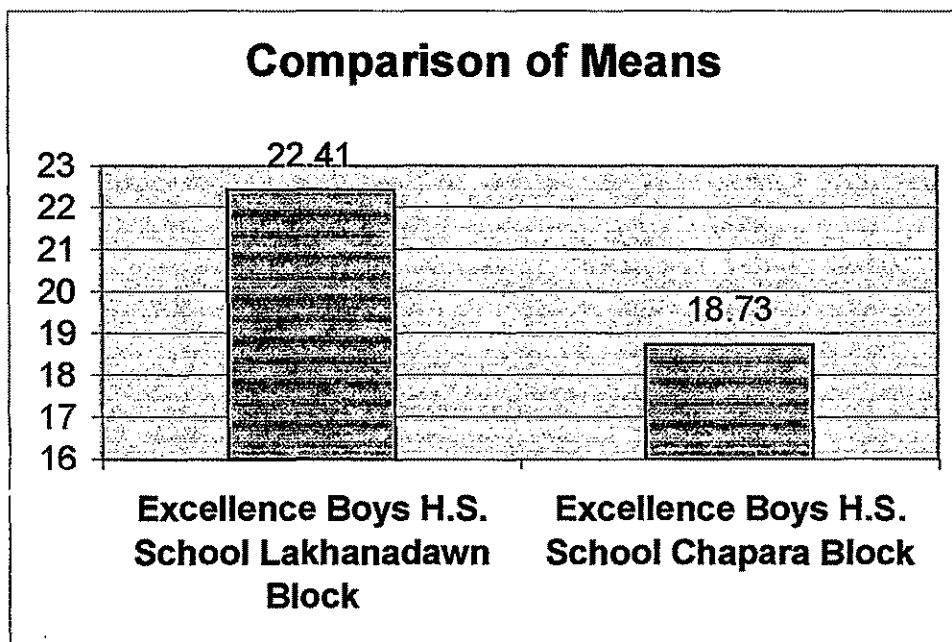
## Interpretation :-

There is a significant difference in environmental attitude between Girls Higher Secondary School Chapara and Girls Higher Secondary School Lakhnadawn block and also score to be found significant in environmental attitude between excellence boys Higher Secondary School Chapara and Excellence Boys Higher Secondary School Lakhnadawn.

## Table V:-

Inter correlation between the scores of Environmental attitude and teacher made school achievement test scores for the tribal students

| TEST | CORRELATION VALUE ( ) | SIGNIFICANCE |
|------|------------------------|--------------|
| 1. Environmental Attitude Test & Teacher made School Achievement Test. | 0.698 | Moderate Correlation Substantial but small relationship. |

## Interpretation :-

## Hypothesis-II

There is no significant correlation between environmental attitude score and the teacher made school achievement test score of the tribal school students.

## Hypothesis-II Testing

Correlation was computed to find the relationship of Environment attitude and school achievement test scores with the help of Pearson correlation method.

The obtained value is 0.698 between Environmental attitude score and school achievement test score of tribal students. Thus we can say that there is moderate correlation, substantial but small relationship between Environmental attitude score and school achievement test score of tribal school student. Hence hypothesis II is rejected.