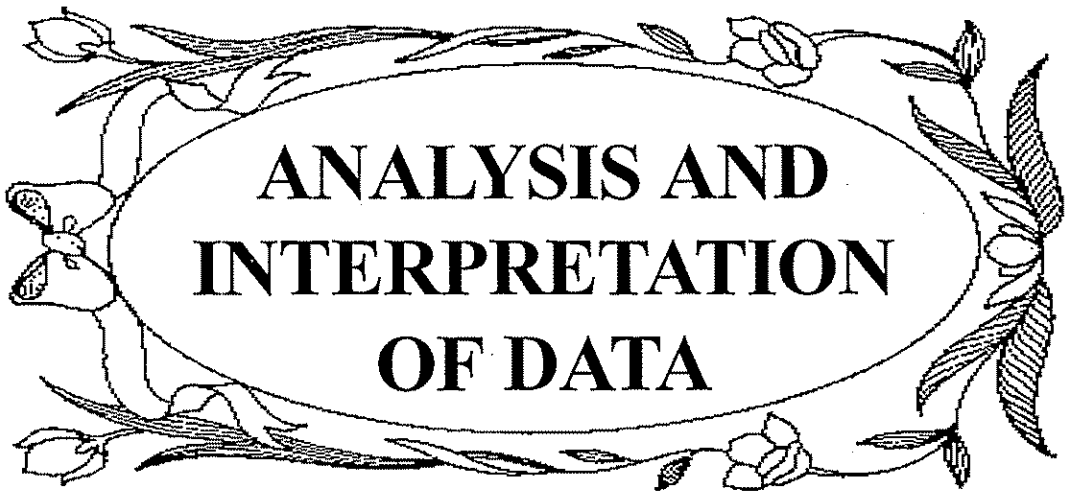# CHAPTER - 4

ANALYSIS AND INTERPRETATION OF DATA

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

4.1 Introduction

Statistics is a body of mathematical technique or process for gathering, analyzing and interpreting numerical data. Since research yields quantitative data, statistics is the basic tool of measurement, evaluation and research. Statistical data describes group behaviour or group characteristics abstracted from a number of individual observations which are combined to make generalizations possible. Statistical methods go to the fundamental purpose of description and analysis. Statistics enables the researcher to analyse and interpret the data for drawing conclusions.

Interpretation of data refers to that important part of the research, which is associated with the drawing of inferences from the collected facts after an analytical study because statistical facts by themselves, have no utility. It is the interpretation that makes it possible to utilize the collected data in various fields of the study.

4.2 Techniques used in data analysis :

Present study was undertaken to study job satisfaction and teacher effectiveness of Vidya Sahayak teachers of Gujarat belonging to different categories (sex, marital status and caste). All these categories were analyzed in the study in relation to their effect on job satisfaction and teacher effectiveness of Vidya Sahayak teachers. The effect of independent variables (Job satisfaction sex, marital status and caste) on dependent variable (teacher effectiveness) of Vidya Sahayak teachers have been studied by analyzing the data with the help of Mean, SD, t-test, Pearson's correlation and Anova. JOb satisfactin score of a parateacher was calculted by summation of his score on each statement of the scale and teachger effectiveness score of a parateacher was calculated by summation of his score on each statement of the scale. The data thus generated was then put to statistical analysis.

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4.3 Categorization of Vidya Sahayak teachers on the basis of job satisfaction scores :

On the basis of job satisfaction scores, vidhya sahayak teachers were divided into three groups i.e. highly job satisfied, moderately job satisfied and low job satisfaction. Range of scores defining high and low job satisfaction is determined by adding and removing S.D. from Mean, i.e. M±SD. Inbetween these above and below scores range were considered as moderate job satisfaction. These are shown in Table 4.1

Table 4.1 :- Frequency and percentage of job satisfaction categories of vidya sahayak teachers

N	M	S.D.	Job satisfaction Categories	Frequency	Percentage	Valid Percentage
135	75.49	9.11	Low job satisfaction	22	16.2	16.3
			Moderately job satisfied	92	67.6	68.1
			Highly job satisfied	21	15.4	15.6
				135	99.3	100.00

A perusal of table-4.1 shows that percentage of low job satisfaction, moderately job satisfied and highly job satisfied vidya sahayak teachers of the total sample were 16.2 67.6 & 15.4 respectively. Thus, it is evident from this analysis that majority of the Vidya Sahayak teachers are moderately job satisfied.

4.4 Categorization of Vidya Sahayak teachers on the basis of teacher effectiveness scores :-

On the basis of teacher effectiveness scores, Vidya Sahayak teachers were divided into three groups, i.e. high teacher effectiveness, moderate teacher effectiveness and low teachers effetiveness. Rang of scores defining high and low teacher effectiveness is determined by adding and removing S.D. from Mean i.e. M ± S.D. Inbetween these above and below scores, range were considered as moderate teacher effectiveness. These are shown in table 4.2

Table 4.2 :- Frequency and percentage of teachers effectiveness categories of Vidya Sahayak teachers.

N	M	S.D.	Teacher effectiveness categories	Frequency	Percentage	Valid Pecentage
135	305.87	23.27	Low Teacher Effectiveness	20	14.7	14.8
			Moderate Teacher Effectiveness	93	68.4	68.9
			High Teacher Effectiveness	22	16.2	16.3
				135	99.3	100.00

A perusal of table 4.2 shows that percentage of low teacher effectiveness, moderate teacher effectiveness and high teacher effetiveness of the total sample (135) were 14.7, 68.4 & 16.2 respectively. Thus it is evident from this analysis that majority of the Vidya Sahayak teachers have moderate teacher effectiveness.

4.5 Analysis and interpretation of data on the basis of hypotheses

Hypothesis :- 1

The first hypothesis stating that, there is no significant relationship between teacher effectiveness and job satisfaction of para teachers, is tested and shown in table - 4.3

Table 4.3 :- Significance of 'r' between teacher effectiveness and job satisfaction.

Variable	N	df	r	Sig
Teacher Effectiveness	135	133	0.11	0.2
Job Satisfaction				

The value of 'r' is not significant and hence hypothesis is not rejected. This indicates that there is no significant relationship between teacher effectiveness and job satisfaction. From that it may infered that teacher effectiveness and job satisfaction are independent to each other.

Hypothesis 2

The second hypothesis stating that there is no significant difference among different categories of job satisfaction in respect of teacher effectiveness, is verified and shown in table - 4.4

Table 4.4 :- Significance of 'F' among different categories of job satisfaction in respect of teacher effectiveness of Para Teachers

Source	Sum of Square	Mean Square	df	F	Sig.
Between Group	13.679	6.840	2		
Within Group	72563.180	549.721	132	.012	.988
Total	72576.859		134		

The value of 'F' is not significant and hence hypothesis is not rejected. This indicates that there is no significant difference among different categories of job satisfaction in respect of teacher effectiveness.

Hypothesis : 3

The third hypothesis stating that there is no significant difference between male and female para teachers in respect of teacher effectiveness, is tested and shown in table 4.5

Table 4.5 Significance of 'f' between male and female para teachers in respect of teacher effectiveness.

Sex	N	Mean	S.D.	t	df	Sig. (2-tailed)
Male	70	303.81	23.29	1.068	133	.288
Female	65	308.09	23.23			

The value of 't' of teacher effectiveness between male and female para teachers is not significant and hence our hypothesis is accepted. It means, sex of the para teachers does not affect their teacher effectiveness.

Hypothesis : 4

The fourth hypothesis stating that there is no significant difference between male and female para teachers in respect of job satisfaction is tested and shown in table 4.6

Table 4.6 Significance of 't' between male and female para teachers in respect of job satisfaction.

Sex	N	Mean	S.D.	t	df	Sig. (2 tailed)
Male	70	76.63	8.51	1.459	133	.147
Female	65	74.43	9.71			

The value of 't' of job satisfaction between male and female para teachers is not significant and hence our hypothesis is not rejected. It means, sex of the para teachers does not affect their job satisfaction.

Hypothesis : 5

The fifth hypothesis stating that there is no significant difference between married and unmarried para teachers in respect of teacher effectiveness is tested and shown in table 4.7

Table 4.7 Significance of 't' between married and unmarried para teachers in respect of teacher effectiveness.

Marital Status	N	Mean	S.D.	't'	df	Sig. (2 tailed)
Married	76	303.89	24.33	1.123	133	.264
Unmarried	59	308.42	21.78			

The value of 't' of teacher effectiveness between married and unmarried para teachers is not significant. So our hypothesis is accepted and we can say that Marital status does not affect teacher effectiveness, of para teachers.

Hypothesis : 6

The sixth hypothesis stating that there is no significant difference between married and unmarried para teachers in respect of job satisfaction is tested and shown in table 4.8

Table 4.8 Significance of 't' between married and unmarried para teachers in respect of job satisfaction.

Marital status	N	Mean	S.D.	t	df	Sig. (2 tailed)
Married	76	75.34	8.61	.264	133	.792
Unmarried	59	75.76	9.87			

The value of 't' of job satisfaction between married and unmarried para teachers is not significant. So our hypothesis is accepted and we can say that marital status does not affect job satisfaction of para teachers.

Hypothesis : 7

The seventh hypothesis stating that, there is no significant difference among General, S.C. and OBC caste para teachers in respect of teacher effectiveness is tested and shown in table 4.9

Table 4.9 Significance of 'F' among General, S.C. and OBC para teachers in respect of teacher effectiveness.

Source	Sum of Square	Mean Square	df	F	Sig.
Between Group	5904.904	2952.452	2		
Within Group	66671.956	505.091	132	5.845	.004
Total	72576.859		134		

The value of 'F' of teacher effectiveness amaong general, S.C. and OBC para teachers is significant and hence hypothesis is rejected. This indicates that there exists significant difference among general, S.C. and OBC para teachers in respect of teacher effectiveness.

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Hypothesis : 8

The eighth hypothesis stating that there is no significant difference among general, S.C. and OBC caste para teachers in respect of job satisfaction is tested and shown in table 4.10

Table 4.10 Significance of 'F' among General, S.C. and OBC para teachers in respect of job satisfaction.

Source	Sum of Square	Mean Square	df	F	Sig.
Between Group	141.170	70.585	2		
Within Group	11074.489	83.898	132	.841	.433
Total	11215.659		134		

The value of 'F' of job satisfaction amaong General, S.C. and OBC para teachers is not significant and hence hypothesis is not rejected. This indicates that there is no significant difference among General, S.C. and OBC para teachers in respect of job satisfaction.

Hypothesis : 9

The ninth hypothesis stating that there is no significant difference between General and S.C. para teachers in respect of teacher effectiveness is tested and shown in table 4.11

Table 4.11 Significance of 't' between General and S.C. para teachers in respect of teacher effectiveness.

Caste	N	Mean	S.D.	't'	df	Sig. (2 tailed)
General	45	313.98	18.39	3.631	88	.000
Schedule Caste	45	297.78	23.61			

The value of 't' is significant and hence hypothesis is rejected. It indicates that there exists significant difference between General and S.C. para teachers in respect of teacher effectiveness.

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Hypothesis : 10

The tenth hypothesis stating that there is no significant difference between General and OBC para teachers in respect of teacher effectiveness is tested and shown in table 4.12

Table 4.12 Significance of 't' between General and OBC para teachers in respect of teacher effectiveness.

Caste	N	Mean	S.D.	't'	df	Sig. (2 tailed)
General	45	313.98	18.39	1.758	88	.082
OBC	45	305.87	24.89			

The value of 't' is not significant and hence hypothesis is not rejected. This indicates that there is no significant difference between General and OBC para teachers in respect of teacher effectiveness.

Hypothesis : 11

The eleventh hypothesis stating that there is no significant difference between S.C. and OBC para teachers in respect of teacher effectiveness is tested and shown in table 4.13

Table 4.13 Significance of 't' between S.C. and OBC para teachers in respect of teacher effectiveness.

Caste	N	Mean	S.D.	't'	df	Sig. (2-tailed)
S.C.	45	297.78	23.61	1.582	88	.117
O.B.C.	45	305.87	24.89			

The value of 't' is not significant and hence hypothesis is not rejected. This indicates that there is no significant difference between S.C. and OBC para teachers in respect of teacher effectiveness.

Hypothesis : 12

The twelfth hypothesis stating that there is no significant difference in teacher effectiveness scores of para teachers having high mark and low marks on job satisfaction scale is tested and shown in table 4.14

(The mean standard deviation and t-value were obtained in order to study the difference in high job satisfactionj of para teachers in respect of teacher effectiveness. The scores are presented in table 4.14 Job satisfaction is divided into two categories, i.e. high job satisfaction and low job satisfaction based on M+S.D.)

Table 4.14 Mean, S.D. and t - value of teacher effectiveness with respect to high and low job satisfaction of para teachers.

Variable	Job Satisfaction	N	Mean	SD	t	df	Sig. (2-tailed)
Teacher	Low job satisfaction	20	305.65	34.14	.114	40	.910
Effectiveness	High Job Satisfaction	22	306.59	17.24			

The value of 't' is not significant and hence hypothesis is not rejected. This shows that para teachers having high job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis : 13

The thirteenth hypothesis stating that there is no significant difference in teacher effectiveness scores of male para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.15

Table 4.15 Mean, S.D. and t-value of teacher effectiveness with respect to high and low job satisfaction of male para teachers.

Variable	Job satisfaction	N	Mean	S.D.	t	df	Sig. (2. tailed)
Teacher	Low Job Satisfaction	7	312.43	39.19			
Effectiveness	High Job Satisfaction	11	304.55	15.46	605	16	.553

The value of 't' is not significant and hence hypothesis is not rejected. This shows that male parateachers having high Job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis : 14

The fourteenth hypothesis stating that there is no significant difference in teacher effectiveness scores of female para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.16

Table 4.16 :- Mean, S.D. and 't' value of teacher effectiveness with respect to high and low job satisfaction of female para teachers.

Variable	Job satisfaction	N	Mean	S.D.	t	df.	Sign (2. tailed)
Teacher	Low Job Satisfaction	13	303.00	32.20			
Effectiveness	High Job Satisfaction	11	308.64	19.39	.597	22	.557

The value of 't' is not significant and hence hypothesis is not rejected. This shows that female parateachers having high job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis . 15 :-

The fifteenth hypothesis stating that there is no significant difference in teacher effectiveness scores of married para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.17

Table 4.17 :- Mean S.D. and t-value of teacher effectivenss with respect to high and low job satisfaction of married para teachers.

Variable	Job Satisfaction	N	Mean	S.D.	t	df	Sig. (2. tailed)
Teacher	Low Job Satisfcation	10	291.50	33.73			
Effectiveness	High Job Satisfaction	10	298.70	17.85	.597	18	.558

The value of 't' is not significant and hence hypothesis is not rejected. This shows that married parateachers having high job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis-16

The sixteenth hypothesis stating that there is no significant difference in teacher effectiveness scores of unmarried para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.18

Table 4.18 :- Mean, S.D. and t-value of teacher effectiveness with respect to high and low job satisfaction of unmarried para teachers.

Variable	Job satisfaction	N	Mean	S.D.	t	df	Sig. (2 tailed)
Teacher	Low Job Satisfation	10	319.80	29.64			
Effectiveness	High Job Satisfaction	12	313.17	14.25	.688	20	.499

The value of 't' is not significant and hence hypothesis is not rejected. This shows that unmarried para teachers having high job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis-17

The seventeenth hypothesis stating that there is no significant difference in teacher effectiveness scores of general category para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.19

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Table 4.19 :- Mean, S.D. and t-value of teacher effectiveness with respect to high and low job satisfaction of general category para teachers.

Variable	Job Satisfaction	N	Mean	S.D.	t	df	Sig. (2. tailed)
Teacher Effectiveness	Low Job Satisfaction	6	324.00	25.27			
	High Job Satisfaction	6	307.67	19.95	1.243	10	.242

The value of 't' is not significant and hence hypothesis is not rejected. This shows that general category parateachers having high job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis-18

The eighteenth hypothesis stating that there is no significant difference in teacher effectiveness scores of S.C. para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.20

Table 4.20 :- Mean, S.D. and t-value of teacher effectiveness with respect to high and low job satisfaction of S.C. para teachers.

Variable	Job Satisfcation	N	Mean	S.D.	t	df	Sig. (2-tailed)
Teacher Effectiveness	Low Job Satisfaction	7	292.14	22.28			
	High Job Satisfaction	7	299.71	15.65	.736	12	.476

The value of 't' is not significant and hence hypothesis is not rejected. This shows that S.C. para teachers having high job satisfaction or low job satisfaction does not affect their teacher effectiveness.

Hypothesis-19

The nineteenth hypothesis stating that there is no significant difference in teacher effectiveness scores of OBC para teachers having high marks and low marks on job satisfaction scale is tested and shown in table 4.21

Table 4.21 :- Mean, S.D. and t-value of teacher effectiveness with respect to high and low job satisfcation of OBC para teachers

Variable	Job Satisfaction	N	Mean	S.D.	t	df	Sig. (2. tailed)
Teacher	Low Job Satisfaction	7	303.43	45.91			
Effectiveness	High Job Satisfaction	9	311.22	16.78	.474	14	.643

The value of 't' is not significant and hence hypothesis is not rejected. This shows that OBC para teachers having high job satiscation or low job satisfaction does not affect their teacher effectiveness.