

*Analysis &  
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 no. 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 analyze 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 the values and job satisfaction of elementary school teachers belonging to different categories (Type of schools, sex, age, and experience). All these categories were analyzed in the study in relation to their effect on values and job satisfaction of elementary school teachers. The effect of independent variable on values and job

satisfaction of elementary school teachers have been studied by analyzing the data with the help of Mean, SD, t-test, Pearson's correlation and ANOVA.

### **4.3 Analysis and interpretation of data on the basis of hypotheses:**

#### **4.3.1 *Analysis of the variance in values and job satisfaction of elementary school teachers working in govt. govt. aided and private schools.***

##### **Hypothesis-1**

“There is no significant variance in the values and job satisfaction of elementary school teachers working in govt., govt. aided and private schools.”

This hypothesis aimed at analyzing, whether there is any variance in the values and job satisfaction of elementary school teachers working in govt., govt. aided and private schools, i.e. whether type of school is a source of variation in values and job satisfaction among elementary school teachers or not.

To test the significance of the variance in the values and job satisfaction of elementary school teachers working in different types of school, data was analyzed with the help of ANOVA.

**Table No. 4.1 Interactional effect of types of school on the values and job satisfaction of elementary school teachers**

<b>Variables</b>	<b>F-value</b>	<b>Sig.</b>
<b>Job satisfaction</b>	2.12	0.12
<b>Theoretical value</b>	1.76	0.17
<b>Economic value</b>	4.46	0.01**
<b>Aesthetic value</b>	0.08	0.91
<b>Social value</b>	2.12	0.12
<b>Political value</b>	0.44	0.64
<b>Religious value</b>	0.48	0.61

\* Sig. at .05 level

\*\* Sig. at .01 level

The results are given in the table 4.1, which shows that

- Type of school is not the source of variation in job satisfaction of elementary school teachers, because the F-value for job satisfaction found not significant.
- Type of school is the source of variation in economic value among elementary school teachers i.e. the teachers of govt., govt. aided and private schools vary in the economic value held by them, because the F-value for economic value is found significant at 0.01 level.
- Type of school is not the source of variation in theoretical, aesthetic, social, political and religious values of elementary school teachers, because the F-value for all these values is not significant.

Thus the hypothesis that “there is no significant variance in the values and job satisfaction of elementary school teachers working in govt., govt. aided and private schools” is accepted except for economic value, as the variance have been found among the teachers of different schools in economic value held by them.

**Table No. 4.2 t-differences in the economic value of govt., govt. aided and private elementary school teachers**

Type of school	N	M	SD	t- value	df	Sig.
Govt.	106	35.13	7.54	-0.30	135	0.75
Govt. aided	33	35.67	11.60			
Govt.	104	35.13	7.54	-3.18	189	0.02
Private	87	38.63	7.61			
Govt. aided	33	35.67	11.60	-1.63	118	0.10
Private	87	38.63	7.61			

Table 4.2 gives the details of difference in economic value held by govt., govt. aided and private elementary school teachers Table 4.2 shows that:

- t- differences in economic value held by elementary school teachers of govt. and govt. aided schools is not significant, i.e. the teachers of govt., govt. aided and private schools do not differ in economic value held by them.

- t- difference in economic value held by the teachers of govt. and private schools is significant at 0.01 level that there is 99% chances that the teachers of govt. and private schools differ in economic value held by them.
- t- difference in economic value held by the teachers of govt. aided and private schools is not significant that is they do not differ in economic value held by them.

#### 4.3.2 *Analysis of the variance in values and job satisfaction of male and female teachers of govt., govt. aided and private schools.*

##### **Hypothesis –2**

“There is no significant variance in the values and job satisfaction of male and female elementary school teachers belonging to different age groups and experience.”

This hypothesis aimed at analyzing whether sex, age and/or experience are the source of variation in values and job satisfaction of elementary school teachers.

The scores regarding the interactional effect of sex on values and job satisfaction of elementary school teachers are given in table 4.3.

**Table No. 4.3 Interactional effect of sex as a source of variation in the values and job satisfaction of elementary school teachers**

<b>Variables</b>	<b>F -value</b>	<b>Sig.</b>
<b>Job satisfaction</b>	2.92	0.08
<b>Theoretical value</b>	0.25	0.61
<b>Economic value</b>	0.98	0.32
<b>Aesthetic value</b>	0.01	0.98
<b>Social value</b>	0.93	0.76
<b>Political value</b>	2.31	0.12
<b>Religious value</b>	0.31	0.57

Table 4.3 enables that :

- There is no significant variance in the values and job satisfaction of male and female elementary school teachers. It indicates that sex is not the source of variation in values and job satisfaction of male and female elementary school teachers.

To test the significance of difference in the values and job satisfaction of male and female elementary school teachers, the results of t-test are given in table -4.4.

**Table No. 4.4 t-differences in values and job satisfaction male and female teachers working in elementary schools.**

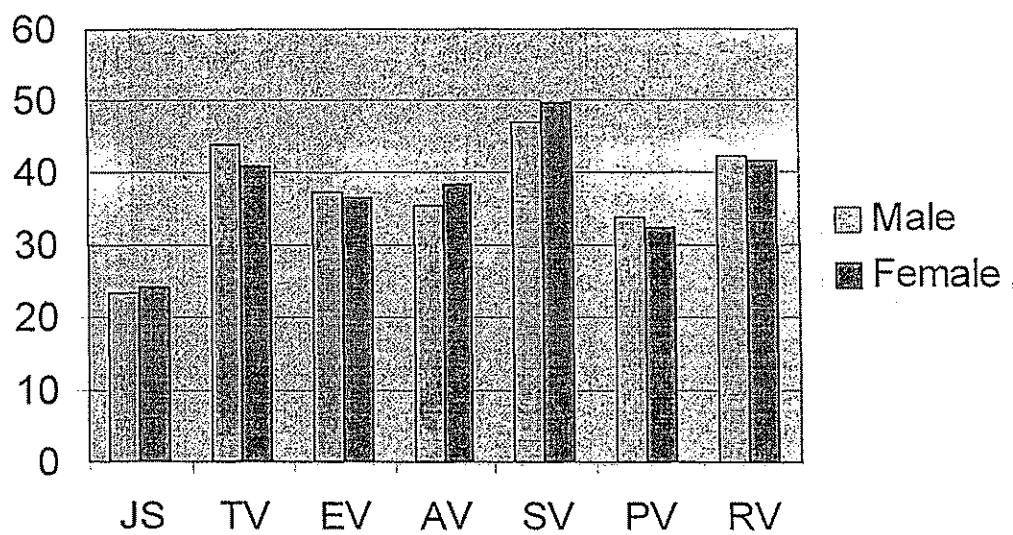
Variable	Sex	N	Mean	SD	t - value	Sig.
Job satisfaction	M	54	23.13	4.20	-1.59	0.12
	F	170	24.01	3.27		
Theoretical value	M	54	43.98	7.76	2.40	0.01
	F	170	40.96	8.20		
Economic value	M	54	37.24	7.98	0.67	0.50
	F	170	36.36	8.55		
Aesthetic value	M	54	35.44	8.13	-2.30	0.01
	F	170	38.49	8.31		
Social value	M	54	47.09	7.13	-2.40	0.01
	F	170	48.85	7.15		
Political value	M	54	33.87	5.97	1.30	0.19
	F	170	32.43	7.33		
Religious value	M	54	42.20	9.48	0.32	0.74
	F	170	41.69	10.03		

Table 4.4 indicates that :

- there is no significant difference in the job satisfaction of male and female elementary school teachers , but female teachers are slightly better than male teachers in job satisfaction. This is supported by the study of Shrivastava (1990).
- There is no significant difference in the values held by male and female teachers of elementary schools, but there is a remarkable difference in theoretical , aesthetic and social values held by male and female teachers of elementary schools.



### Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers



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But the prior studies conducted by Shrivastava (1990), Rawat (1992) and Khatoon (2000) reveal that there exist significant difference in the job satisfaction of male and female teachers and female teachers have more satisfaction than that of males in their jobs. The change in finding of present study may be due to the small size of the sample of male teachers or may be due to the job awareness among teachers that has been raised in the modern world.

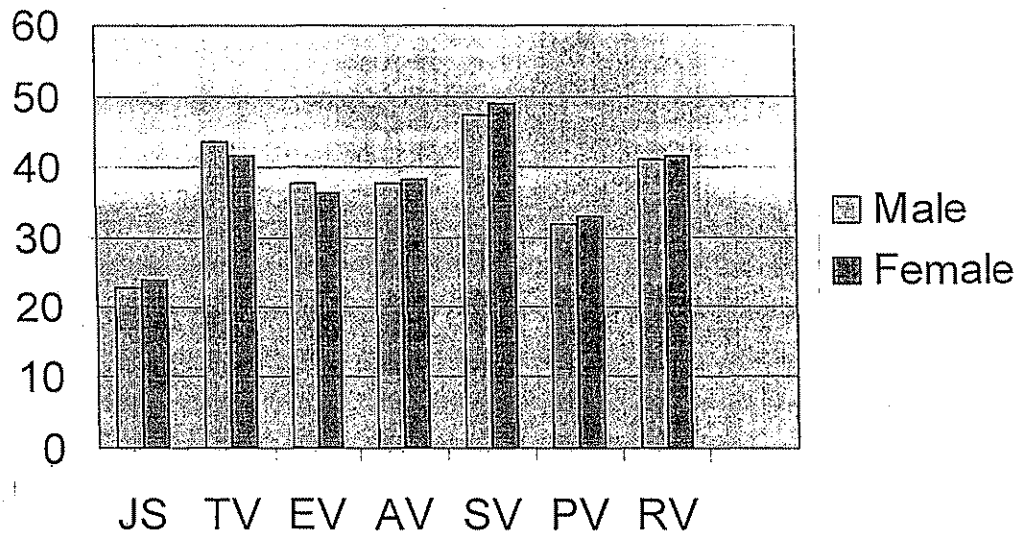
To study the effect of age on values and job satisfaction of male and female teachers of elementary schools, the data regarding different age groups, were analyzed with the help of ANOVA. The results are given in table 4.5.

**Table No.- 4.5 Interactional effect of age on different values and job satisfaction of teachers of elementary school**

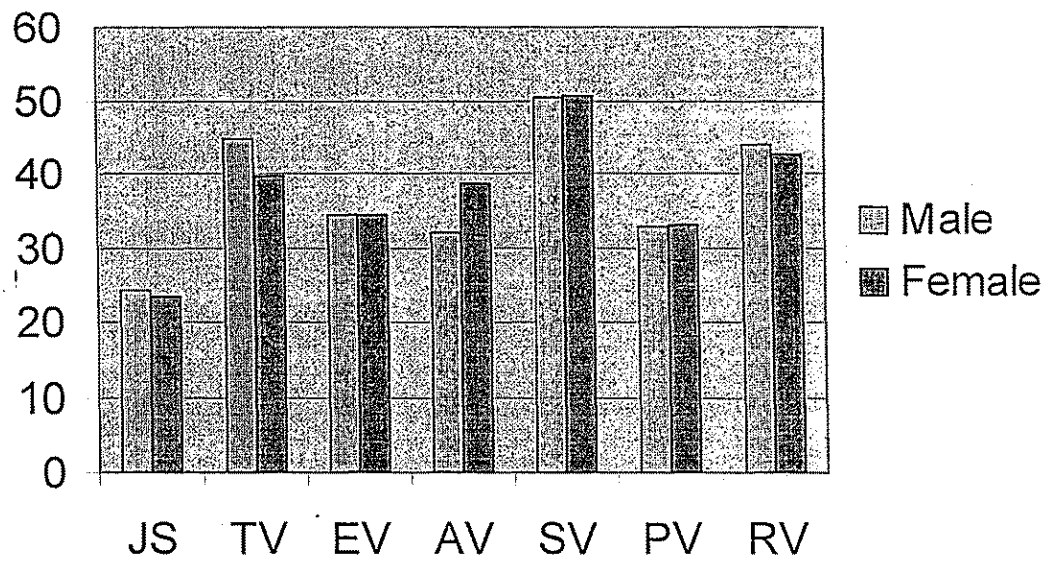
Variable	21-30 Yrs.		31-40 Yrs.		41-50 Yrs.		51-60 Yrs.	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.
<b>J.S.</b>	0.99	0.32	1.23	0.27	5.23	0.02	7.55	0.01
<b>T</b>	2.34	0.13	2.40	0.12	0.99	0.32	0.70	0.40
<b>E</b>	0.04	0.82	0.07	0.78	2.66	0.10	0.18	0.66
<b>A</b>	5.24	0.02	0.05	0.82	0.27	0.60	0.15	0.69
<b>S</b>	0.51	0.47	1.00	0.32	1.99	0.16	0.83	0.36
<b>P</b>	0.82	0.36	0.13	0.71	1.30	0.25	0.00	0.93
<b>R</b>	0.24	0.62	1.70	0.19	0.74	0.39	0.12	0.72

J.S. - Job satisfaction, T-Theoretical value, E-Economic value, A-Aesthetic value, S-Social value, P-Political value, R-Religious.

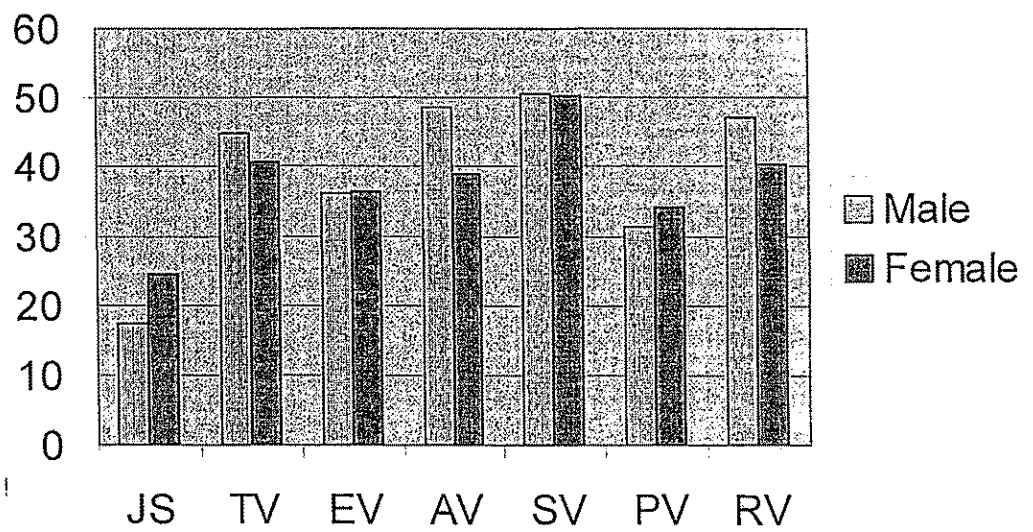
**Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers belonging to age group 21 to 30 yrs.**



**Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers belonging to age group 31 to 40 yrs.**



**Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers belonging to age group 41 to 50 yrs.**



Comparison of Means of Values and Job Satisfaction of Male & Female Elementary School Teachers belonging to age group 51 to 60 yrs.

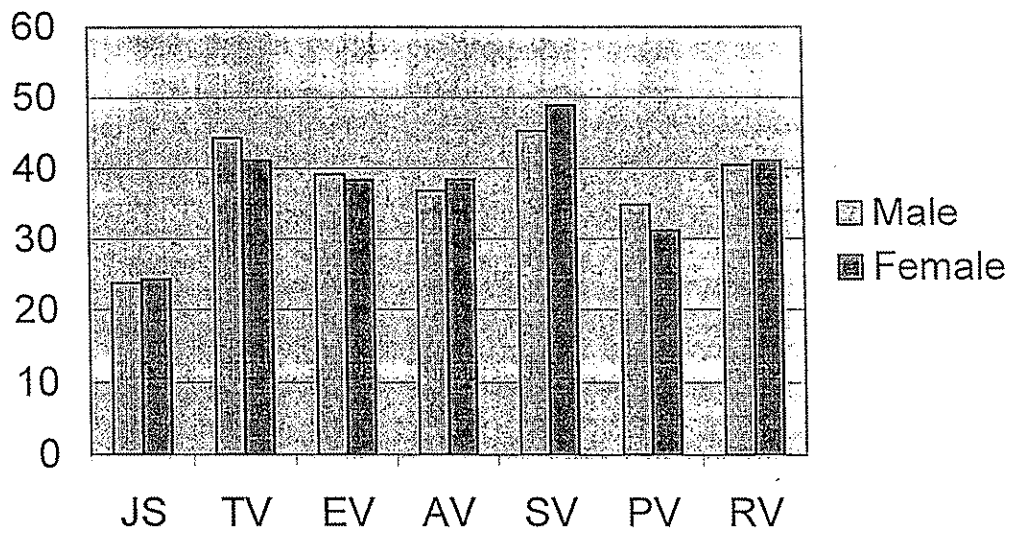


Table 4.5 indicates that:

- Age is not the source of variation in values and job satisfaction of male and female elementary school teachers, because the F- value for values and job satisfaction of male and female teachers in all the age groups are not significant. But F- value for aesthetic value among male and female teachers in the age group 21-30 years is remarkably high i.e. there exist a remarkable (but not significant) variance in aesthetic value held by male and female teachers in the age group 21-30 years. In this age group male and female teachers did not vary in economic value held by them, as the F- value is very low for this category.

In the age group 41-50 years F- value for job satisfaction is remarkably high that is the male and female teachers belonging to this age group remarkably vary in job satisfaction.

In the age group 51-60 years, F- value for job satisfaction of male and female teachers is highly remarkable but not significant. It shows that the interaction of sex on job satisfaction of male and female elementary school teachers is highest for the age group 51-60 years.

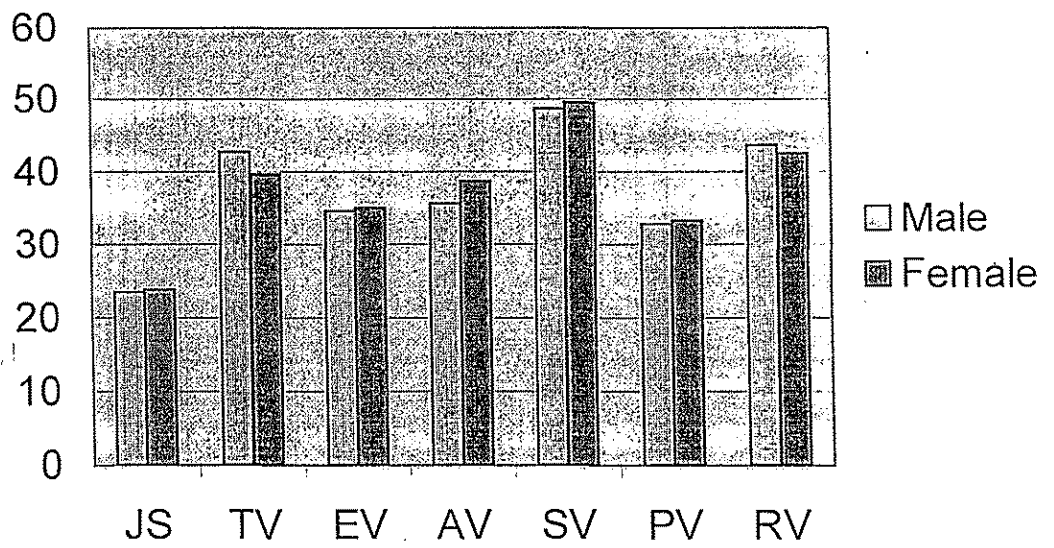
To test the significance of difference in the values and job satisfaction of male and female teachers, collected data was treated with t- test and the scores of the test are given in table 4.6.

**Table No. 4.6 T-differences in values and job satisfaction of male and female elementary school teachers belonging to different age groups.**

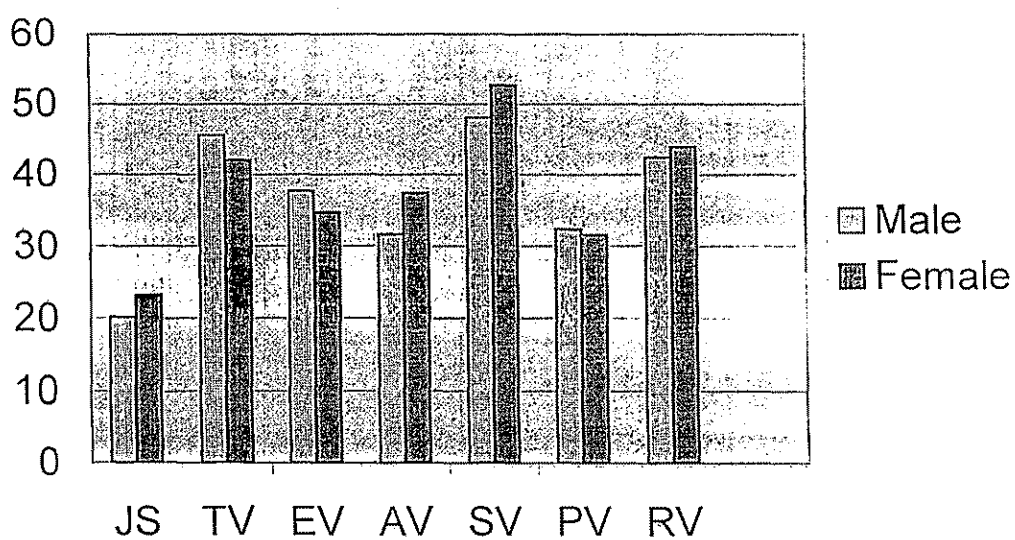
Variables	Sex	21-30 Yrs.				31-40 Yrs.				41-50 Yrs.				51-60 Yrs.			
		N	M	t	Sig.	N	M	t	Sig.	N	M	t	Sig.	N	M	t	Sig.
J.S.	M	17	24.24	0.03	0.99	21	22.90	0.66	0.51	11	24.18	1.37	0.17	05	17.80	4.30	0.11
	F	31	24.24			36	24.05			44	23.39			39	24.41		
T	M	17	43.71	0.79	0.42	21	43.52	1.65	0.10	11	44.91	0.95	0.34	05	44.80	1.19	0.23
	F	31	41.97			36	41.57			44	39.84			39	40.56		
E	M	17	39.00	0.00	1.00	21	37.67	0.06	0.94	11	34.27	0.55	0.57	05	36.00	0.11	0.91
	F	31	39.00			36	36.38			44	34.48			39	36.36		
A	M	17	36.82	0.52	0.60	21	37.81	2.54	0.01	11	31.91	0.21	0.82	05	28.60	2.20	0.03
	F	31	38.16			36	38.21			44	38.77			39	38.85		
S	M	17	43.59	2.48	0.01	21	47.43	0.11	0.90	11	50.27	0.98	0.32	05	50.60	0.11	0.90
	F	31	50.00			36	48.98			44	50.55			39	50.21		
P	M	17	36.54	2.85	0.00	21	32.90	0.12	0.89	11	32.73	0.77	0.44	05	31.20	0.89	0.37
	F	31	30.02			36	31.71			44	33.07			39	34.26		
R	M	17	41.00	0.22	0.82	21	41.10	0.29	0.76	11	43.91	0.57	0.56	05	47.20	1.44	0.15s
	F	31	40.35			36	41.50			44	42.73			39	40.54		



**Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers having experience of below 10 yrs.**



**Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers having experience of 11 to 20 yrs.**



**Comparison of Means of Values and Job Satisfaction of Male and Female Elementary School Teachers having experience of 21 to 30 yrs.**

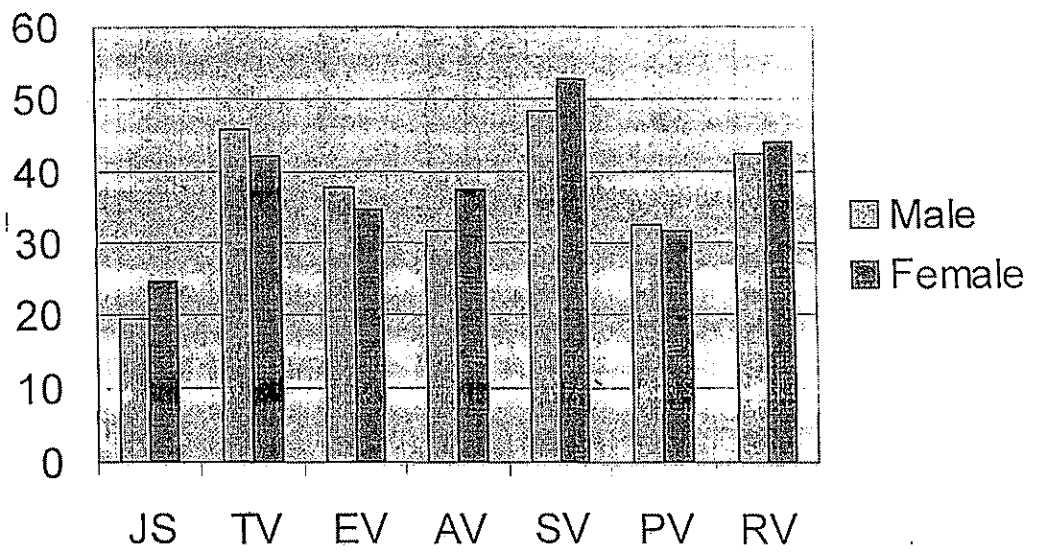


Table 4.6 enables that :

- There is no significant difference in the job satisfaction between male and female teachers belonging to age group 21-30 years that is male and female teachers belonging to age group 21-30 years do not differ in their job satisfaction.
- The t-value for economic value in male and female teachers is 0.00, it implies that both have equal level of economic value.
- Male and female teachers belonging to age group 21-30years possess remarkable t-difference in social and political values held by them. Females of this age group are more social than men , while males of this age group are more political than females.
- In the age group 31-40 years there is no significant difference in the values and job satisfaction of male and female teachers of elementary schools.
- There is a significant difference in the job satisfaction of male and female elementary school teachers belonging to age group 51-60 years, female teachers are more satisfied than male teachers of this age group.
- There is no significant difference in economic value held by male and female teachers of elementary schools belonging to age group 51-60 years.

There is a remarkable (but not significant) difference in the aesthetic value held by male and female teachers of elementary schools belonging to age group 51-60 years. Female teachers are better in aesthetic value than male teachers of this age group.

To study the effect of experience on values and job satisfaction of male and female teachers of elementary schools data was analyzed with the help of ANOVA, and the results are given in table 4.7.

**Table No. 4.7 Interactional effect of experience on values and job satisfaction of male and female elementary school teachers**

Variables	Below 10 Yrs.		11-20 Yrs.		21-30 Yrs.		31-40 Yrs.	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.
J.S.	0.46	0.49	0.32	0.57	6.25	0.06	0.97	0.33
T	0.16	0.68	1.40	0.23	0.18	0.66	0.75	0.39
E	2.70	0.10	0.05	0.82	2.03	0.16	1.02	0.31
A	1.21	0.27	0.39	0.53	0.43	0.51	1.15	0.29
S	0.69	0.40	0.41	0.52	0.66	0.42	0.00	0.97
P	1.47	0.22	0.13	0.71	0.43	0.51	0.00	0.98
R	0.01	0.92	0.46	0.49	0.10	0.74	1.04	0.31..



Table 4.7 indicates that :

- There is no significant variance in the values and job satisfaction of male and female teachers of elementary schools belonging to different levels of experience that is experience is not the source of variation in values and job satisfaction of male and female teachers of elementary schools.
- In case of teachers having experience of below ten years, F- value is 0.01 it indicates that experience is not the source of variance in values and job satisfaction of male and female elementary school teachers.
- In case of teachers having experience of 21-30 years F-value for job satisfaction of male and female elementary school teachers is remarkably high, which indicates that in this group of experience the variance in job satisfaction may be due to their experience.
- In case of elementary school teachers having experience of 31-40 years, F-value for social and political values is negligible. It means that in this group of experience there is no interactional effect of experience on social and political values of male and female teachers of elementary schools.

Table 4.8 shows t- differences in values and job satisfaction of male and female teachers of elementary schools

Table No. 4.8 t-differences in values and job satisfaction of male and female elementary school teachers.

Variable	Sex	Below 10 yrs				11 - 20 yrs				21 - 30yrs				31 - 40yrs			
		N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t
J.S.	M	29	23.74	3.84	0.61	17	23.47	3.18	0.29	06	20.17	6.97	1.64	02	19.50	4.95	2.30
	F	65	24.28	3.39		51	23.75	3.38		25	23.20	3.12		29	24.55	2.90	
T	M	29	44.31	7.35	1.93	17	42.71	8.64	1.13	06	45.67	9.09	1.07	02	45.06	4.24	0.61
	F	65	41.22	7.07		51	39.67	9.87		25	42.05	7.00		29	41.76	7.30	
E	M	29	39.21	6.95	0.43	17	34.50	9.76	0.16	06	37.67	5.61	0.77	02	30.50	3.54	1.12
	F	65	38.43	3.38		51	34.98	9.44		25	34.72	8.78		29	35.35	6.23	
A	M	29	36.90	6.97	0.94	17	35.59	8.46	1.39	06	31.67	10.94	1.32	02	24.50	3.54	2.09
	F	65	38.49	7.82		51	38.73	7.85		25	37.40	9.19		29	39.03	9.65	
S	M	29	48.38	6.96	2.10	17	48.71	5.87	0.46	06	48.17	9.72	1.42	02	55.00	7.07	1.03
	F	65	48.94	7.81		51	49.57	6.85		25	52.72	6.35		29	49.93	6.39	
P	M	29	34.93	7.54	2.43	17	32.76	6.29	0.27	06	32.33	6.35	0.22	02	32.50	7.78	0.37
	F	65	31.15	7.40		51	33.29	7.01		25	31.60	7.48		29	34.48	7.30	
R	M	29	40.59	9.26	0.28	17	46.35	9.91	0.35	06	42.50	9.46	0.35	02	52.50	3.54	1.72
	F	65	41.17	9.06		51	42.51	11.9		25	44.40	9.47		29	39.41	10.55	

It is obvious from table 4.8 that:

- There is no significant difference in values and job satisfaction of male and female teachers of elementary schools belonging to the group of experience below ten years.
- There is a remarkable but not significant difference in social and political values held by male and female teachers belonging to group of experience below ten years.
- There is a remarkable difference in the job satisfaction of male and female elementary school teachers belonging to the group of experience 31-40 years. Female teachers of this group of experience have more job satisfaction than male teachers of this group.

Thus, the hypothesis that “there is no significant variance in values and job satisfaction of male and female elementary school teachers belonging to different age groups and experience” is accepted with some exceptions.

#### *4.3.2 Analysis of relationship in values and job satisfaction of elementary school teachers working in govt., govt. aided and private schools.*

##### **Hypothesis-3**

"Values and job satisfaction of elementary school teachers working in govt., govt. aided and private schools are not significantly related to each other."

This hypothesis is aimed at analyzing the relationship between values and job satisfaction of elementary school teachers working in govt., govt. aided



and private schools. To find out the correlation between values and job satisfaction of elementary school teachers working in govt. govt. aided and private schools the data was analyzed by Pearson's coefficient of correlation and the results are given in table 4.9.

**Table No. 4.9 Correlational analysis of values and job satisfaction of teachers working in govt., govt. aided and private elementary schools**

Variable	Sc.	T	E	A	S	P	R
J.S.	G.	0.01	0.04	0.05	-0.10	0.17	-0.11
	G.A.	0.01	0.04	0.05	-0.45**	0.31	-0.16
	Pr.	0.14	0.01	0.13	0.09	-0.15	-0.14

Table 4.9 shows that:

- The relationship between theoretical value and job satisfaction of elementary school teachers is not significant. That is there exist no significant relationship between theoretical value and job satisfaction of elementary school teachers working in govt., govt. aided and private schools.
- There is no significant relationship between job satisfaction and economic value among govt., govt. aided and private elementary school teachers.
- There exists no significance relationship between job satisfaction and aesthetic value among govt., govt. aided and private elementary school teachers.

- Job satisfaction of govt. and private school teachers has no significant relationship with social value. But the teachers of govt.-aided elementary schools have negative but significant correlation between job satisfaction and social values.
- The teachers of govt., private and govt., aided schools have no significant relationship between job satisfaction and political value. But the teachers of govt.-aided elementary schools have remarkable positive correlation between job satisfaction and political value.
- The teachers of govt. aided and private schools have no significant correlation between job satisfaction and religious value.
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Thus the hypothesis that “values and job satisfaction of male and female elementary school teachers are not significantly related to each other” is accepted with some exceptions.

#### *4.3.3 Analysis of relationship between values and job satisfaction of elementary schools teachers belonging to different categories (sex, age and experience.)*

##### **Hypothesis –4**

"Values and job satisfaction of elementary school teachers belonging to different categories (sex, age and experience) are not significantly related to each other".

This hypothesis aimed at analyzing the relationship between values and job satisfaction of elementary schools teachers belonging to different categories (sex, age and experience) the results of correlational analysis are given in table 4.10,4.11 and 4.12.

**Table No. 4.10 Correlational ; analysis of values and job satisfaction of male and female elementary school teachers**

Variable	Sex.	T	E	A	S	P	R
J.S.	M	0.06	0.05	0.03	-0.22	0.23	-0.04
	F	0.10	0.05	0.06	-0.66	0.00	-0.17

Table 4.10 shows the correlation analysis of value and job satisfaction of male and female elementary school teachers. It indicates that :

There is no significant correlation between job satisfaction and all the values. But there exists negative but remarkable correlation between job satisfaction and social value of male teachers. and a positive remarkable correlation between job satisfaction and political value of male teachers. It opposes the finding of Rawat (1992) But there exists no relationship between job satisfaction and political value of female teachers. The results of this study in this dimension are in similar line with the findings of the study conducted by Shrivastava (1990).

**Table No. 4.11 Correlational analysis of values and job satisfaction of elementary school teachers with different age groups.**

Variable	Age (Yrs.)	T	E	A	S	P	R
J. S.	21-30	0.12	0.17	-0.01	-0.16	0.07	-0.07
	31-40	0.05	0.02	0.08	-0.07	-0.10	0.03
	41-50	0.18	-0.13	0.04	-0.23	0.07	-0.15
	51-60	-0.13	0.13	0.15	0.18	0.17	-0.40**

Table 4.11 shows the correlation analysis of values and job satisfaction of elementary schools teachers with varied levels of age. It indicates that there is no significant relationship between job satisfaction and all the five values except religious value among all the four age group. There is a negative but significant correlation between job satisfaction and religious values for the elementary school teachers belonging to the age group 51- 60 yrs. There exists negligible correlation between job satisfaction and aesthetic value among the elementary schools teachers belonging to age group 21-30. The study of Agrawal (1991) shows that there exist significant correlation between economic, political values and job satisfaction.

**Table No. 4.12 Correlational analysis of values and job satisfaction of elementary school teachers with varied levels of experience**

Variable	Experience (Yrs.)	T	E	A	S	P	R
J.S.	Below 10	0.12	0.13	-0.52	-0.09	-0.06	-0.00
	11-20	0.09	-0.07	0.07	-0.14	0.13	-0.14
	21-30	0.01	-0.08	0.12	0.04	0.21	-0.19
	31-40	-0.07	0.18	0.25	0.15	-0.02	-0.37*

Table 4.12 shows the correlational analysis of values and job satisfaction of elementary school teachers with varied levels of experience. The results indicates that there is no significant correlation between job satisfaction and all the six values among elementary schools teachers having experience below ten years, 11-20 yrs and 21- 30 yrs. There is no significant correlation between job satisfaction and theoretical, economic, aesthetic, social and political values but negative and significant correlation between job satisfaction and religious value among the elementary school teachers having 31-40 years experience.

Thus the hypothesis that “values and job satisfaction of elementary school teachers belonging to different categories (sex, age and experience) are not significantly correlated with each other” is accepted with some exceptions.