**Chapter 4**

**ANALYSIS AND INTERPRETATION OF DATA**

Research generally includes two important parts gathering of data and analysis and interpretation of data. Chapter four is the blue print result of chapter third where the scored data is analyzed and interpreted with the help of suitable scientific methods. Generally the scored data has no meaning unless until it is analysis in a systematic and scientific way with the help of an appropriate statistical techniques and analysis of data means understanding the data very carefully in order to determine inherent fact in it. It involves the breaking up of the complex factors into simple parts and putting them in new arrangements for the purpose of interpretations.

However, the researcher not only has adequate knowledge about the selection of appropriate tools that can guarantee the accomplishment of objectives and process of data collection but also has adequate knowledge about systematic application of statistical technique for data analysis and interpretation. Because it is the important act of research which transforming data with the aim of extracting useful information and facilitating conclusion. Data analysis is the process of systematically applying statistical and or logical techniques to describe and illustrate, condense, recap and evaluate data. In the present endeavor, the investigator has made an attempt to analyze and interpret the data of the present study by using different statistical techniques.

*Table No. 5 Correlation Coefficient Strength Table*

| | |
|---|---|
| +(-)1 Perfect Positive (Negative) Correlation | |
| .81 to +(-) .99 | Very High Positive (Negative) Correlation |
| .71 to +(-) .80 | High Positive (Negative) Correlation |
| .41 to +(-) .70 | Substantial Positive (Negative) Correlation |
| .21 to +(-) .40 | Low Positive (Negative) Correlation |
| 0 to +(-).2 | Negligible Positive (Negative) Correlation |

**Objective 1. To study the level of social freedom and its effect on teaching of women teacher educators.**

**Hypotheses 1: There will be no significant effect of social freedom on the teaching of women teacher educators.**
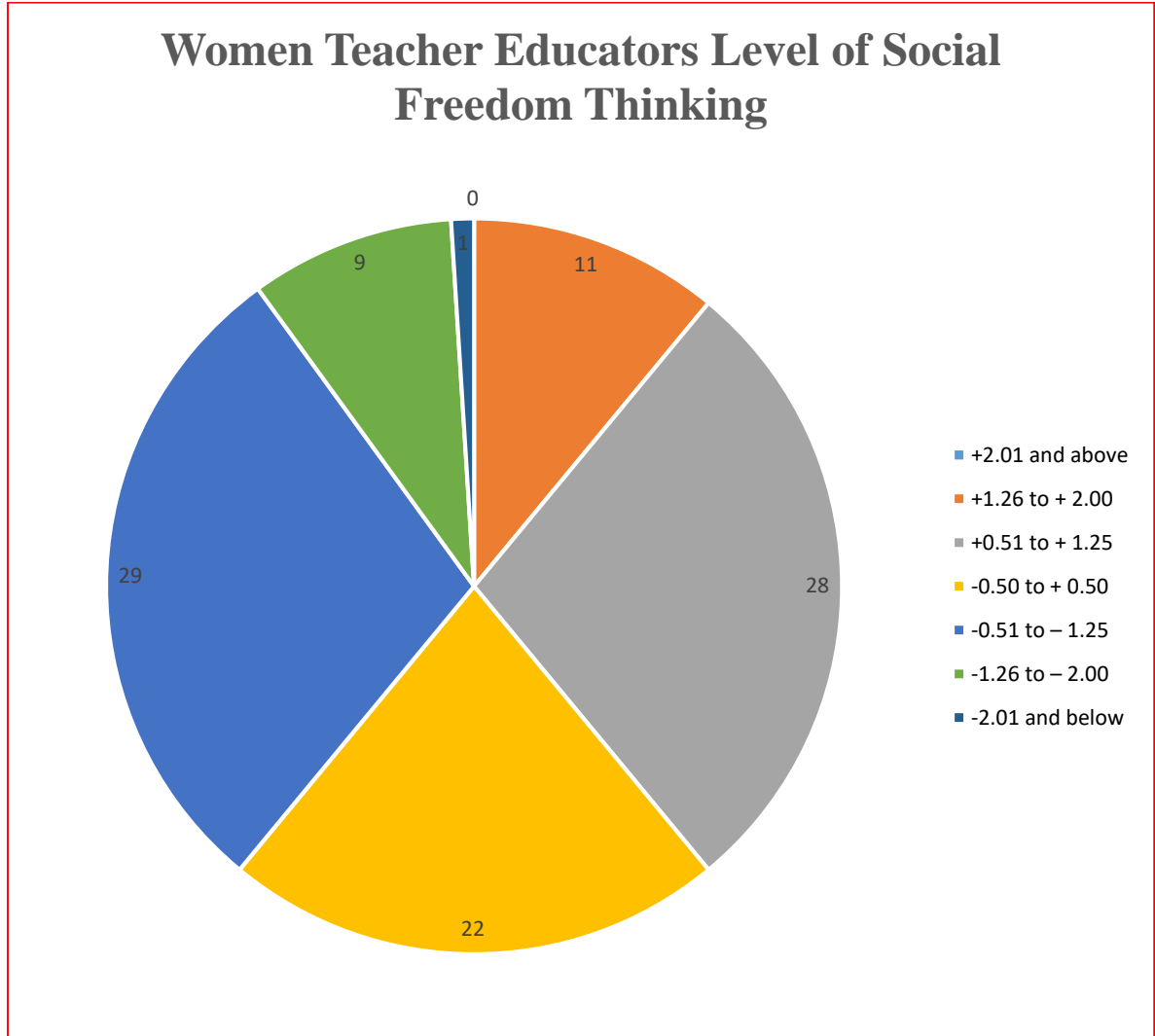
*Table No. 6: Women Teacher Educators Correlation and Regression*

**SUMMARY OUTPUT**

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.950 |
| R Square | 0.903 |
| Adjusted R Square | 0.902 |
| Standard Error | 1.793 |
| Observations | 100 |

**ANOVA**

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 2923.042 | 2923.042 | 908.965 | 0.000 |
| Residual | 98 | 315.148 | 3.216 | | |
| Total | 99 | 3238.190 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 43.990 | 0.830 | 53.025 | 0.000 | 42.343 | 45.636 |
| X Variable 1 | 1.519 | 0.050 | 30.149 | 0.000 | 1.419 | 1.619 |

*Table No. 7 Women Teacher Educators Level of Social Freedom Thinking*

| Sr. No. | Range of Z-Scores | Grade | Level of Social Freedom Thinking | No. of Women Teacher Educators |
|---|---|---|---|---|
| 1 | +2.01 and above | A | Extremely High | 0 |
| 2 | +1.26 to + 2.00 | B | High | 11 |
| 3 | +0.51 to + 1.25 | C | Above Average | 28 |
| 4 | -0.50 to + 0.50 | D | Average/Moderate | 22 |
| 5 | -0.51 to – 1.25 | E | Below Average | 29 |
| 6 | -1.26 to – 2.00 | F | Low | 9 |
| 7 | -2.01 and below | G | Extremely Low | 1 |

**Figure No. 1 Women Teacher Educators Level of Social Freedom Thinking**



**Women Teacher Educators Level of Social Freedom Thinking**

Legend:
- +2.01 and above
- +1.26 to + 2.00
- +0.51 to + 1.25
- -0.50 to + 0.50
- -0.51 to − 1.25
- -1.26 to − 2.00
- -2.01 and below

**Interpretation of the result:** The value of correlation between the Social freedoms of women teacher educators and effect of teaching with respect to achievement comes out to be 0.950. It means these variables are highly and positively correlated. It means if we increase one variable than the other variable will also increase. How much it will increase it is calculated by regression analysis. The regression analysis is run in the excel with dependent variable is student performance which is used as a measure of teaching of women teacher educators. The regression equation comes out to

## Students Performance = 43.9895 + 1.518 × Social Freedom

The value of Coefficient comes out to be significant judged by the significant value. If significant value is less than 0.05. We should reject the null hypothesis that Coefficient value is zero. In our case the significant value comes out to be nearly equal to zero or it is less than 0.05 so the coefficient value in our case is significant. The model is significant because of ANOVA table the p value comes out to be less than 0.05. In other words If we increase the one unit value of S F (Social Freedom) than student performance will increase by the value of 1.518.

The hypotheses; there will be no significant effect of social freedom on the teaching of women teacher educators is not accept and therefore there is a significant effect of social freedom on the teaching of women teacher educators. It has been observed that if the women teacher educator gets social freedom in terms of selecting the subject, choice of work place, use of relevant teaching methods, teaching techniques, teaching aids and participate in curriculum implementation than her teaching becomes very effective. This shows the effect in the result of the students. The above table and figure shows the women teacher educator's level of social freedom thinking. As per the result no women teacher educator keeps extremely high level of social freedom thinking. Only twenty eight women's keep above average level of social freedom thinking and twenty nine women's keep below average level of social freedom thinking. Only one women keep above extremely low level of social freedom thinking. Out of 100 women teacher educators only 22 were average/moderate level of social freedom thinking.

**Objective 2. To study the social freedom and its effect on teaching of rural women teacher educators.**

**Hypothesis 2. There will be no significant effect of social freedom on the teaching of rural women teacher educators.**
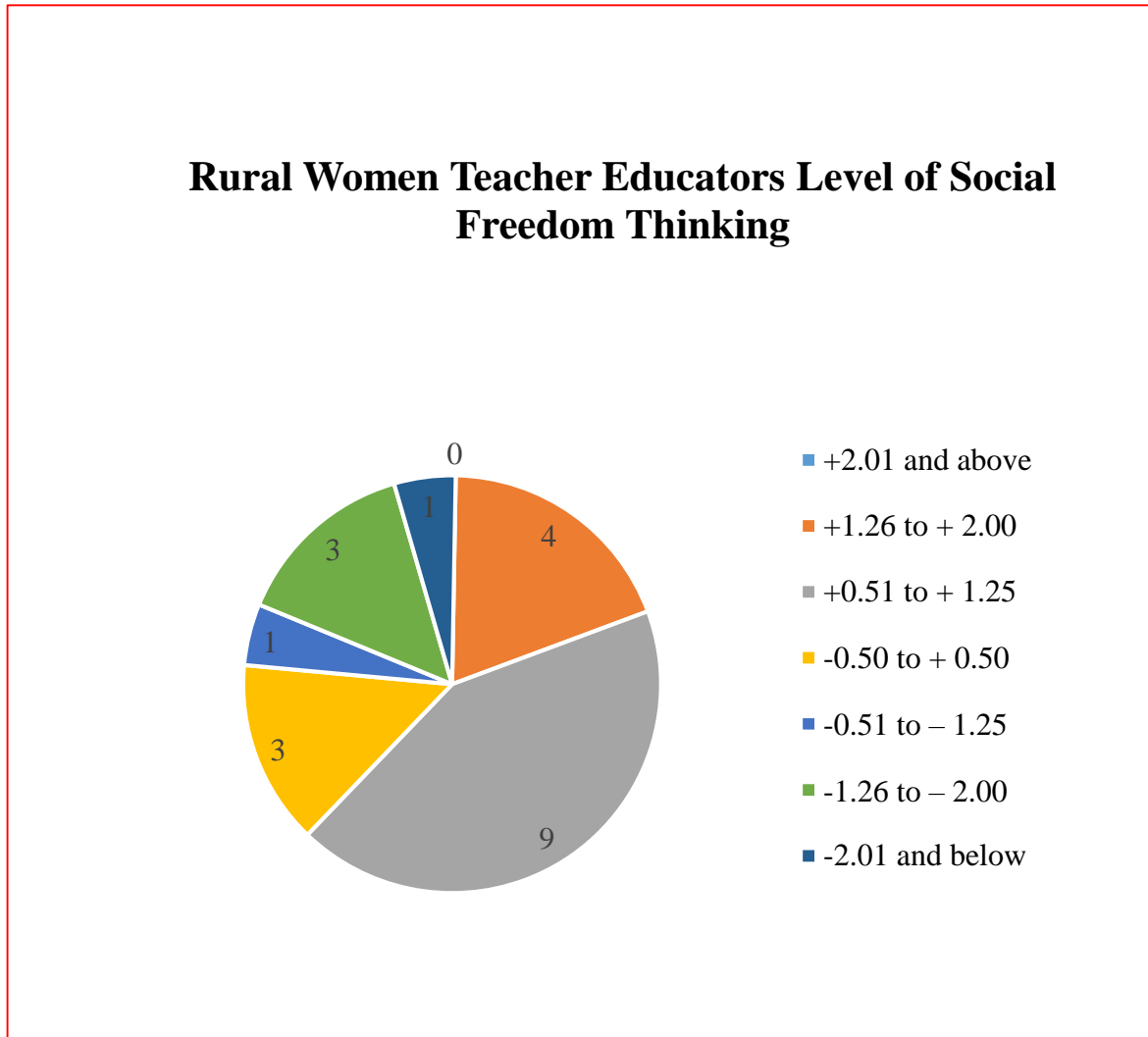
*Table No. 8: Rural Women Teacher Educators Correlation and Regression*

**SUMMARY OUTPUT**

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.964 |
| R Square | 0.930 |
| Adjusted R Square | 0.927 |
| Standard Error | 1.935 |
| Observations | 21 |

**ANOVA**

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 947.836 | 947.836 | 253.230 | 0.000 |
| Residual | 19 | 71.117 | 3.743 | | |
| Total | 20 | 1018.952 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 41.602 | 1.831 | 22.723 | 0.000 | 37.770 | 45.434 |
| X Variable 1 | 1.654 | 0.104 | 15.913 | 0.000 | 1.436 | 1.871 |

*Table No. 9 Rural Women Teacher Educators Level of Social Freedom Thinking*

| Sr. No. | Range of Z-Scores | Grade | Level of Social Freedom Thinking | No. of Women Teacher Educators |
|---|---|---|---|---|
| 1 | +2.01 and above | A | Extremely High | 0 |
| 2 | +1.26 to + 2.00 | B | High | 4 |
| 3 | +0.51 to + 1.25 | C | Above Average | 9 |
| 4 | -0.50 to + 0.50 | D | Average/Moderate | 3 |
| 5 | -0.51 to – 1.25 | E | Below Average | 1 |
| 6 | -1.26 to – 2.00 | F | Low | 3 |
| 7 | -2.01 and below | G | Extremely Low | 1 |

*Figure No. 2 Rural Women Teacher Educators Level of Social Freedom Thinking*

### Rural Women Teacher Educators Level of Social Freedom Thinking



Legend:
- +2.01 and above
- +1.26 to + 2.00
- +0.51 to + 1.25
- -0.50 to + 0.50
- -0.51 to – 1.25
- -1.26 to – 2.00
- -2.01 and below

**Interpretation of the result:** The value of correlation between the Social freedom of rural women teacher educators and effect of teaching with respect to achievement comes out to be 0.964. It means these variables are highly positively correlated. It means if we increase one variable the other will increase. How much it will increase it is calculated by regression analysis. The regression analysis is run in the excel with dependent variable is

student performance which is used as a measure of teaching of rural women teacher educators. The regression equation comes out to

## Students Performance = 41.602 + 1.653 × Social Freedom

The value of Coefficient comes out to be significant judged by the significant value. If significant value is less than 0.05. We should reject the null hypothesis that Coefficient value is zero. In our case the significant value comes out to be nearly equal to zero or it is less than 0.05 so the coefficient value in our case is significant. The model is significant because of ANOVA table the p value comes out to be less than 0.05. In other words If we increase the one unit value of SF (Social Freedom) than student performance will increase by the value of 1.653.

The hypotheses; there will be no significant effect of social freedom on the teaching of rural women teacher educators is not accept and therefore there is a significant effect of social freedom on the teaching of rural women teacher educators. It has been observed that if the rural women teacher educator gets social freedom in terms of selecting the subject, choice of work place, use of relevant teaching methods, teaching techniques, teaching aids and participate in curriculum implementation than her teaching becomes very effective. This shows the effect in the result of the students. The above table and figure shows the rural women teacher educator's level of social freedom thinking. As per the result no women teacher educator keeps extremely high level of social freedom thinking. Only nine women's keep above average level of social freedom thinking and one women keep below average and extremely low level of social freedom thinking. Only three women keep average and low level of social freedom thinking.

**Objective 3. To study the social freedom and its effect on teaching of urban women teacher educators.**

**Hypothesis 3. There will be no significant effect of social freedom on the teaching of urban women teacher educators.**
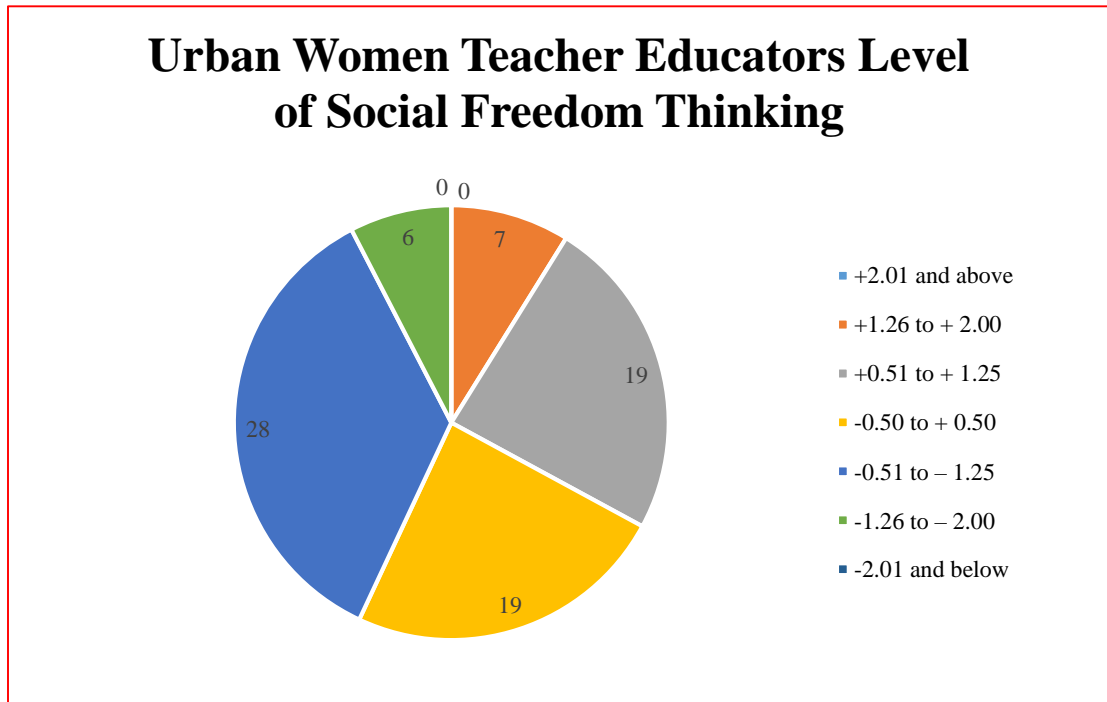
*Table No. 10: Urban Women Teacher Educators Correlation and Regression*

**SUMMARY OUTPUT**

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.944 |
| R Square | 0.891 |
| Adjusted R Square | 0.889 |
| Standard Error | 1.748 |
| Observations | 79 |

**ANOVA**

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 1920.680 | 1920.680 | 628.474 | 0.000 |
| Residual | 77 | 235.320 | 3.056 | | |
| Total | 78 | 2156 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|
| Intercept | 44.803 | 0.946 | 47.361 | 0.000 | 42.919 | 46.687 |
| X Variable 1 | 1.468 | 0.059 | 25.069 | 0.000 | 1.352 | 1.585 |

*Table No. 11 Urban Women Teacher Educators Level of Social Freedom Thinking*

| Sr. No. | Range of Z-Scores | Grade | Level of Social Freedom Thinking | No. of Women Teacher Educators |
|---|---|---|---|---|
| 1 | +2.01 and above | A | Extremely High | 0 |
| 2 | +1.26 to + 2.00 | B | High | 7 |
| 3 | +0.51 to + 1.25 | C | Above Average | 19 |
| 4 | -0.50 to + 0.50 | D | Average/Moderate | 19 |
| 5 | -0.51 to – 1.25 | E | Below Average | 28 |
| 6 | -1.26 to – 2.00 | F | Low | 6 |
| 7 | -2.01 and below | G | Extremely Low | 0 |

*Figure No. 3 Urban Women Teacher Educators Level of Social Freedom Thinking*



**Urban Women Teacher Educators Level of Social Freedom Thinking**

Legend:
- +2.01 and above
- +1.26 to + 2.00
- +0.51 to + 1.25
- -0.50 to + 0.50
- -0.51 to – 1.25
- -1.26 to – 2.00
- -2.01 and below

Values shown: 0, 0, 6, 7, 19, 28, 19

**Interpretation of the result:** The value of correlation between the Social freedom of urban women teacher educators and effect of teaching with respect to achievement comes out to be 0.943. It means these variables are highly and positively correlated. It means if we increase one variable the other will increase. How much it will increase it is calculated by regression analysis. The regression analysis is run in the excel with dependent variable is student performance which is used as a measure of teaching of urban women teacher educators. The regression equation comes out to

## Students Performance =44.802+1.468× Social Freedom

The value of Coefficient comes out to be significant judged by the significant value. If significant value is less than 0.05. We should reject the null hypothesis that Coefficient value is zero. In our case the significant value comes out to be nearly equal to zero or it is less than 0.05 so the coefficient value in our case is significant. The model is significant

because of ANOVA table the p value comes out to be less than 0.05. In other words If we increase the one unit value of SF than student performance will increase by the value of 1.468.

The hypotheses; there will be no significant effect of social freedom on the teaching of urban women teacher educators is not accept and therefore there is a significant effect of social freedom on the teaching of urban women teacher educators. It has been observed that if the urban women teacher educator gets social freedom in terms of selecting the subject, choice of work place, use of relevant teaching methods, teaching techniques, teaching aids and participate in curriculum implementation than her teaching becomes very effective. This shows the effect in the result of the students. The above table and figure shows the urban women teacher educator's level of social freedom thinking. As per the result no women teacher educator keeps extremely high level of social freedom thinking. Only nineteen women's keep above average and average level of social freedom thinking and twenty eight women keep below average level of social freedom thinking. Only seven women keep high level of social freedom thinking.

The study shows that in district Rohtak which is a developed city but no women teacher educator was found fully socially freedom thinking. On the other hand only one women teacher educator keeps extremely low level of social freedom thinking. The result can also be interpreted that if women teacher educator do not keeps social freedom thinking than what level of teaching learning process they are using in the class room. It also reflects the level of their decision making power. On the basis of the verbal discussion these women do not take interest in changing their life style and also the methodology used in the classroom. They do not have exposure of visiting other higher education institution.