CHAPTER 5

ORGANIZATION AND ANALYSIS OF DATA

The data of the study have been processed mainly through computer, and some minor part of the work has been done by the researcher with the help of an electronic calculating machine. To facilitate description of the treatments made to the data, separate sections are being used.

5.1 ORGANIZATION OF DATA

Individual scores on the criterion (WE) and the independent variables (viz. W, T, C & S) as well have been obtained to constitute the data for the investigation. The raw scores are shown in Table 5.01 through 5.015, through for the urban groups and in Tables 5R.01 through 5R.015 as in urban cases for the rural group.

In the study there are fifteen subgroups for each of the urban and rural areas. The frequency distribution for the group are shown in Tables 5.011 through 5.0115, 5.021 through 5.0215, 5.031 through 5.0315, 5.041 through 5.0415 and 5.051 through 5.0515 for the urban groups and in Tables 5R.011 through 5R.0115 and so on as in the urban areas upto 5R.0515. Thus there are in all, 150 frequency distributions.

5.2 ANALYSIS OF DATA

Analyses are described, for the sake of convenience, under different sub-sections as below:

5.21 DESCRIPTIVE STATISTICS

The following statistics have been obtained.

i) Internal consistency co-efficient (co-efficient α) for the three Attitude Scales (i.e. WE, W, and T) with measures are 0.83, 0.80 and 0.77 respectively.

ii) Test - Retest reliability of the scales assessing variables WE, W, T and C have been computed on a sample of 54 persons after an interval of one month. The respective measures are 0.74, 0.78, 0.72 and 0.78.

iii) Test retest reliability for the SESS has been calculated by the author of the scale (Kulshrestha, 1980, 1987). The measures for the Rural and Urban scale are 0.85 and 0.87 respectively.
VALIDITY

For all the scales except SES scale, items were adjudged valid by a body of experts. So they have content as well as consensus validity only. The validity of S.E.S. has been discussed in Chapter 4.

iv) Mean, SD, Skewness and Kurtosis for each of the five variables WE, W, T, C and S taken in order are shown in Tables 5 U.21 through 5 U.25 and 5R.21 through 5R.25 respectively. To point out pertinently, in computer analysis, the values of T1 and T2 (in moment terminology) have been used to indicate Skewness and Kurtosis respectively (Kapoor and Saxena, 1976). In the tables, however, sk and ku have been used to denote them. Further, the values 6/N and 24/N have been used to represent the respective variances of the sk and ku in the respective cases (Goon, Gupta and Dasgupta 1975). The respective Z values are shown just below the values of sk and ku. For the Total Group ( urban and rural variables other than S (because the rural and urban scales are not comparable) and the dates are given in Table 5G.

5.22 SIGNIFICANCE TESTING

t-tests have been applied to test the significance of difference between various group means. The significance of the difference between group means has been tested at .05 level; and for other cases of significance testing also, .05 has been assumed to be the desired level of significance. Before applying t-tests it has been verified if the assumption of homogeneity or equality of variance holds good. For equally variable cases the common variance and SE have been computed in terms of the formulas.

\[
s^2 = \frac{(N - 1)s^2 + (N - 1)s^2}{N + N - 2}
\]

and \[
SE = \frac{N + N}{s^2} \]

respectively.
For equally variable cases SE has been calculated as 
\[
SE = \sqrt{\frac{s^2}{N} + \frac{s^2}{N_1} + \frac{s^2}{N_2}}
\]
where, in all the cases, the symbols bear usual meanings (Walker and Lev, 1965). To test homogeneity of variance F-ratio (FR) tests have been used and .05 has been assumed to be the desired level of significance.

The results of homogeneity testing are shown in Tables 5.111 through 5.113; 5.121 through 5.123, 5.131 through 5.133; 5.141 through 5.143; and 5.151 through 5.152, in respect of the five variables WE, W, T, C and S respectively.

The results of t tests to test the significance of difference between various group means in pairs have been shown in Tables 5.211 through 5.213; 5.221 through 5.223; 5.241 through 5.243; and 5.251 through 5.252 in respect of the five variables WE, W, T, C and S respectively.

5.23 CORRELATIONAL ANALYSIS

To examine how the criterion (WE) is related with other variables and how the independent variables are related to each other, product moment correlation coefficients have been computed. The results are shown in Tables 5.21 through 5.24. The significance of the correlations has been ascertained by comparing the values with the significant values for different degrees of freedom as given in Garrett (1967, Table 25, p 201). Coefficients of partial correlations between the criterion and independent variables are shown in Tables 5.31 and 5.32. t - tests have been applied to test their significance (Anderson, 1972, Walker and Lev, 1965). To point out pertinently, the suffixes 1,2,3,4,5 have been used to denote WE, W, T, C and S respectively in correlation coefficients.

5.24 REGRESSION ANALYSIS

To examine how far the independent variables predict attitudes towards women's education, several linear multiple regression analyses have been carried out with WE as the criterion and W, T, C and S as the independent variables. The results are shown in sufficient details in Tables 5.41 and 5.42.
5.25 MULTIPLE CORRELATION

Multiple correlation, that is correlation of WE with all other variables together has been computed for rural and urban groups. The results are shown in Tables 5.51 and 5.52. In order to test the significance of an obtained R with K predictor variables, for a sample of size N, the study has used the ratio.

\[
FR = \frac{R^2}{1 - R^2} \times \frac{N - K - 1}{K}
\]

with \( N = K \)

\( N = N - K - 1 \) degrees of freedom

Anderson, 1972 and Walker and Lev, 1965

5.26 ISOLATION OF VALID PREDICTORS

In the study, the predictor variables (e.g. W, T, C & S) with significant partial correlation coefficients with WE have been considered to be valid predictors as indicated in Tables 5.31 and 5.32.
5.3 ABBREVIATIONS

For the sake of brevity, clarity and also facility of expression, a number of abbreviations and symbols have been used in the study. A glossary of them is furnished below under different sub-sections.

5.31 Variables

X or WE       Women’s Education
  1
X or W        Women
  2
X or T        Traditionalism
  3
X or C        Facilities
  4
X or S        Socio Economic Status
  5

5.32 Groups

B = Brahmins
D = Student
E = Non-student
F = Female
J = Rajput
M = Male
N = Number of people
O = Other Castes
R = Rural
U = Urban
REM = Rural nonstudent male
REMJ = Rural nonstudent male Rajput
REMO = Rural nonstudent male of other castes
REFB = Rural nonstudent female Brahmin
REF = Rural nonstudent female Rajput
REFO = Rural nonstudent female of other castes
REM = Rural nonstudent male
REF = Rural nonstudent female
RDM = Rural student male
RDF = Rural student female
RE = Rural nonstudent
RD = Rural student
RM = Rural male
RF = Rural female
UEMB = Urban nonstudent male Brahmin
UEMJ = Urban nonstudent male Rajput
UEMO = Urban nonstudent male of other castes
UEFB = Urban nonstudent female Brahmin
UEFJ = Urban nonstudent female Rajput
UEFO = Urban nonstudent female of other castes
UEM = Urban nonstudent male
UEF = Urban nonstudent female
UDM = Urban student male
UDF = Urban student female
UE = Urban nonstudent
UD = Urban student
UM = Urban male
UF = Urban female
SG = Mean and SD for the whole group
it, Rural + Urban combined
5.33 STATISTICAL SYMBOLS

\[ b = (X) \left( \frac{(b \times X) + (b \times X) + (b \times X)}{1 \times 1} \right) \]

- \( b = \text{Coefficient of Regression of WE ON W} \)
- \( b = \text{Coefficient of Regression of WE ON T} \)
- \( b = \text{Coefficient of Regression of WE ON C} \)
- \( b = \text{Coefficient of Regression of WE ON S} \)
- \( df = \text{Degrees of freedom} \)
- \( FR = F - \text{Ratio} \)
- \( H = \text{High group} \)
- \( L = \text{Low group} \)
- \( K = \text{Number of Predictors} \)
- \( Ku = \text{Kurtosis} \)
- \( p = \text{Probability in reference to significance} \)
- \( r = \text{Pearson r} \)
- \( r = \text{Coefficient of Correlation between WE AND W} \)
- \( r = \text{Coefficient of Correlation between WE AND T} \)
- \( r = \text{Coefficient of Correlation between WE AND C} \)
- \( r = \text{Coefficient of Correlation between WE AND S} \)
- \( r = \text{Coefficient of Correlation between WE AND T} \)
- \( r = \text{Coefficient of Correlation between WE AND C} \)
\[ r = \text{Coefficient of Correlation between WE and S} \]
\[ r = \text{Coefficient of Correlation between T and C} \]
\[ r = \text{Coefficient of Correlation between T and S} \]
\[ r = \text{Coefficient of Correlation between C and S} \]
\[ R = \text{Coefficient of Multiple Correlation of WE with other factors, namely W, T, C and S} \]
\[ R = \text{Coefficient of Partial Correlation between WE and W} \]
\[ R = \text{Coefficient of Partial Correlation between WE and T} \]
\[ R = \text{Coefficient of Partial Correlation between WE and C} \]
\[ R = \text{Coefficient of Partial Correlation between WE and S} \]
\[ S = \text{Standard Deviation} \]
\[ SK = \text{Skewness} \]
\[ X = \text{Mean} \]
\[ t = \text{Students' t} \]
\[ SD = \text{Standard Deviation} \]
\[ Z = \text{Standard normal deviate} \]

5.34 MISCELLANEOUS

C.S.W.I. = Committee on the Status of Women in India
C.U. = Calcutta University
I.I.E. = Indian Institute of Education
N.A.E.P. = National Adult Education Programme
N.C.E.R.T = National Council of Educational Research and Training
N.I.E.P.A = National Institute of Educational Planning and Administration

S.E.S.S. = Socio Economic Status Scale

U.P. = Uttar-Pradesh