CHAPTER-III
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3.0 INTRODUCTION

Research design is the plan, structure and mapping strategy, comprising of a statement of the objectives of the inquiry and the strategies for collecting the evidences, analyzing the results and reporting the findings. It is a blueprint of the procedures that enable the researcher to test the hypotheses by reaching valid conclusions about the relationships between the various variables included in the research. It is basically the overall scheme or programme of the research. The selection of the research design is based on the appropriateness of methodology to the problem and the purpose of the research. It also considers the hypotheses under investigation, types of variables to be manipulated, the conditions and limiting factors involved and the variable to be kept under control. The choice of research design, methods of observation, tools for measurement of variables, sample selected and the type of statistical analysis to be employed, should be chosen by the researcher properly. The success of the research largely depends upon the proper selection of the sample, tools for the measurement of variables and the appropriateness of the statistical analysis. By and by study taken for the research should be properly chalked out before starting the research, for which a proper framework or design is mandatory.

The present study intends to study the impact of adjustment and emotional intelligence on the decision making ability of higher secondary school principals. The technique of factorial design has been used in this study.

3.1 VARIABLES INVOLVED IN THE STUDY

Variables are attributes or qualities or conditions which may change in quantity or quality or exhibit differences in magnitude and
which vary along some dimensions. The variables in the present study are mentioned below:

3.1.1 Independent Variables

Independent variable is that factor which is manipulated either directly or by selection to ascertain its relationship to an observed phenomenon. It is that variable which can be controlled. In the present research, the independent variables are Adjustment and Emotional Intelligence.

3.1.2 Dependent Variables

An independent variable is a factor which appears, disappears as the researcher introduces, removes or varies the independent variables, such variables shows the impact of independent variables. In the present research, the dependent variable is Decision Making Ability.

3.1.3 Demographic Variables

For the present research work, Gender and Type of school are taken as demographic variables.

3.2 POPULATION

According to Kerlinger (1984), “The term population and universe mean all the number of any-defined class of people, events or objects.”

All items in any field of inquiry constitute a population. The population of the present research study includes all the government and private higher secondary school principals of the districts of Durg, Rajnandgaon and Raipur in Chhattisgarh state.
DURG

Formed on 1st January 1906 and situated on the east bank of river Shivnath, district Durg is herald of Chhattisgarh’s Industrial Development, Cultural competence, Social harmony and meaningful use of resources. It is a symbol of status, prestige and glory of Chhattisgarh. History of Durg is like conducive inspiration which is unique mixture of oldness and modernity, culture-rite and entrepreneurship.

Durg district is one of the densely populated districts of the Chhattisgarh state of India. On the basis of climate and topography the Chhattisgarh state is divided into 3 agro climatic zones. The Bastar Plateau comprises of Bastar, Dantewada, Beejapur & Narayanpur districts and a part of Kanker (excluding Charama, Narharpur & Kanker Blocks). Northern parts of the state come under "Northern Hilly Region" which comprises of Sarguja, Koriya & Jashpur Districts. Bilaspur, Raipur, Janjgeer-Champa, Raigarh, Rajnandgaon, Kawardha, Durg, Mahasamund, Dhamtari, Korba and parts of Kanker come under "Plains of Chhattisgarh". Durg district is situated in the southern part of the rich Chhattisgarh plain.

Total area of District Durg is 2238.36 Sq. Km. It lies between 20°54' and 21°32' north latitude and 81°10' and 81°36' east longitude. The district is 317 meters above mean sea level. As per Census 2011 (provisional), the population of the district is 17, 21,726. In which 6, 17,184 is rural population and 11, 04,542 is urban population. The district is bounded by Bemetara district in the north, Rajnandgaon district in the west, Balod district in the south and Raipur district in the east. Durg district is situated on the Howrah-Mumbai main line of south-eastern railway. National Highway No. 6 also passes through the district.
Bhilai known as “Mini India” for Industrial development, social harmony and cultural diversity is a twin city of Durg. Establishment of Bhilai Steel Plant (BSP) which is run by Steel Authority Of India Limited (SAIL), in Durg district had created vast opportunities for industrial progress on one hand and on the other hand Durg district has become centre of many other productive activities.

RAJNANDGAON

The District Rajnandgaon came into existence on 26th Jan' 1973, by way of division of District Durg. The Rajnandgaon state was ruled by Somvanshis, Kalchuris and Marathas. The Rajnandgaon was originally named as Nandgram. The Palaces in the town of Rajnandgaon reveals its own tale of the rulers, their society & culture and the splendid tradition during that time. The contribution of Gajanan Madhav Muktibodh, Padumlal Punnalal Bakshi and Baldeo Prasad Mishra in the field of Hindi literature has a special mention. The District Kawardha was later bifurcated from the District on 1st July 1998.

The total geographical area of Rajnandgaon is 8022.55 Sq.Km. It lies between 20°07’ North to 22°3’ North. The district is 330.70 meters above mean sea level. The district has 5 sub-divisions, 9 tehsils and 1 sub-tehsil. The district has 9 blocks and the total population of the district as per Census 2011 (provisional) is 12, 83,224(Male-6, 34,342 and Female-6, 48,882), thus having a population density of 159 per Sq.Km. This district has a literacy percentage of 77.2 % (Male-87.2% and Female-67.6%).

The District Rajnandgaon is in the central part of Chhattisgarh. The District headquarter Rajnandgaon is on the Mumbay - Howrah line of southeastern railways. The National Highway 6 (Great Eastern Road) also
passes through the town of Rajnandgaon. The principal river of the District is Sheonath, a tributary of Mahanadi. The river originates in the border of Chowki block and flows in north eastern direction. The main tributaries of Sheonath are Kharkhara, Sonbarsa, Amner, Surhi, Karra, Murkati, Sankari, Fonk and Hanf.

RAIPUR

Raipur District is situated in the fertile plains of Chhattisgarh Region. This District is situated between $22^\circ 33'$ North to $21^\circ 14'$ North Latitude and $82^\circ 6'$ to $81^\circ 38'$ East Longitude. The District is surrounded by District Bilaspur in North, District Bastar and part of Orissa state in South, District Raigarh and part of Orissa state in East and district Durg in West. The district occupies the south eastern part of the upper Mahanadi valley and the bordering hills in the south and the east. Thus, the district is divided into two major physical divisions, Viz., the Chhattisgarh plain and the Hilly Areas.

Mahanadi is the principal river of this district. Its tributaries being Sendur, Pairy, Sondur, Joan, Kharun and Shivnath. The fertility of lands of Raipur district can be attributed to the presence of these rivers. Mahanadi originating in the hills of Sihava flows in the direction of East into the Bay of Bengal. The area to the west of the river comprising the North Eastern part of Dhamtari (now separated from the Raipur District), the whole of Raipur, Rajim Tehsil and the western part of Baloda Bazar Tehsil is a part of the open Chhattisgarh plain, gently sloping, thickly populated and closely cultivated and almost devoid of forests. The plain also extends in a belt of about 13 to 15 kilometers east of Mahanadi, except between Sirpur and Kasdol where the hills are much close. The Southern part of Mahanadi plain is about 305 meters above the mean sea
level, whereas the northern part is about 244 meters above the mean sea level.

The District Raipur has a total population as per Census 2001 (provisional) is 16,36,301 (Urban-8, 23,276 and Rural-8, 13,025). The district as per Census 2001, has total 9,97,597 literates (Male-5, 90,582 and Female-4, 07,015).

3.3 SAMPLE

A sample is selected in such a way that it truly represents the population. Sampling is done randomly and not haphazardly, so that there is maximum utilization of the chance factor or probability of selection of any and every subject from the population.

Sample was chosen in a systematically random technique, so that the operation of the probability can be utilized. Since, the research has been designed for stratified study so, for the sampling design, the population of the undertaken districts was classified with the gender of principals and the types of Higher Secondary Schools. Thus, stratified random sampling technique was used. Out of the twenty seven districts in the state of Chhattishgarh, 10% of the districts were selected. The three districts thus selected were Durg, Rajnandgaon and Raipur. The three districts thus selected have a total of three hundred eighty three government and five hundred private higher secondary schools. In the form of sample, 25% of the total government and private higher secondary school was taken. The sample for the study has been tabulated below in Table No. 3.01
### TABLE NO. 3.01

**Showing Number of Higher Secondary Schools in Three Districts of Chhattishgarh:**

<table>
<thead>
<tr>
<th>District</th>
<th>Type of School</th>
<th>Total Schools</th>
<th>25% Schools</th>
<th>Total Schools</th>
<th>25% Schools</th>
<th>25% Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government</td>
<td></td>
<td></td>
<td>Private</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durg</td>
<td>92</td>
<td>23</td>
<td>104</td>
<td>26</td>
<td>196</td>
<td>49</td>
</tr>
<tr>
<td>Rajnandgaon</td>
<td>197</td>
<td>49</td>
<td>83</td>
<td>21</td>
<td>280</td>
<td>70</td>
</tr>
<tr>
<td>Raipur</td>
<td>94</td>
<td>23</td>
<td>313</td>
<td>78</td>
<td>407</td>
<td>101</td>
</tr>
<tr>
<td>Total</td>
<td>383</td>
<td>95</td>
<td>500</td>
<td>125</td>
<td>883</td>
<td>220</td>
</tr>
</tbody>
</table>

The research study was further classified with respect to gender that is male and female principals. The distribution of male and female principals is tabulated below in Table No.3.02

### TABLE NO 3.02

**Male and Female Principals selected for Sample:**

<table>
<thead>
<tr>
<th>District</th>
<th>Type of School</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Durg</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Rajnandgaon</td>
<td>19</td>
<td>30</td>
</tr>
<tr>
<td>Raipur</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>58</td>
</tr>
</tbody>
</table>
3.4 RESEARCH DESIGN

VARIABLE

INDEPENDENT

DEPENDENT

1. DECISION MAKING ABILITY

1. ADJUSTMENT (High & Low)
   (i) Academic and General Environment
   (ii) Socio-Psycho-Physical
   (iii) Professional Relationship
   (iv) Personal Life
   (v) Financial and Job Satisfaction

2. EMOTIONAL INTELLIGENCE (High & Low)
   (i) Awareness of Self and Others
   (ii) Professional Orientation
   (iii) Intrapersonal Management
   (iv) Interpersonal Management

3. GENDER
   - Male
   - Female

4. TYPE OF SCHOOL
   - Government
   - Private
3.5 RESEARCH PROCEDURE

To study the impact of Adjustment, Emotional Intelligence, Gender and Type of school on the Decision Making Ability of higher secondary school principals, a survey type research was done. In the present study Adjustment, Emotional Intelligence, Gender and Type of school are independent variables and Decision Making Ability is dependent variable. Stratified random sampling technique was used to collect 220 principals from three districts of Chhattishgarh, namely Rajnandgaon, Durg and Raipur. Data were collected by using Mangal Teacher Adjustment Inventory, which is constructed and standardized by Mangal (2008), Teacher’s Emotional Intelligence Inventory by Mangal (2008) and Decision Making Ability Scale by Saxena and Singh (2010). The sample was categorized on the basis of high and low emotionally intelligent and adjusted principals. For the statistical treatment of data three way ANOVA (2X2X2) was used.

3.6 RESEARCH INSTRUMENT

The standardized tests used for the present study has been tabulated below:

TABLE NO.3.03

Showing list of Research Tools

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variable</th>
<th>Tool</th>
<th>Proponent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adjustment</td>
<td>Mangal Teacher Adjustment Inventory (MTAI)</td>
<td>Mangal (2008)</td>
</tr>
<tr>
<td>2</td>
<td>Emotional Intelligence</td>
<td>Teacher’s Emotional Intelligence Inventory (tEQi)</td>
<td>Mangal (2008)</td>
</tr>
<tr>
<td>3</td>
<td>Decision Making Ability</td>
<td>Decision Making Ability Scale (DMAS)</td>
<td>Saxena and Singh (2010)</td>
</tr>
</tbody>
</table>
3.6.1 TEACHER ADJUSTMENT INVENTORY

For collecting the data in the present research work, Mangal Teacher Adjustment Inventory constructed and standardized by Mangal (2008) was administered to find the adjustment of secondary school principals. The inventory had five adjustment areas. The reliability of the inventory for each dimension was determined by test-retest and split half method. The value of reliability by test-retest method for each dimensions were 0.99, 0.99, 0.98, 0.99 and 0.97 whereas the value of reliability by split half method for each dimensions were 0.98, 0.98, 0.94, 0.98 and 0.97 respectively and the reliability for total adjustment was 0.99. For the validation of the inventory, Hindi translation of Bell’s Adjustment Inventory prepared by Verma L.B was used and the validity coefficient of the Teacher’s Adjustment Inventory against Bell’s was found to be -0.967. The validity of five areas of adjustment was 0.945, 0.986, 0.967, 0.929 and 0.957, whereas the validity for total adjustment was 0.969. The areas of the inventory were Adjustment with Academic and General Environment of the Institution, Socio-Psycho-Physical Adjustment, Professional Relationship Adjustment, Personal Life Adjustment and Financial Adjustment and Job Satisfaction. The mode of response to each of the item was in the form of complete agree, disagreement and neither agreement nor disagreement. In the inventory, out of the total 253 items, 41 items were such where the response ‘Yes’ showed adjustment and for the remaining 212 items ‘No’ denoted adjustment. In the scoring scheme two for the responses indicating adjustment, one for undecided and zero for the response indicating lack of adjustment or maladjustment was done.
3.6.2 TEACHER’S EMOTIONAL INTELLIGENCE INVENTORY

In the research work Teacher’s Emotional Intelligence Inventory standardized by Mangal (2008) was implemented to study the emotional intelligence of secondary school principals. Reliability of the inventory by test-retest method was 0.96 whereas that of split half method was 0.95. For the criterion related validity, correlation of the inventory with Mangal Teacher Adjustment Inventory (MTAI) and rating of Teachers by the Headmasters, was done and the validity coefficient of the inventory with respect to external criterion were 0.55 and 0.65 respectively. The inventory has a total of 200 items, which were divided in four dimensions namely, Awareness of Self and Others, Professional Orientation, Intrapersonal Management and Interpersonal Management. The items in the inventory were either in nature of positive statements (106 items) or negative statements (94 items). The five responses A,B,C,D,E for positive statements were awarded 1,2,3,4,5 marks, whereas for negative statements the responses A,B,C,D,E were awarded 5,4,3,2,1 marks respectively.

3.6.3 DECISION MAKING ABILITY SCALE

Decision Making Ability Scale by Saxena and Singh (2010) was administered to collect data for decision making ability of secondary school principals. The test contains 36 items and it measures four dimensions namely Entrepreneurial problems, Administrative problems, Academic problems & Personnel problems. The reliability of the test by Test-Retest method is 0.88 and it is a highly valid test. The items were divided in three areas namely Routine, Compromise and Heuristic. Each area had 12 items. As per the scoring scheme, one mark was allotted for the response in ‘Yes’ and zero for the response in ‘No’.
3.7 STATISTICAL TREATMENT OF DATA

For the analysis of data in the present research study, three way ANOVA (2X2X2) was computed.