In previous chapters, the investigator presented and discussed the concept of Depression, Social Intelligence and Emotional Intelligence and its theoretical considerations involved in these concepts. Later a review of researches on Depression were delineated, and there from, the problems for the present research have been derived and stated.

According to Kerlinger (1969), the next step after the statement of Problem and Formulation of Hypothesis is the testing of hypotheses and this can be achieved by following certain methodology. The plan, structure and the strategy
of investigation conceived, so as to obtain the answers of the Research Questions and to control variance is known as research design.

According to Best (1982) "Design is a blue-print of the procedure that enables the researcher to test his hypothesis by reaching valid conclusions about relationships between independent and dependent variables".

The present chapter is intended to cover the general methodology used in the present investigation to probe the various issues raised at the end of the previous chapter. Hence, the selection of particular design is based on the purpose of the experiment, the type of variables to be studied and the limiting factors under which the study may be conducted. So, designs differ, as the problems differ. Thus, the present chapter of this study deals with detail description of the research design adopted by the investigator.

The general methodology employed in any research include the sample, the mode of observation and the tools, measurement of variables, and procedure. The research question that guided the study were the methodology followed in the present research is presented below :-

(a) What is the relationship between social intelligence of higher secondary school students' and depression? and
What is the relationship between emotional intelligence of higher secondary school students and their depression?

**Method of the Study**

Researchers in the related field of this topic have employed different methods of research. It is difficult to judge which one of them is most appropriate, as each of them has its own merits and shortcomings. The choice of a research method is mostly determined by the objectives of the study, resources of the investigator, limitations of the study, etc. These considerations led the investigator to employ the Survey method of research. Thus, the present study follows a single time cross-section sample surveys. Sample surveys attempt to determine the incidence, distribution and interrelation among psychological and sociological variables.

In a single time cross section technique, a sample is contacted only once for obtaining data on the variables under study. The information is ultimately ascribed to the population. Present study is based on stratified-random sampling design.

**Population**

The population for the study was all higher secondary school students in Azamgarh district. There are govt. aided higher secondary schools in Azamgarh district and approximately 640 students were studying in these institutions.
Research design

The research design which is used in this study is survey method.

Sample of the study

The investigator's aim was to study the impact of social and emotional intelligence on depression of respondents studying in higher secondary class ranging in the age range of 17 to 20 years. Inspite of the fact, late adolescence is a period of rapid changes in terms of physical, emotional and social aspect of life. One major and serious problem of adolescence is aggression. The source of such acts are emotional disturbance, lack of good interpersonal relationship, unhappy relationship with parents, family and school. Therefore, looking into the merits of investigation, the investigator adopted the formal and traditional method of stratified-random sampling design for selecting an appropriate sample.

Since the study was designed to be carried out on sub-sample also, hence the investigator preferred to work on a large sample, such as 640 XII class students comprising the whole group. It was quite satisfactory in size for stratified random sampling design.

Selection of City

Primarily, the investigator collected information about Azamgarh district. Investigator divided the district in geographical, demographic and ethnic regions. He, then, considered the population variants with regard to religious,
racial, educational, professional, industrial and commercial issues. All such necessary considerations were made in the selection of only Azamgarh districts.

Selection of Institutions

After selecting the city i.e. Azamgarh, the investigator prepared the list of govt. aided higher secondary schools. He noted the locality, course of study and number of students. In order to draw representative sample, some govt. aided higher secondary schools were selected in a random fashion with from each category. Although there are variations amongst the educational environment of these institutions; yet there is similarity in courses offered and levels of education. Constitutionally too, these schools are governed by the same set of rules and regulations. Differences in management and governance, are not of much value,

Postman (1980) has suggested that the titles, designation and management of an institution may create an idea of difference, but if rules and regulations that put an institution into operation are the same as prevalent in other institutions, then the treatment of difference is fruitless at analytical level.

Sample and Sampling process

In every branch of science, we lack the resources to study more than a fragment of the phenomenon that might advance our knowledge. For studying any problem, it is difficult to study the whole population or the universe. It is difficult to study the whole population or the universe. It is, therefore,
convenient to pick up a sample out of the universe proposed to be covered by the study.

After the selection of the schools for purpose of drawing sample of the students were selected on the basis of their sex, culture and faculty belongingness; the details the distribution of the sample is given in Table 4.1

Table 4.1
Distrbution of Sample

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Institution</th>
<th>No.</th>
<th>Sex</th>
<th>Culture</th>
<th>Faculty</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Shibli National Inter College</td>
<td>50</td>
<td>14</td>
<td>50</td>
<td>14</td>
<td>64</td>
</tr>
<tr>
<td>2.</td>
<td>D.A.V. Inter College, Azamgarh</td>
<td>38</td>
<td>26</td>
<td>38</td>
<td>26</td>
<td>64</td>
</tr>
<tr>
<td>3.</td>
<td>Wesley Inter College, Azamgarh</td>
<td>38</td>
<td>26</td>
<td>38</td>
<td>26</td>
<td>64</td>
</tr>
<tr>
<td>4.</td>
<td>Sri Agresen Girls Inter College</td>
<td>00</td>
<td>64</td>
<td>00</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>
The sample consisted of 640 normal higher secondary male and female students belonging to rural and urban culture. This was decided because most of the researchers today agree that depressive tendency is normally distributed among population (Rozensky et.al. 1984; Astor - Dubin & Hammer 1984; Flett et.al. 1985; Psyzesynski & Greenberg 1986).

### Size of the sample

Size of the sample is another matter of consideration. Size affects representativeness, feasibility and reliability of data. Small samples despite of
careful stratification lack in proper representation and very large samples do not quite well with uniform application, even, with good enthusiasm and keen involvement of the researcher. The size of sub-samples, too, needs sufficiency for utility.

Craige A. Miller and C.M. Charles (2006), opine that, a well selected sample of 30 individuals is adequate.

Table-4.2 presents the characteristics of the sample.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>df</th>
<th>t ratio</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>320</td>
<td>18.25</td>
<td>3.14</td>
<td>.74</td>
<td>638</td>
<td>0.405</td>
<td>NS</td>
</tr>
<tr>
<td>Female</td>
<td>320</td>
<td>17.95</td>
<td>2.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is obvious from Table-4.2 that the mean age of male respondents $(M = 18.25 \pm 3.14)$ and those of female respondents $(17.95 \pm 2.98)$ did not differ $(t = 0.405, p > .05)$ statistically. As such, the two samples may be treated as homogeneous with respect to age.

**Data gathering device Teste**

Having decided to use a cross-sectional horizontal approach in the proposed field study, the next important problem to be decided is about the instruments or tests or stimuli arrangements to be used to elicit the desired information.
Among the various commonly employed tests and techniques, the use of standardized instruments have been found to be very convenient, helpful and appropriate for assessment of respondents. For the assessment of social intelligence, emotional intelligence and depression. Chadha Social Intelligence Test, Mangal Emotional Intilligence Test and Depression Test were found most suitable and appropriate. A brief account of the tools is given below :-

(i) Social Intelligence Scale

*Dr. N.K. Chadha & Usha Ganesan*

In order to construct the scale, the dimensions of social intelligence were selected in scientific manner. Accordingly, eight relevant and meaningful dimensions - Patience, Cooperativeness, Confidence level, Sensitivity, Recognition of Social Environment, Tactfulness, Sense of Humour, and Memory were selected. First, six dimensions were constructed using the multiple choice technique, whereas in the Tactful dimension, responses were elicited in terms of ‘Yes’ or ‘No’. In the last dimension, that of Memory, a set of 30 pictures were presented for recognition. The total 66 items were included in the test. The items were rated on a point rating scale ranging from “extremely desirable”, through “Neutral” to “Extremely undesirable”. The final distribution of items per dimension are as follows :-

<table>
<thead>
<tr>
<th>Dimension</th>
<th>No. of items retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = Patience</td>
<td>8</td>
</tr>
</tbody>
</table>
B = Co-operativeness  11  
C = Confidence  8  
D = Senstivity  9  
E = Recognition for Social Environment  3  
F = Tactfulness  7  
G = Sense of Humour  8  
H = Memory  12  
Total  66

Reliability

In the present scale, test-retest and split-half techniques were employed to find the reliability coefficients. The following co-efficients were obtained.

Table-4.4
Reliability Coefficients

<table>
<thead>
<tr>
<th>Areas</th>
<th>Reliability Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Split-half</td>
</tr>
<tr>
<td>A = Patience</td>
<td>.93</td>
</tr>
<tr>
<td>B = Cooperativeness</td>
<td>.91</td>
</tr>
<tr>
<td>C = Confidence</td>
<td>.89</td>
</tr>
<tr>
<td>D = Senstivity</td>
<td>.90</td>
</tr>
<tr>
<td>E = Recognition of Social Environment</td>
<td>.95</td>
</tr>
<tr>
<td>F = Tactfulness</td>
<td>.91</td>
</tr>
<tr>
<td>G = Sense of Humour</td>
<td>.90</td>
</tr>
</tbody>
</table>
Validity

The techniques of validity used to validate this scale were empirical validity and cross validation. To test the empirical validity, the external criterion used was the Social Intelligence Test by Moss, Hunt Qrnwaka & Woodward (1949). The total score of the present scale is highly and significantly correlated with Social Intelligence Test of Moss & Hunt (r = 70 > .01). For the purpose of cross validation the obtained data on the first sample and second sample was correlated (r = .80).

Norms

In order to establish the Percentile Norms, a sample of 300 individuals was taken. A qualitative description of the scores obtained on the different dimensions of the scale has been calculated.

(ii) Mangal Emotional Intelligence Scale

- Dr. S.K. Mangal & Subhra Mangal

It is a self administering inventory. Emotional Intelligence Scale has been designed for use with Hindi and English knowing 16+ respondents for the measurement of their emotional intelligence in respect of four areas - Intrapersonal Awareness (knowing about own items - 25 items), Interpersonal Awareness (knowing about others emotion - 25 items). Intrapersonal Management
(Managing one's own emotions - 25 items) and Interpersonal Management (Managing others emotions - 25 items). It has 100 items to be answered as 'yes' or 'no'.

**Reliability**

The reliability coefficients are given in Table No.-4.5.

**Table No. - 4.5**

<table>
<thead>
<tr>
<th>Method used</th>
<th>N</th>
<th>Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solit - Half</td>
<td>600</td>
<td>.89</td>
</tr>
<tr>
<td>K-R Formula-20</td>
<td>600</td>
<td>.90</td>
</tr>
<tr>
<td>Test-Retest</td>
<td>200</td>
<td>.92</td>
</tr>
</tbody>
</table>

**Validity**

The validity for the inventory has been established by adopting two different approaches namely-factorial and criterian related approach.

**Scoring**

For scoring, one mark to be provided for the responses indicating presence of emotional intelligence and zero for the absence of emotional intelligence. Scoring can be done by hand or with the help of the stencil.
Norms

Percentile norms were computed for both males and females with regard to all four areas of inventory as well as for the inventory as a whole.

(iii) Beck Depression Inventory (BDI)

- Sinha & Kapoor

The BDI is a series of questions developed to measure the intensity, severity, and depth of depression in patients with psychiatric diagnoses. The inventory contained 21 items, each designed to assess a specific symptom common among people with depression. The BDI was originally developed to detect, assess, and monitor changes in depression symptoms among people in mental health care setting. It is also used to detect depressive symptoms in a primary care setting. The BDI was developed in 1961, adapted in 1969, and copyrighted in 1979. The BDI as adapted by Sinha & Kapoor (2004) in Hindi has been used in this study for measuring the level of depression. Each item has four alternatives like 'क' 'ख' 'ग' and 'घ' and to be scored as 0, 1, 2 and 3 respectively indicating severity of symptoms. If any item does not suit the testee, that may be left. One can earn a maximum score of 63 and a minimum score of zero on BDI. A score of 0-9 is normal, 10-15 indicates mild depression, 16-19 indicates mild-moderate depression, 20-29 indicates moderate-severe depression, and 30-63 indicates severe depression.
The reliability of the test is high. The test retest reliability is 0.86 and the split-half reliability is 0.66 which were significant at .01 level. The validity of the test was 0.364. Its concurrent validity was significant at .05 level.

**Administration of the Tools Sample and Procedure**

Administration of psychological test is a technical process. It needs a clear grasps of the process and its various facts. The respondents need suitable motivation to take up the test in the right earnest and express their feelings in the frank and straight forward manner. The investigator need to earn the confidence of the respondents and has to satisfy them for the worth and utility of the administration of the test. He has to convince the principals of the institutions and other concern people for the utility of such administration directly or indirectly. Willing cooperation is a must in an empirical study. It leads to a reliable data and significant findings. The investigator being familiar with the importance of reliable data followed all necessary steps to get the willing cooperation of the Principals of the institutions and teachers.

Prior to the actual administration of the test for collecting the data for the study, a preliminary trial of all the tools was conducted. The purpose of this study was to determine the time needed to administration of the test and to revise the testing procedure for any unseen difficulties. This also provided the needed training and experience to the students who were to assist the investigator in the final data collection. Detail instruction on the use of the test and data sheet were
given to the students. It was particularly observed whether the students performed as per instruction or not and what kind of difficulties, they faced in following the instruction.

The sample of the study consisted of 640 higher secondary students belonging to govt. aided higher secondary school of Azamgarh district with a mean age of 18.10 ± 2.3 participated in the study in order to satisfy the course requirements. All the three tools used in this study were administered in two phases. In the first phase, Social Intelligence Scale and Emotional Intelligence Scale were administered to all the respondents and respondents were first of all categorized into High and Low Social and Emotional Intelligence groups on the basis of their respective scores obtained on Social Intelligence and Emotional Intelligence Scales. In the second phase, they were administered Beck Depression Inventory to study the impact of social and emotional intelligence on depressive tendency of higher secondary students. The data were used for the research purposes.

Researcher having the required booklets of Social Intelligence Scale and Emotional Intelligence Scale went to higher secondary schools concerned one by one. He met the Principals of the institution, explained the purpose of his visit, and requested them to permit the researcher for the administration of the tools over class XII students. After seeking the permission of the Principal of the school concerned, the researcher established rapport with the students for
administration of the tools. These respondents, too, were explained the objectives of the study and were requested to help the researcher in his mission.

Proper rapport was aimed at while proceeding towards fulfillment of desired goals. Since there were three tools each different in nature, the investigator had to follow the instruction as laid down in manuals with proper precautions.

They were assured that the information will be kept confidential. They were asked to get the sheet filled by them in their leisure. The investigator thanked the respondees for their cooperation in data collection. Thus, the necessary tools were administered to each respondents and the answer script were collected for them. A small number of students answered

some questionnaires incorrectly or failed to complete the questionnaires.

On this, all the students concerned took keen interest in the task and gave their full support for by extending their kind cooperation in the completion of the work.

Before distributing the booklets of the scales among respondents, they properly instructed for filling out the scales. They were also asked to go through the instructions given on the cover pages of the scales before filling them out. The respondents were given adequate time to complete the work. This procedure was adopted in collecting informations from students in all selected institutions. Attempt was made to give adequate representation to the male-female
respondents in the sample. The institutions were so meticulously selected that adequate representation was given to both urban and rural respondents.

Respondents of Arts, Science and Commerce faculties were given due place in the sample. Enough care was taken to see that the students in the sample represented all the socio-cultural and economic levels of Azamgarh district.

Although some of the tools were lengthy and time taking, however, the respondents took keen interest and showed their enthusiasm in filling them out and providing required informations for carrying out this study completing the same on time. To the researcher, their cooperation was worth appreciating.

Both types of data-primary and secondary were calculated. For the collection of primary data, personal information were recorded. Secondary data was gathered through published source materials. After the administration of psychological instruments, respondents were categorized into different groups and subgroups on the basis of primary characteristics viz. sex and culture. After this categorization, their scores obtained on Beck Depression Inventory were tabulated to assess the functional relationship between independent (sex and culture) and dependent (depression) variables.
The handling of a huge data in multiple functions of interrelated chains needs careful recording. The vertices are to be set with conventions and for conveniences. The scientific, systematic and conventional procedures are not the same. The most desired characteristics of recording of data are easily, quickly and correctly available for present and future needs. Looking in to variety and enormity of data the investigator arranged the data according to the need of research. The data were organized for application to various treatments. Information collected by the researcher from different areas need systematization, failing which it is useless for research uses. Therefore, respondent's responses were given numerical explanation, qualified to be passed on to statistical machinery. The data so obtained were transmitted to statistical engineering.

With a view to collecting relevant informations commensurate to hypotheses of the study, the researcher had to administer all the tools mentioned earlier. Different instructions and precautions were taken depending upon ideas as mentioned in respective manuals. As for as sample is concerned, researcher personally visited and had direct contacts with respondents. Proper rapport was aimed at while preceding towards fulfilment of desired goals. Since there were three tools each different in nature, the investigator had to follow the instructions as laid down in Manuals with for proper precautions. They were assured that the informations will be kept confidential.