3.0 Introduction

Educational research is that activity which is directed towards development of a science of behavior in educational institutions. The ultimate aim of such a science is to provide knowledge that will permit the educator to achieve his goals by the most effective methods.

----- Travers

Research is an endless quest for knowledge or unending search for truth. The knowledge obtained by research is scientific and objective and is a matter of rational understanding, common verification, and experience. It is a deliberate effort to collect information, to shift it, to analyze it, to put it together and to evaluate it. It works with a high degree of organization on a rather well defined problem and pursues it hopefully to a successful conclusion. It is a careful search for solutions to the problems that plague and puzzle the humankind.

3.1. Statement of the problem

Self-confidence refers to an individual’s perceived ability to act effectively in a situation to overcome obstacles and to get things all right. Similarly mental health is a person’s ability to make positive self evaluation, to perceive the reality to integrate the personality, autonomy group oriented
attitudes and environmental mastery. The ability to be adoptive to different situations and coping with life situations successfully is called emotional intelligence. Hence, self-confidence, mental health and emotional intelligence play a vital role in student’s life. Review of related literature has shown that very few studies have been taken up to study the relationship among these three. So, the investigator felt the need to study the relationship among self-confidence, mental health and emotional intelligence. So, she has taken up the present problem for the study –

“A study of self-confidence and mental health in relation to emotional intelligence of college students.”

3.2. Type of research

Descriptive research describes and interprets ‘what is.’ It is concerned with conditions or relationships that exist, practices that prevail, beliefs, points of view, or attitudes that are held; processes that are going on; effects that are being felt or trends that are developing.


Descriptive research is also called as survey. It involves a clearly defined problem and definite objectives and requires expert and imaginative planning, careful analysis, interpretation of data gathered and logical and skilful reporting of the findings. Best rightly said, ‘The survey is an important type of research. It must not be confused with the mere clerical routine of gathering and tabulating figures. It involves clearly defined problem and definite objectives. It requires expert imagination, planning, careful analysis
and interpretation of the data gathered and logical and skillful reporting of the findings.’

Mouley (1964) states, ‘The survey is more realistic than the experimental in that, it investigates phenomena in their natural setting.’

This type of research has become very popular these days as a scientific method for discovering relevant impact and inter-relationships of social and psychological variables from given populations. Survey research studies small and large populations by selecting and studying samples chosen from the populations to discover the relative incidence, distribution and inter-relations of sociological and psychological variables. Population may be small or large and the survey research can work well by resorting to sampling theory and its diverse procedure. The advantage of this type of research is that it links sample investigations with population and there by offers an easy opportunity of studying population behaviour through sample survey research assessments. Survey research is mostly devoted to the populations under investigation.

3.3. Selection of tools.

The present study is concerned with the study of self-confidence and mental health of college students in relation to their emotional intelligence. Hence the investigator has to select appropriate tools for the assessment of self-confidence, mental health and emotional intelligence. From the review of related literature, it is observed that Prof. M. Basavanna, Dr.Jagdish, Dr.A.K.Srivastava, Schutte et al., (1998) have constructed and standardized
three tools which are very pertinent to the present study. Brief description of each of the three tools is presented here under.

3.4. Description of the tools

3.4.1. Self-confidence:

This inventory was developed and standardized by M. Basavanna, Professor, Dept. of Psychology, S.V. University, Tirupati. The inventory consists of 100 statements. The investigator after consulting the experts in the field decided to have twenty five statements with regard to self-confidence Inventory. For this the investigator selected thirty statements from the original self-confidence inventory. Senior most teacher educators working in colleges of education and university departments of education were consulted for the finalization of tool. The statements which were agreed upon by eighty percent of the experts were taken into consideration and tests were discarded. The scale consists of 25 items in which 15 are positive and 10 are negative statements. Copy of the self-confidence inventory was presented in Appendix – A.

Positive and negative statements of the self-confidence inventory

table no.1

Table-1

<table>
<thead>
<tr>
<th>Statements</th>
<th>Sl. No. in the tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>1,2,3,4,8,11,12,13,14,15,16,19,20,24,25.</td>
</tr>
<tr>
<td>Negative</td>
<td>5,6,7,9,10,17,18,21,22,23.</td>
</tr>
</tbody>
</table>
Method of scoring

The answers were scored according to the prepared for the purpose. All the positive items answered negatively and the negative items answered positively were given one point each. The positive items answered positively and the negative items answered negatively received a zero score. This scoring procedure yielded each individual a score that was indicative of his level of self-confidence. According to the scoring key, the scores vary between 0-25 and here again; lower the score higher would be the level of self-confidence and vice versa. From the present study the range of obtained scores for this sample was from 7 to 23.

3.4.2. Mental health:

This scale was developed and standardized by Dr.Jagadish, Dept. of Psychology. R.B.S.College, Agra, & Dr. A.K.Srivastava Department of Psychology, Banaras Hindu University, Varanasi. The inventory consists of 56 statements. The investigator after consulting the research director decided to have 44 statements with regard to mental health inventory. For this the investigator selected 44 statements from the original mental health inventory. Senior most teacher educators working in colleges of education and university departments of education were consulted for the finalization of tool. The statements which were agreed upon by eighty percent of the experts were taken into consideration and rest was discarded. The scale consists of 44 items in which 16 are positive and 28 are negative statements. Copy of the mental health inventory was presented in Appendix – B.
Positive and negative statements of the mental health inventory

Table no.2

<table>
<thead>
<tr>
<th>Statements</th>
<th>Sl. No. in the tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>3,5,10,16,17,21,22,24,26,27,28,31,33,34,35,36,39,40,44</td>
</tr>
<tr>
<td>Negative</td>
<td>1,2,4,6,7,8,9,11,12,13,14,15,18,19,20,23,25,29,30,32,37,38,41,42,43</td>
</tr>
</tbody>
</table>

Method of scoring

In the present scale 4 alternative responses have been given to each statement i.e. Always, Often, Rarely, and Never 4 scores to ‘Always’, 3 scores to ‘Often’, 2 scores to ‘Rarely’, and 1 score to ‘Never’ marked responses as to be assigned for true keyed (positive) statements where as 1,2,3, and 4 scores for ‘Always’, ‘Often’, ‘Rarely’, and ‘Never’ respectively in case of false keyed (negative) statements. The over lined items are negative while remaining positive. Thus, on the total scale the scores range between 44-176. From the present study the range obtained scores for this sample was from 96 to 160.

3.4.3. Emotional intelligence:

The Emotional intelligence scale developed and standardized by Schutte et al., was used in this study. In this scale five point scales is used. They are Strongly Agree (SA), Agree (A), Neutral (N), Disagree (DA), and Strongly Disagree (SD). Each respondent has to express his emotional intelligence on
a statement in any of the five ways (SA/A/N/DA/SD). The scale consists of 33 items in which 31 are positive and 2 are negative statements. Copy of the emotional intelligence scale was presented in Appendix – C.

Positiv

**Positive and negative statements of the emotional intelligence scale**

**Table no.3.**

<table>
<thead>
<tr>
<th>Statements</th>
<th>Sl. No. in the tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>13,18.</td>
</tr>
<tr>
<td>Negative</td>
<td>1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,19,20,21,22,23,24, 25,26,27,28,29,30,31,32,33.</td>
</tr>
</tbody>
</table>

**Method of scoring**

There are 33 items in EIS (Emotional intelligence scale). Each alternative item is assigned a weightage ranging from 5 (Strongly agree) to 1 (Strongly disagree) for positive items. In case of negative items the scoring is reverse i.e. from 1 (Strongly agree) to 5 (Strongly disagree). The emotional intelligence scale score of an individual is sum of total of item. The range of scores is from 33 to 165. The higher score indicating the more positive emotional intelligence and lowest score indicates the negative emotional intelligence. The scores in between the highest and the lowest indicate various degrees of positiveness. From the present study the range of obtained scores for this sample was from 88 to 158.
3.5. Variables of the study

Variables are the conditions or characteristics that the experimenter manipulates, controls and observes. There are mainly three types of variables, namely, independent, dependent and intervening. The independent variables are those variables which do not change on manipulation by the experimenter. The intervening variables are those variables which are dependent both on dependent and independent variables.

For the present study, the following dependent and independent variables are chosen. To find out whether there is any difference in the self-confidence, mental health and emotional intelligence of college students influenced by the following variables.

- Gender: Gender refers to male and female college students.
- Course of study: It refers to the course being studied by the student, professional courses like engineering, medicine etc., or non-professional courses like B.A., B.Com. etc.
- Locality: Locality refers the area in which the college in located that is rural or urban.

3.6. Sample of the study

“In every branch of science we lack the resources to study more than a fragment of the phenomena that might advance our knowledge”. For studying any problem, it is difficult to study the whole population or universe. Studying the entire universe is not viable in many ways. It is therefore
convenient to pick up a sample out of the universe proposed to be covered by the study. But sampling needs most care.

......Cochran,W.G

After finalizing the variables of the present study, consideration was given to whether the entire population is to be made the subject for data collection or a particular group of it is to be selected as representative of the whole population. Of the above two techniques, the selection of a group as a representation of the whole population was found to be more convenient and suitable. This technique leads to a considerable saving of time, effort and finance. The number included in the sample, there is every possibility, and sometimes it does happen, that certain important group is likely to be left unrepresented. But in stratified sampling method, no important group is likely to be left out. Before actually selecting the sample, certain fundamental principles were considered to make the sample scientific and clear cut.

Firstly, the universe was clearly defined. In the technical phraseology of research, the whole population out of which the samples are to be selected is known as the universe. For the present research work, the universe includes all the professional and non-professional students. The study was limited to a particular geographical area Krishna District, as to facilitate appropriate sample selection and to avoid bias and prejudice.

According to the second principle, decision has to be made about units of the sample. A unit of sample may be a house, a family, and a group of
individuals or a single individual. A good unit should possess the following characteristics.

(1) Clarity: The unit should be clearly defined in unambiguous terms. This would make the study easy and efficient for the present research work. A sampling unit is defined as Professional and non-Professional students in colleges of Krishna District.

(2) Suitability: A good unit should be well suited to the problem under study. Since the problem is the possession and comparison of self confidence and mental health of college students in relation to their emotional intelligence unit selected is well suited to the problem.

(3) Accessibility: The unit selected should be easily accessible to the researcher. If the units selected are difficult to reach and if he fails to make use of them, the study would be vitiated. The selected sampling unit, i.e, professional and non-professional students are easily accessible since he/she could be approached in any college.

The third principle to be considered while selecting a sample is the availability and preparation of the source list. This is an important factor that makes representative selection possible. A source list is the list which contains the names of the units of universe from which the sample may be selected. It may exist even before the beginning of the project or it may be prepared afresh by the investigator himself. Without a source list, study through the sampling method is not possible. For the present research work,
a source list, consisting of the names of colleges in Krishna District is used. Care was taken to see that the source list was up to date and valid and that there was no repetition of names of the colleges. The source list was found to be relevant and suitable because it included colleges as the study deals with the professional and non-professional college students.

Besides considering these principles, it is extremely important to think about the size of the sample to be selected. If the sample is either too small or too large, it will make the study difficult and also make the results untenable.

3.6.1. Method of sampling

In any social research, various methods are utilized for selection and drawing of samples. After a detailed study of all these methods, and considering the variables selected for the research work, the stratified sampling and the simple random sampling were found to be most suitable.

The simple random sampling means that every member of the sample is selected from the total population in such a manner that all members of the population have essentially the same probability of being selected. This is the most popular, basic method of sampling it is considered the most trustworthy method of securing representativeness of the whole population. But it is neither arbitrary, nor careless or haphazard. Random method of selection provides an unbiased cross section of the population.
Ideally, this would require each population member to be assigned a number, and then the sample would be selected from a table of random numbers or some other random selection.

This study was confined to Krishna District only. The present study attempts to study the self confidence and mental health of college students in relation to their emotional intelligence.

For this study survey method was used. The simple random sample technique was adopted for this sampling study. The colleges of professional and non-professional were selected by the simple random techniques i.e., lottery system. It means that the researcher used lottery system to select the colleges of professional and non-professional by simple random technique to collect the data. In this case researcher used tickets with the names of professional and non-professional colleges. The tickets were thoroughly mixed up and then 20 tickets were used to select 20 colleges of professional and non-professional for the sampling purpose. From each college selected 30 students were taken as sample by stratified random sampling method. So the sample consisted 600 students.

The 20 colleges of professional and non-professional selected by the above method situated in the district of Krishna District are presented in table No.4.
Table-4

List of randomly selected professional and non – professional colleges.

The colleges were:

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the college</th>
<th>Town</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>M.V.R. college of technology</td>
<td>Paritala</td>
</tr>
<tr>
<td>2.</td>
<td>Gudlavalleru college of technology</td>
<td>Gudlavalleru</td>
</tr>
<tr>
<td>3.</td>
<td>Sarojini information of technology</td>
<td>Telaprolu</td>
</tr>
<tr>
<td>4.</td>
<td>N.R.I. B.Pharmacy</td>
<td>Agiripalli</td>
</tr>
<tr>
<td>5.</td>
<td>Pinnamaneni sidhardha institute of medical sciences and research center</td>
<td>Peda Avutapalli</td>
</tr>
<tr>
<td>6.</td>
<td>Nova college of B.Pharmacy</td>
<td>Jupudi</td>
</tr>
<tr>
<td>7.</td>
<td>Sidhardha college of technology</td>
<td>Kanuru</td>
</tr>
<tr>
<td>8.</td>
<td>Sidhardha college of B.Pharmacy</td>
<td>Nuziveedu</td>
</tr>
<tr>
<td>9.</td>
<td>NIMS college of physio theropy</td>
<td>Vijayawada</td>
</tr>
<tr>
<td>10.</td>
<td>S.R.K. college of technology</td>
<td>Enikepadu</td>
</tr>
<tr>
<td>11.</td>
<td>Jakir Hussan college</td>
<td>Ibrahimpatnam</td>
</tr>
<tr>
<td>12.</td>
<td>A.N.R. Degree college</td>
<td>Gudivada</td>
</tr>
<tr>
<td>13.</td>
<td>Sarada college</td>
<td>Vijayawada</td>
</tr>
<tr>
<td>14.</td>
<td>Sidhardah Degree college</td>
<td>Nuziveedu</td>
</tr>
<tr>
<td>15.</td>
<td>Hindu college</td>
<td>Machilipatnam</td>
</tr>
<tr>
<td>16.</td>
<td>Gowtham Degree college</td>
<td>Kanchika Charla</td>
</tr>
<tr>
<td>17.</td>
<td>Sri Chaitanya college</td>
<td>Gannavaram</td>
</tr>
<tr>
<td>18.</td>
<td>Govt. Degree college</td>
<td>Mailavaram</td>
</tr>
<tr>
<td>19.</td>
<td>Srinivasa college</td>
<td>Vuyuru</td>
</tr>
<tr>
<td>20.</td>
<td>Sidhardha college</td>
<td>Eedupugallu</td>
</tr>
</tbody>
</table>
3.7. Administration of the tools

As part of data collection, the researcher approached the Principals of selected colleges of professional and non-professional well in advance for permission to administer the tools and to fix the date and time. After obtaining the permission the researcher administered the tools to the samples that were present at that time and date.

Before administering the tools, clear stated instructions were given to them and they were requested to provide necessary preliminary information such as gender, course of study locality of college students.

The tools were distributed to the college students and the data was collected under the personal supervision of the investigator. The data was collected by the investigation from the teacher trainees, contacting them in person.

On the whole, the tools were administered to 640 college students. There was no time limit for answering the tools. Despite careful supervision, it was found that 40 testing tools were answered partially. These were not considered for analysis. Therefore the final sample consisted of 600.

The principals of colleges, students and staff members cooperated with the investigator to administer the tools successfully.

Description of the sample -- variable wise table no-5
3.8. Reliability of the tools established by the test constructor

3.8.1. Reliability of the self-confidence inventory

   The odd-even split-half reliability was calculated for a sample of 200, drawn randomly from the group of 800. The reliability coefficient, as corrected by the Spearman Brown Prophecy Formula, was found to be 0.94.

3.8.2. Reliability of the mental health inventory

   The reliability of the inventory was determined by ‘split-half method’ using odd-even procedure. The reliability co-efficients of mental health and overall 0.73.

3.8.3 Reliability of the emotional intelligence scale

   The present study shows that the original American Scale on emotional intelligence is reliable enough to use on Indian sample as we found
an alpha coefficient of .89 which is almost identical to that of Schutte et al's (1998) work and split-half reliability of .89 (with S-B correction) with no item modification. For the sake of convenient interpretation we have classified the status of emotional intelligence corresponding to T score.

3.9. Validity of the tools established by the test constructor

3.9.1 Validity of the self-confidence inventory

In addition to determining the indices of item validity described earlier, attempts have been made to establish construct validity for the inventory. Several hypotheses concerning the construct of the self-confidence were derived from the self-theory and put to test. One of the first hypothesis thus tested was that people with high self-confidence were significantly more capable of taking risk in predicting their performance than the less confident ones and the hypothesis was confirmed (Basavanna, 1971). The risk-taking behaviour measured in the study could be referred to as an objective behavioral measure of self-confidence. The risk-scores, it was found, classified the subjects into certain categories in the same way as was being done by self-confidence scores. This means that both the tests, although drawn from different traditions, do the same function effectively and this fact provides some sort of validity to the inventory.

The second hypothesis, which too was confirmed, stated that high self-confidence persons had significantly higher self-regard than those who were low in self-confidence (Basavanna, 1971). Self-regard was measured in
terms of self and ideal self correlations obtained from Q-sorts. The results clearly indicated that self-confident people who were capable successful and adjusted, had significantly higher self-ideal-self congruence than those who were low in their level of self-confidence.

Recently, Aruna (1975) tested two hypotheses using the S-C inventory. She predicted that there would be positive and significant relationship between self-confidence and social intelligence. She measured social intelligence using George Washington social intelligence test developed by Moss. The correlation obtained was 0.76, thus confirming the hypothesis. According to the author of the test, social intelligence is the ability to get on with others, to get work done from other, and to be successful in social situations.

The second hypothesis, confirmed by Aruna (1975), was that student leaders and non-leaders differed significantly with regard to the level of self-confidence. The mean S –C scores for leaders and non-leaders were 9.66 and 36.14 respectively, and the difference was significant at 0.01 level.

The studies reported above, show some evidence towards the construct validity of the S-C Inventory. But construct validity is a continuing process and further evidences have to be accumulated before anything definite is said about the S-C Inventory.
3.9.2 Validity of the mental health inventory

Construct validity of the inventory is determined by finding coefficient of correlation between scores on mental health inventory and general health questionnaire (Goldberg, 1978). It was found to be .54. It is not worthy here that high score on the general health questionnaire indicates poor mental health.

Besides, the inventory was validated against ‘Personal Adjustment’ scale (a sub-scale of S.D. Inventory) developed by Pestonjee (1973). The two inventory scores yield positive correlation of .57 revealing moderate validity.

3.9.3 Validity of the emotional intelligence scale

As a part of predictive validity study EI “significantly predicted grade point average at the end of the year, \( r = 0.32, p < 0.01 \). and as a part of discriminate validity study EI was highly and positively correlated with openness to experiences, a trait from NEO personality inventory (Costa and McCrae, 1992). The emotional intelligence scale (EIS) was also correlated with trait-anxiety, coping with stress, and belief in social relations yielding \( r = -0.36, n = 67, p < 0.01 \); \( r = 50, N = 43, p < .001 \); and \( r = .27, N = 86, p < .01 \) respectively (Thingujam and Ram, 1999).
3.10. Reliability and validity of the tools established by the investigator

3.10.1. Reliability of self-confidence inventory

To establish the reliability of the tools, the investigator used the split half method. The scores obtained from the tryout group, on the test, were divided into two equivalent halves and the correlation was found for these half-tests. From the reliability of the half-test the self-correlation of the whole test was estimated by the Spearman-Brown Prophecy formula.

From the self-correlation of the half test, the reliability co-efficient of the whole test was established using the Spearman Brown Prophecy Formula, the correlation value obtained for the whole test was $r = 0.90$ reported by the investigator.

3.10.2. Reliability of mental health inventory

From the self correlation of the half tests, reliability of the tool was found to be 0.71 by split half method, as stated by the investigator.

3.10.3. Reliability of emotional intelligence scale

As the present tools are standardized tools, no attempt has been made to reestablish the validity of the tools.

3.10.4. Validity

Content validity was determined by the fact that it adequately covered the main areas to the most extent. The validity was also judged by the
experienced teacher educators and experts. As the tests were found reliable, there were also proved valid.

3.11. Statistical techniques used

The following statistical techniques have been used depending on the need.

- Mean
- Standard Deviation
- Critical Ratio
- Percentage
- Fisher ‘Z’ function
- Coefficient of correlation
- Multiple correlation

3.12. Conclusion

The present chapter described how the researcher planned and preceded in terms of the sample chosen, method adopted, tools used, and the statistical calculations done for the study. In the following chapter, analysis of the data and discussion of results were done.