Chapter-III

Methodology
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In any scientific research methodology plays a very significant and crucial role. Edwards (1971) believed that “in research we do not haphazardly make observation of any or all kinds, but rather our attention is directed towards those observations that we believe to be relevant to the question we have previously formulated. The objective of the research, as recognized by all sciences, is to use observation a basis for answering questions of interest”.

Methodology has its own importance in scientific investigation because objectivity in any research investigation cannot be obtained unless it is carried out in a very systematic and planned manner. Scientific investigation involves careful adoption of appropriate research design, use of standardized tools and tests, choosing adequate sample by using appropriate sampling techniques, undertaking sound procedures for collecting data, it’s tabulation and then use of appropriate statistical techniques for analyzing the data.

The purpose of the present research was to study parental expectations, attributional styles and coping strategies of students experiencing psychological distress. The details of the methodological steps follows:

Sample:

In general, sample is a small proportion of a specific population or universe as representative of that particular population or universe. Mohsin (1984) stated that “a sample is a small part of total existing events, objects, or the information”.

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For selecting appropriate sample, random sampling technique was adopted in conducting present investigation. In this sampling technique every individual had the equal probability of being selected. It was an appropriate sampling technique to be opted in the very context of present research problem. For the present research investigation the sample was randomly drawn from the students population studying in senior secondary schools for boys and girls, A.M.U. Aligarh. Age of the subjects ranged between 16 to 19 years, the mean age being 17.6 years. All the students came from middle class (moderate) socio-economic background. The characteristics and breakup of the sample is as follows:

Table-1: Sample breakup.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Science</th>
<th>Arts</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>Females</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>150</td>
<td>300</td>
</tr>
</tbody>
</table>

Table-2: No. of the subjects belonging to nuclear and joint family.

<table>
<thead>
<tr>
<th>Type of family</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear family</td>
<td>211</td>
</tr>
<tr>
<td>Joint family</td>
<td>89</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
</tr>
</tbody>
</table>
Table-3: Categorization of the subjects according to father’s educational level.

<table>
<thead>
<tr>
<th>Educational level of father</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uneducated</td>
<td>Nil</td>
</tr>
<tr>
<td>High school</td>
<td>46</td>
</tr>
<tr>
<td>Graduate</td>
<td>107</td>
</tr>
<tr>
<td>P.G. or Non Professional.</td>
<td>78</td>
</tr>
<tr>
<td>P.G. or Professional.</td>
<td>69</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
</tr>
</tbody>
</table>

Table-4: Categorization of the subjects according to mother’s educational level.

<table>
<thead>
<tr>
<th>Educational level of mother</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uneducated</td>
<td>39</td>
</tr>
<tr>
<td>High school</td>
<td>97</td>
</tr>
<tr>
<td>Graduate</td>
<td>103</td>
</tr>
<tr>
<td>P.G. or Non Professional.</td>
<td>49</td>
</tr>
<tr>
<td>P.G. or Professional.</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
</tr>
</tbody>
</table>

Tools:

To measure and understand human behavior, psychological tests are developed and used. It is a matter of fact that there is not a single tool or psychological instrument, which may tell about all aspect of behavior because of complex and varying psycho-emotional attributes of personality and human behavioral dimensions. Hence, there is a need for developing psychological instrument for each specific purpose that should be continually revalidated in accordance with the changing time and situations.
The following tools were used to measure parental expectations, attributional styles, coping strategies and psychological distress of senior secondary school students.

(1) Perceived parental expectations scale (PPES, developed by the investigator)

(2) Attributional style questionnaire (ASQ)

(3) Coping strategies scale (COPE) and

(4) PGI Health questionnaire N-1.

A detailed description of these scales is as follows:

**Perceived Parental Expectations Scale:**

The researcher developed a scale to measure student’s perceptions of their parent’s expectations. In applying Lazarus and Folkman’s (1984) themes to the mechanism between parental expectations and psychological distress, parental expectations may be conceived as a stress when students perceive them to be something that they can not meet (i.e. threat). Thus, parental expectations per se are not stressful but it is the students perception’s of the parent’s expectations that is important in causing distress. Therefore a measure was developed which could be used to assess student’s perceptions of their parent’s expectations.

**Development of the Scale:**

A description of the procedure for the construction of the scale is as follows:
**Initial item development:**

The researcher first of all formulated 60 items related to parental expectations by talking to students, and experts and by consulting literature on parental expectations. The items were related to different areas of life such as social conformity, academic/professional achievement, personal maturity, extra curricular activities and general life achievements.

**Content and face validity check:**

The items were sent to 5 experts to evaluate their relevance to measuring parental expectations. After their evaluations were received one item was dropped and some items were reformulated as suggested by the judges. Then all the 59 items were rewritten to have the final scale. A five point scale was provided against each statement. These five ratings were as follows:

(a) “5” for extremely high expectations.
(b) “4” for high expectations.
(c) “3” for moderate expectations.
(d) “2” for low expectations.
(e) “1” for very low expectations.

**Pilot study:**

A pilot study was conducted to determine the psychometric properties of the scale. For this purpose a sample of 300 students was randomly selected from senior secondary schools (both boys and girls), of Aligarh Muslim University. The
sample consisted of 150 boys and 150 girls from Science, Arts and Social Science streams. Average age of the students was 17.6 years.

Perceived parental expectations scale was administered to them in small groups. (5 to 10 subjects in a group). They were asked to read the instructions carefully and give their responses by putting any one of the five ratings against each statement.

Total score was obtained by summing up all the ratings for 59 items. Three out of 300 subjects were dropped as they did not complete the scale.

**Analysis:**

Inter item correlations were calculated for 59 items for 297 scores. All the items yielded high reliability.

Factor analysis was also done using principal component analysis method by compressing for five factors. The results of the factor analysis revealed that the first factor was the largest factor. The item distribution on different factors was quite uneven. It was also observed that items overlapped on different factors.

A careful observation of the analysis revealed that perhaps students perceived all the items in the context of academic achievement. Therefore it was decided that the parental expectations should be considered as a single dimension. The final scale consisted of 59 items. The coefficient alpha (α) was found to be .9274. The split half reliability of the scale was also calculated. It was found to be .877.
Attributional Style Questionnaire (ASQ):

The Attributional Style Questionnaire (ASQ) was used to measure student’s attributional style. It was developed by Peterson et al., (1982), and revised by Peterson and Seligman (1984). The ASQ is a self report measure of patterns of explanatory style which is the tendency to select certain explanations for good and bad events.

The ASQ consists of 12 hypothetical events, out of which 6 are good and 6 are bad events. Additionally half of events are interpersonal/ affiliative while other half are achievement related.

Few changes in the original scale items were made by Siddiq, H. (1997) due to the unsuitability of these items in the Indian cultural milieu. The changes were as follows:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Original Item</th>
<th>Changes Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Your spouse (boyfriend/ girlfriend has been treating you more lovingly.</td>
<td>Your friend has been treating you more lovingly.</td>
</tr>
<tr>
<td>11</td>
<td>You go out on a date and it goes badly.</td>
<td>You go on a tour and it goes badly.</td>
</tr>
<tr>
<td>12</td>
<td>You get a raise.</td>
<td>You are awarded a prestigious scholarship.</td>
</tr>
</tbody>
</table>

The present researcher used in her study this modified version of the scale.
The instructions of the ASQ are brief and clear. Each event is followed by four questions that are always in the same order. In case of first question, respondents have to imagine the event and give one major cause of it. On the following 3 questions rating on 7 point scale has to be done, one number is circled which is in correspondence to the causal belief of the respondents. The second question is related to whether the outcome was due to something about the respondent or something about the other people or circumstances (Locus). The third question is related to dimension of stability i.e. will the cause again be present. The fourth question is about globality-whether the cause influences just the particular situation or other areas of life.

The three attributional dimensions rating scales associated with each event description are scored in the direction of increasing internality, stability and globality. Scores are derived by simply averaging within dimension and across events for individual dimension scores and across dimension and across events for composite scores. Each individual dimension score ranges from 1 to 7. Therefore, composite scores range from 3 to 21 for both composite positive and composite negative.

Several studies have explored the ASQ’s internal consistency. Peterson et al., (1982) found that the three scales i.e., locus, stability and globality have modest reliability with Cronbach’s alpha ranging from 44 to 69.

There is a large literature supporting the criterion and construct validity of ASQ. Seligman and his associates (Peterson et al., 1982) followed correlational
approach and devised several methods of demonstrating the criterion validity of ASQ. The results of the study conducted by Peterson et al., (1982) demonstrated the construct validity for the ASQ in that it both taps spontaneously generated attributions and relates to theoretically relevant symptomatology. Three recent studies conducted by Zullow and Seligman (1985), Kamen and Seligman (1985) and Seligman and Shulman (in press) have further supported the construct validity of ASQ.

Scale for Measuring Coping Strategies: (COPE Scales):

The multidimensional coping strategies scale (COPE) developed by Carver, et al., (1989) was used to assess the different ways in which people respond to stress (dispositional coping strategies). The scale consists of 52 items measuring 13 dimensions of coping strategies. These 13 dimensions measure different aspects of problem focused coping, emotion focused coping and avoidant coping strategies. The subscales of the multidimensional coping strategies scale are as follows:

I. Problem Focused Coping:

(a) Active coping

(b) Planning

(c) Suppression of competing activities.

(d) Restraint coping

(e) Seeking social support for instrumental reasons.
II. *Emotion Focused Coping:*

(a) Seeking social support for emotional reasons.
(b) Positive reinterpretation and growth.
(c) Acceptance
(d) Turning to religion
(e) Focus on & venting of emotions

III. *Avoidant Coping:*

(a) Denial
(b) Behavioral disengagement
(c) Mental disengagement

There are four items each in different subscales. Each item in the scale has to be rated on a four point scale— from “1” (usually don’t do this at all) “never” to 4 (usually do this a lot) “most of the time”, and the measure is obtained summing up the ratings for each of the “4” items. This scale has shown good reliability and validity with Cronbach’s alpha ranging from .62 to .92.

There are two ways to think about how individual differences might influence coping. The first possibility is that there are stable coping “styles” or “dispositions” that people bring with them to the stressful situations that they encounter. According to this view people do not approach each coping context anew, but rather bring to bear a preferred set of coping strategies that remain relatively fixed across time and circumstances.
The other idea, such as that of Folkman & Lazarus (1980, 1985; Folkman et al. 1986) emphasizes that coping should be thought of as a dynamic process that shifts in nature from stage to stage of a stressful transaction. Such a view suggests that the development of coping style would at best be counterproductive, because it locks the person into one mode of responding rather than allowing the person the freedom & flexibility to change responses with changing circumstances.

Investigating questions pertaining to dispositionally preferred coping styles required that one be able to measure coping dispositions as well as situational coping responses. Operationally, this is not difficult. It is like the state-trait strategy used by Spielberger, Gorsuch & Lushene (1970). The present inventory i.e. COPE is constructed in a manner that it can be used to examine both coping dispositions and situation specific coping tendencies.

The result of the factor analysis revealed that the scale measures relatively distinct and clearly focused aspects of coping.

Studies also provide useful evidence of both the convergent and discriminate validity of the COPE, (Carver, Scheier and Weintraub, 1989).

**Psychological Distress Scale:**

In the present investigation psychological distress was measured through PG1 Health Questionnaire (N-1), an instrument developed by Verma, Wig and
Pershad (1985). It is 38 items questionnaire based on Cornell Medical Index. The items yield scores on A (physical) and B (psychological) sections.  

(1). The respondent is required to put a tick (√) mark against questions he/she agrees with. The number of ticks on section A and B indicate the respective scores which can be then added up to give a total distress score also.

(2). There is no fixed number of questions (a cut off point) above which all neurotics should score on this test but in his studies of over 500 persons Verma et al. (1975) found that if a person ticks more than 10 items (questions) chances are high that he has got marked neurotic trends.

(3). A high score does not always indicate neurosis, but (a) it shows a propensity to develop neurotic symptoms under stress and (b) Neurotics score higher than normal’s.

**Advantages of P G I Health Questionnaire N-I:**

This test has definite advantages over other similar tests in Hindi as:

(1). It is a short, simple test with low difficulty value for items,

(2). It can be used with illiterate, unsophisticated population also.

(3). It is medically oriented, hence more acceptable to the patients population.

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1 PD is used for Psychological Distress.
(4). It has high discriminatory power to separate the psychiatric population from the normal group and

(5). It has high internal consistency, reliability and validity.

(6). Its utility has been demonstrated in a number of studies with varied populations viz. Normal, neurotic, chronic uremia, vasectomy cases etc.

**Data Collection Procedure:**

The data were collected from senior secondary students studying in senior secondary schools of Aligarh Muslim University, Aligarh. The investigator met the subjects in groups of 5 to 10 students. They were asked to volunteer to participate as the subjects of the study. After getting their consent subjects were given a set of questionnaires, in which Attributional Style Questionnaire, Perceived Parental Expectations Scale, Coping Strategies Scale and P.G.I. Health Questionnaire were attached as a booklet form. The researcher established a rapport with the subjects and requested them to fill the demographic information first. After that the Attributional Styles Questionnaire was administered. The researcher read the instructions loudly to the subjects and explained how to fill the questionnaire. If any difficulty was encountered by any subject, the researcher explained the events of Attributional Style Questionnaire verbally and helped her/him to give the correct response. After completing Attributional Style Questionnaire, the researcher explained about Perceived Parental Expectations
Scale and asked subject’s to give their frank responses. Similarly other two questionnaires were also filled by the participants.

The researcher assured the subjects that their information would be kept confidential and it would be used only for research purpose. Subjects generally took 25 to 35 minutes time to complete all the scales. When all participants completed the questionnaires, they were thanked by the researcher for their cooperation.

Scoring of the responses was done according to the procedures described for each questionnaire.

Tabulation of the data was done very carefully for analyzing the data.

**Statistical Analyses:**

Once the data are collected, researcher transforms and summarizes data so that result can be interpreted and communicated in a briefly comprehensive manner. So, statistical methods are very important as Kerlinger (1983) opined that “statistics, via its power to reduce data to manageable forms and its power to study and analyze variance, enable scientists to attach probability estimates to the inferences they draw from data”.

Statistics, using probability theory and mathematics, simply make the process more exact. In other words it is to say that through statistics we always make inferences, attach probabilities to various outcomes or hypotheses, and make decision on the basis of statistical reasons. Selection of appropriate statistics is a
very important objective for the study which helps in drawing the precise and accurate inferences.

The following statistical analyses were used to analyze the data:

1. Stepwise multiple regression analysis was used to identify the significant predictors of psychological distress.

2. t-test was used to find out the significant difference between gender groups (male-female), stream groups (Arts-Science), and type of family (joint-nuclear).

3. Correlation was used to find out the relationship between independent variables and the dependent variable and between different demographic variables and all the psychological variables.

**Regression analyses** are a wonderfully powerful set of statistical techniques that allow one to assess the relationship between one criterion variable and several predictor variables.

Regression allows specific prediction to be made from the independent variables about the dependent variable for individual participants. Simple regression involves a single independent variable. Multiple regression allows more than one independent variables to be used to predict the dependent variable and so improve the accuracy of the prediction.

The terms regression and correlation are used more or less interchangeably to label these procedures, with regression generally used when the intent of the
analysis is prediction, and correlation used when the intent is to measure degree of association.

There are three major types of multiple regression analyses: standard multiple regression, hierarchical multiple regression and stepwise multiple regression.

In the present study stepwise multiple regression was used. Stepwise multiple regression is typically used to develop a subset of predictor variables that is useful in predicting the criterion variable, and to eliminate those predictor variables that do not provide additional prediction given this basic set. Stepwise regression is the procedure in which order of entry of variables is based on statistical rather than theoretical criteria. At each step the variable that adds most to the prediction equation in terms of increasing $R^2$ is entered. The process continues until no more useful information can be gleaned from further addition of variables.