CHAPTER-3

RESEARCH DESIGN AND METHODOLOGY

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In fact, research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data (Selltiz et al, 1962). Thus, research design provides an outline of what the researcher is going to do in terms of framing the hypothesis, its operational implications and the final data analysis.

Research methodology is the scientific approach to conduct a research. It is the way in which research problems are solved systematically. It is a science of studying how research is conducted scientifically. Under it, the researcher acquaints himself/herself with the various steps generally adopted to study a research problem, along with the underlying logic behind them.

3.1 GEOGRAPHICAL COVERAGE:

The field of the proposed study is confined to the college entrants i.e. the first year college students of Guwahati City, Assam. Number of related research have been done or are ongoing around the world, little is known about the youth of Guwahati which is the premier city of North-East India in South-East Asia. The present research was carried out in an unexplored area in Indian context and executing the study in Guwahati may throw some new light on this area of research.

The following reputed government colleges of Guwahati city were selected for data collection which included both general and professional course.

❖ College selected for General Course –
1. Pandu College.
2. Lalit Chandra Bharali College.
3. Cotton College
4. B. Borooah College.
5. Handique Girls’ College.
6. Arya Vidyapeeth College.

❖ **College selected for Professional Course** –
1. Gauhati University Law College.
2. BRM Government Law College.
3. Gauhati University Institute of Science and Technology.
4. Regional College of Nursing.
5. Government Ayurvedic College and Hospital.
6. Gauhati Medical College.
7. College of Veterinary Science.

**3.2 SAMPLE:**

A total of 600 college entrants i.e. first year college students of undergraduate course (included both general and professional course) from reputed government colleges of Guwahati city, Assam participated in the study after obtaining permission from the respective colleges. The sampling procedure adopted was multi-stage sampling method.

Following criteria has been taken for inclusion of a student in the sample:

- He/she should be from first year of their under-graduate course.
- He/she should be a regular student in college.
- He/she should be pursuing the course from college located in Guwahati city area.
- He/she should be in the age group of 18-22 years.
- He/she should be unmarried.
- He/she should be from the middle income group i.e. average annual income ranges between Rs. 3.4 lakhs to Rs. 17 lakhs. [Source: Based on 2010-11 data of Centre for Macro Consumer Research (CMCR), National Council of Applied Economic Research (NCAER)].
Table No. 3.2 Sample distribution

<table>
<thead>
<tr>
<th>GENDER</th>
<th>UNDERGRADUATE (general course)</th>
<th>UNDERGRADUATE (professional course)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Working mother</td>
<td>Non-working mother</td>
<td>Working mother</td>
</tr>
<tr>
<td>Male</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Female</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

Thus, the sample consisted of –

- 300 male students and 300 female students = 600
- 300 general course students and 300 professional course students = 600
- 300 students whose mother is working and 300 students whose mother is non-working = 600

Thus, the present research consists of a total sample of \( N = 600 \).

3.3 SAMPLING METHOD:

Multi-stage sampling method was followed for selecting the sample. Steps followed for selecting the sample are as follows:

**Step I:** List of the government colleges within Guwahati City was prepared.

**Step II:** Then the government colleges with general and professional course were selected on the basis of permission granted by the concerned authorities of the college.

**Step III:** As per the convenience of the college authorities, the researcher visited the colleges and selected the students in a class randomly using a random table.
3.4 RESEARCH DESIGN:

The present study is a co-relational research. An attempt is made to determine the relationship between self-efficacy and psychological well-being; and determine whether both have an influence on study habits among the college entrants with respect to gender (male and female); type of course (general and professional course); and working status of mothers (working or non-working). So, the design followed is a (2x2x2) factorial design.
Chart 3.4: 2x2x2 Factorial Design

2 x 2 x 2 FACTORIAL DESIGN

3.5 VARIABLES IN THE STUDY:

Chart 3.5: Variables in the study:

VARIABLES IN THE STUDY

INDEPENDENT VARIABLE

GENDER

MALE | FEMALE

TYPE OF COURSE

GENERAL | PROFESSIONAL

WORKING STATUS OF MOTHER

WORKING | NON-WORKING

DEPENDENT VARIABLE

SELF-EFFICACY

PSYCHOLOGICAL WELL BEING

STUDY HABITS

MALE | FEMALE | GENERAL | PROFESSIONAL | WORKING | NON-WORKING
3.6 DESCRIPTION OF THE TOOLS:

The tool includes respondent’s personal identification sheet and questionnaires for measuring self efficacy, psychological well-being and study habits of college students.

Tool 1:

**Personal Identification sheet** was prepared by the researcher herself. The personal identification sheet was used to find out the socio demographic information of the students. The information was collected on the following categories:

- Name
- Age
- Gender
- Educational Level
- Type of Course
- Marital Status
- Family Income Per Month
- Employment Status of Mother

Tool 2:

**The General Self-Efficacy Scale (GSE)** – It was developed by Ralf Schwarzer and Mathias Jerusalem in 1979 in Germany. German version was developed in 1979 and later revised and adapted to 26 other languages by various co-authors. The GSE is a 10-item scale designed to assess optimistic self-beliefs used to cope with a variety of demands in life. The scale was designed to assess self-efficacy, i.e., the belief that one’s actions are responsible for successful outcomes.

**Administration:** The scale is designed for the general adult population, including adolescents. Persons below the age of 12 should not be tested. The scale is usually self-administered, as part of a more comprehensive questionnaire. Preferably, the 10 item are mixed at random into a larger pool of items that have the same response format. It requires 4 minutes on average to complete the questionnaire.
**Scoring:** Responses are made on a 4-point scale. Sum up the responses to all 10 items to yield the final composite score with a range from 10 to 40. No recoding. Higher scores indicate stronger belief in self-efficacy.

**Reliability:** In samples from 23 nations, Cronbach’s alphas ranged from 0.75 to 0.94 across a number of different language versions (Rimm and Jerusalem 1999; Luszczynska, Scholz, Schwarzer, 2005).

**Validity:** Criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favourable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints.

The measure has been used internationally with success for two decades. It is suitable for a broad range of applications. It can be taken to predict adaptation after life changes, but it is also suitable as an indicator of quality of life at any point in time.

**Tool 3:**

**Ryff’s Psychological Well-Being Inventory** – The inventory is developed by Carol Ryff. It consists of 54 questions (medium form) and consists of a series of statements reflecting the six areas of psychological well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

**Administration and Scoring:** It is a self-administered questionnaire. Respondents rate statements using a six-point format: strongly disagree (1), moderately disagree (2), slightly disagree (3), slightly agree (4), moderately agree (5), strongly agree (6). Responses to negatively scored items (-) are reversed in the final scoring procedures so that high scores indicate high self-ratings on the dimension assessed.

There are no specific scores or cut-points for defining high or low well-being. Those distinctions are best derived from distributional information from the data collected. For example, high well-being could be defined as scores that are in the top 25%
(quartile) of the distribution, whereas low well-being could be defined as scores that are in the bottom 25% (quartile) of the distribution. Another alternative would be to define high well-being as scores that are 1.5 standard deviations above the mean, whereas low well-being is scores that are 1.5 standard deviations below the mean.

**Reliability and Validity:** The multidimensional measure of psychological wellbeing, as measured by Ryff inventory, has been tested and validated on a nationally representative sample of English-speaking adults age 25 and older. For each dimension internal consistency was measured and it was found to be (coefficient alpha) = .83 for autonomy, .86 for environmental mastery, .85 for personal growth, .88 for positive relations with others, .88 for purpose in life, and .91 for self-acceptance. For validity, the present test was correlated with 20 item parent test. The correlation coefficient values are ranging from 0.97 to 0.99 for all the six dimensions.

**Tool 4:**

**Palsane & Sharma Study Habit Inventory (PSSHI)** – The study habit inventory was developed by M.N. Palsane and Anuradha Sharma. This inventory is a small attempt at making the teacher, the student and the parents aware that certain habits of study are good and conducive to better achievement.

**Administration and Scoring:** It is a self-administered questionnaire. Participants respond using a three-point format: Always, Sometimes, Never. The procedure of scoring is quite simple. For ‘Always’ response, score of 2 is awarded, whereas 1 and 0 scores are to be given for ‘Sometimes’ and ‘Never’ response respectively. In case of negatively scored items (−), the weight age of scoring is reversed. The maximum obtainable score is 90. The higher scores indicate the good habits of study.

**Reliability and Validity:** The reliability coefficient was found to be .88 and .67 by test retest method on a sample of 200 male students and 60 girl students of undergraduate classes. The inventory, besides having high face validity, has other validity coefficients ranging from .67 to .83 with other similar inventories and .42 to .76 with allied measures by other authors.
For research purposes, the inventory can be safely recommended for use with the sample for which it has been prepared.

3.7 STATISTICAL APPLICATION:

After scoring of the raw score, data were entered into Statistical Package for Social Sciences (SPSS), version 16 software package for further analysis. Following statistical techniques were applied-

- Descriptive statistics which includes mean and standard deviation.
- t-test to find significance of mean difference of self-efficacy, psychological well-being and study habit among college entrants based on gender (male and female); type of course (general and professional course); and working status of mothers (working or non-working).
- The statistical test ANOVA was applied to find out significant difference in groups of college students when course, gender and working status of mother interact, followed by Tuckey’s Test.
- Pearson product–moment correlation was applied to determine the relationship between self-efficacy, psychological well-being (along with its dimensions) and study habits.
- Multiple regression analysis was performed to test the contribution of self efficacy and psychological well-being in predicting study habits among the college entrants.

3.8 ETHICAL ISSUES CONSIDERED:

The following steps were taken for ensuring quality data and for protection of human rights:

- Permission was taken from the principal of the institute for the purpose of data collection.
- It was conveyed to the participants that the activities undertaken were for research purpose.
- Informed consent was obtained from all the participants and no one was forced to participate in the study.
- Confidentiality of information was ensured.
- The participants were told that they could withdraw from the study at any time without any obligation, even after giving consent, if they wished so.
- Debriefing is the procedure that is conducted in psychological research that involves human subjects after an experiment or study has been concluded. It involves a structured or semi structured interview between the researcher and the subjects whereby all elements of the study are discussed in detail. So, after the completion of the questionnaires, the participants were provided with accurate and appropriate information about the nature and purpose of the study. The participants were also given opportunity to ask any questions.

3.9 PROCEDURE FOR DATA COLLECTION:

The participants were from reputed government colleges (included both general and professional course) of Guwahati city. Though there are various government colleges in Guwahati city, only few renowned institutions were selected based on situational demands i.e. permission given by the authority of the college. Thus, the institution was selected through purposive sampling and the participants of the study were identified through randomized group design as each member had an equal and independent chance of being selected for the research study. Therefore, the sampling procedure adopted was purposive random sampling. The population of the study included college entrants i.e. first year college students of under-graduate course studying at reputed government colleges (included both professional and general course) of Guwahati city, Assam.

Since this study is conducted in the reputed government colleges of Guwahati city, so permission was taken from the principal of the college for data collection. After the permission was granted, one of the teachers of that college, who was asked to assist the research scholar, introduced the research scholar to the students and also mentioned the purpose of visit to their college. It was conveyed to the participants that they will be given few psychological questionnaires which needs to be filled up by them and that the activities undertaken were for research
purpose. Informed consent was also obtained from all the participants and no one was forced to participate in the study. The participants were told that they could withdraw from the study at any time without any obligation, even after giving consent, if they wished so. Confidentiality of information was ensured. The students were fully assured that their responses would be kept confidential and would be used only for research purpose. At the same time they were made to understand the importance of their honesty in responding to the tests. The questionnaires were distributed in classroom in a group of 10-15 students at a time and it was administered with rest in between.

Initially rapport was established with the students and then requisite directions and basic instructions were given. The socio-demographic data sheet was next filled up by them to collect the personal information which took about 5 to 10 minutes. After that the General Self-Efficacy Scale (a 10 item scale) developed by Jerusalem and Schwarzer and Carol Ryff’s Psychological Well-Being Inventory (consisting 54 item) was given to the students. Instructions were read out to the students, and doubts regarding any statements were clarified. The students gave their responses and in this way the administration of the two psychological questionnaires which took about 30 minutes was completed. After that 10 minutes rest was given to the students and then the Study Habit Inventory (consisting 34 item) developed by Palsane & Sharma was distributed among the students. Here also the instructions were read out to the students and doubts were clarified to them. The students gave their responses and they took altogether 15 minutes to complete the administration of the test. In general it consumed maximum 45 minutes to one hour to complete the questionnaires. The questionnaires were collected there and then and the students were debriefed and thanked for their kind cooperation in the research. The principal of the college was thanked for giving permission for data collection from their college. Later the subjects’ responses for each questionnaire were scored by the investigator and were calculated and analyzed by applying the required statistics. Incomplete forms were rejected.