CHAPTER 4

RESEARCH METHODOLOGY

4.1 RESEARCH METHODOLOGY

The researcher has made an extensive literature survey, and in order to test the Emotional Intelligence of MBBS students where the research takes the path of identifying the objectives of the study and the research process to fulfil the study.

4.2 OBJECTIVES OF THE STUDY

Based on the research gap proposed in Chapter II, the objectives of the present study are:

1. To test the Emotional Intelligence of the MBBS students with the help of Emotional Intelligence Scale.
2. To exhibit the profile of the respondents.
3. To assess the scores of each dimension of the Emotional Intelligence Scale.
4. To assess the impact of age on the level of Emotional Intelligence among the medical students.
5. To assess the impact of gender on the level of Emotional Intelligence among the medical students.
6. To assess the impact of marital status on the level of Emotional Intelligence among the medical students.
7. To suggest ways and means to improve Emotional Intelligence of fifth year medical students in Delhi.

4.3 PROPOSED RESEARCH PROCESS

Based on the objectives set, the proposed research process describes how the research gap is to be filled. The diagrammatic representation of this proposed research process is given in Figure 4.1.

![Figure 4.1: Proposed research process.](image)

4.4 EMOTIONAL INTELLIGENCE ASSESSMENT TOOL

In order to test the Emotional Intelligence of MBBS students, following scales to test Emotional Intelligence from previous studies were considered:

1. Multifactor Emotional Intelligence Scale (Mayor, Caruso & Salovey, 1998)
2. EQ-I (Bar-On, 1997)
4. Emotional Competence Inventory (ECI) (Goleman, 1998)
1. Multifactor Emotional Intelligence Scale (MEIS)

Mayer, Caruso, and Salovey (1998), who created the multifactor emotional intelligence scale (MEIS). Mayer and Salovey defined emotional intelligence as the ability to perceive emotions, to access and generate emotions to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions to promote emotional and intellectual growth (1997).

The MEIS is a test of ability rather than a self-report measure. As such, it is performance or ability based. The respondents perform a series of tasks designed to measure their ability to perceive, identify, understand, and work with emotion. This is done by presenting a series of visual images, such as faces, and asking the respondent to identify the emotion(s) present. Mayer, Caruso, and Salovey (1999) point out that an emotional intelligence must meet three criteria: 1) It must reflect actual mental performance, 2) It should describe a set of related abilities that are distinct from established intelligence, and 3) It should develop with age.

2. Emotional Quotient Inventory (EQ-I)

The Emotional Quotient Inventory (EQ-I) is the first scientifically validated and most widely used Emotional Intelligence assessment tool. The EQ-I is the result of 17 years of Dr. Bar-On’s research on emotional intelligence. EQ-I was the first test of emotional intelligence to be published by a psychological test publisher (1997) and reviewed in the Buros Mental Measurement Yearbook (1999). Bar On EQ-I consists of 133 items and includes four validity indices and a sophisticated correction factor rendering scores for the following components:

- Intrapersonal (Self-Regard, Emotional Self-Awareness, Assertiveness, Independence, and Self-Actualization)
- Interpersonal (Empathy, Social Responsibility, and Interpersonal
Relationship)  
- Stress Management (Stress Tolerance and Impulse Control)  
- Adaptability (Reality Testing, Flexibility, and Problem solving)  
- General Mood Scale (Optimism and Happiness)

Bar On EQ-i can be used in clinical, educational, forensic, medical, corporate, human resources, and research settings.

3. Schutte Self Report Emotional Intelligence Test (SSEIT)  
The Schutte Self Report Emotional Intelligence Test (SSEIT) is a 33 item self-report measure of emotional intelligence developed by Schutte et al. (1998). The SSEIT has been designed to map onto the Salovey and Mayer (1990) model of EI. Items of the test relate to the three aspects of EI:  
1. Appraisal and expression of emotion  
2. Regulation of emotion  
3. Utilisation of emotion

4. Emotional Competence Inventory (ECI)  
The ECI is a 360-degree tool designed to assess the emotional competencies of individuals and organizations. It is based on emotional competencies identified by Dr. Daniel Goleman in Working with Emotional Intelligence (1998), and on competencies from Hay/McBer’s Generic Competency Dictionary (1996) as well as Dr. Richard Boyatzis’s Self-Assessment Questionnaire (SAQ). The Emotional Competence Inventory 2.0 (ECI) measures 18 competencies organized into four clusters:  
1. Self-Awareness  
2. Self-Management  
3. Social Awareness and  
4. Relationship Management.
5. Wong & Law Emotional Intelligence Scale

In 2002, Wong and Law developed a self-report EI scale named as the Wong and Law EI Scale (WLEIS) based on the work of Mayer and Salovey (1990). The WLEIS contains 16 items Likert-type self-report statements. Studies done by Karim (2010), Mulla et.al., (2008) and Kim and Agrusa (2011) provided evidence for the reliability and validity of the WLEIS scale. Besides that, the WLEIS was developed through Chinese respondents in Hong Kong, which would be a better starting point for other Asian cultures than EI scale originated in the Western countries (Wong, Law, & Wong, 2004).

Wong and Law (2002) explained that EI is an ability to understand one’s own emotions and those of others and to control emotions in diverse situations and they suggested that EI consists of four dimensions: others’ emotion appraisal (OEA), use of emotion (UOE), self-emotion appraisal (SEA), and regulation of emotion (ROE).

The first dimension, Self-Emotion Appraisal (SEA) is the ability to understand and express one’s own emotions. This relates to the individual’s ability to understand their deep emotions and be able to express these emotions naturally.

The second dimension, the Others’ Emotion Appraisal (OEA) is the ability to perceive and understand others’ emotions. It relates to people’s ability to perceive and understand the emotions of those people around them.

The third dimension, the Use of Emotion (UOE) is the ability to use one’s own emotion information in one’s performance and productive activities. A person who is highly capable in this dimension would be able to encourage him or herself to perform better continuously.
Lastly, the fourth dimension, Regulation of Emotion (ROE) is the ability to control one’s own emotions based on appropriate behaviour in a given situation.

The Wong and Law Emotional Intelligence Scale was found to be most suitable for the present study.

Each dimension is tested with the help of a questionnaire. A total of 39 questions were asked to the students and their results were analyzed. The questionnaire is designed in such a way that all the four dimensions are given equal importance.

With the proposed research process as the basis of the study, the research takes the path next by identifying the respondents i.e., MBBS students who have completed 8 semesters.

These students were identified from medical colleges in Delhi. All the colleges were considered and all the MBBS students in the 9th semester were considered for the study. They were all tested with the help of Wong and Law Emotional Intelligence Scale and the results analyzed using relevant statistical tools. Based on the results suitable suggestions and recommendations are made.

4.5 CONCEPTUAL FRAMEWORK OF THE STUDY

The conceptual framework of the study is given in Figure 4.2 as a flow chart. The assessment of level of Emotional Intelligence of fifth year (Clinical) 9th semester medical students in Delhi has been brought out from the research gap which is already detailed. The Emotional Intelligence of medical students was assessed with the help of Wong & Law Emotional Intelligence Scale.

Keeping the four dimensions of the Wong & Law scale a series of questions were used to assess the Emotional Intelligence of the 5th year
(Clinical) medical students. In terms of validity, Wong and Law Emotional Intelligence scale is related to job performance and job satisfaction.

![Conceptual Framework](image)

**Figure 4.2 Conceptual Framework**

**4.6 SCOPE OF THE STUDY**

This study is focussed on Emotional Intelligence among 5th Year (Clinical) 9th semester M.B.B.S students in Delhi. There is minimal empirical research on Emotional Intelligence in the medical sector. The face of medicine is changing; it is moving toward “relationship centered care”. This change in focus can benefit from Emotional Intelligence. The term “Relationship-centered Care” was introduced in 1994 in a report by the Pew Fetzer Task Force on Health Professions Education. Its significance can be appreciated most readily by tracing the history of power in the patient-doctor
relationship. This was the context in which the Pew-Fetzer Task Force gathered to make recommendations about health professions education in the 21st century. This thoughtful group of clinicians, researchers and educators recognized that while the purpose of health care was to respond to the needs of the patient, the process of care could be successfully understood from neither a doctor-centered nor a patient-centered perspective alone, but rather required an explicit focus on their relationship, hence the term “relationship-centered”.

Emotional Intelligence has been associated with positive outcome process in varied professions. The fundamental benefit of allowing for Emotional praxis to take place, therefore, is that it will lead not only to better health care and mutual professional respect, but possibly to less organizational tension over the long term.

4.7 RESEARCH DESIGN

The study employed quantitative methods and is descriptive in nature. Descriptive research methodology was used in this study to identify the Emotional Intelligence of a sample of medical students. The participants were 5th year 9th semester medical students from Delhi.

The descriptive procedure was chosen because it provides a framework for a systematic, factual and accurate depiction of the characteristics of the study sample. (Isaac and Micheal 1997). During the study there was no manipulation of variables. The tools used for analysis were mean and standard deviations, chi-square, sample T test, correlation, ANOVA, cross tabulation and Structural Equation Modelling.
4.8 DATA COLLECTION

The validity of any research is based on the systematic method of data collection and analysis. The present study used both primary and secondary data.

4.8.1 Primary Data

The primary data were collected from the medical colleges having M.B.B.S course. The information was gathered through personal interview method from the 5th year (Clinical) 9th semester M.B.B.S. students. A structured questionnaire was prepared for the purpose.

4.8.2 Secondary Data

The primary data were supplemented by a spate of secondary sources of data. The secondary data pertaining to the study was gathered from the records published by the Medical council of India. Latest information was gathered from well-equipped libraries in Delhi, All India Institute of Medical Science, and PSG Learning Resource Centre, Coimbatore, and from Internet web resources. Further, secondary data were also collected from various leading journals. A number of standard text books were used to obtain pertinent literature on Emotional Intelligence.

4.8.3 Discussions and Informal Interviews

In order to assess the level of Emotional Intelligence, several rounds of discussion were held with knowledgeable persons in the field of Medical sector, consultant of Emotional Intelligence, and Research Supervisor.
4.9 TOOLS FOR DATA COLLECTION

By virtue of data obtained from research survey, as well as data from secondary sources collected and presented in the present report, descriptive and analytical research was considered most appropriate for the study. The research problems and the questionnaire were all framed accordingly. The suggestions offered in the final chapter of the present research report emerged from the inferences drawn from the study of the information provided by sample respondents who are in 5th year (Clinical) 9th semester M.B.B.S. students. The researcher used closed-ended questions in the questionnaire to collect primary data.

4.10 CONSTRUCTION OF QUESTIONNAIRE

Since the present study highly rests on the primary data, proper care was taken to prepare the questionnaire. The basis of statement generation was formed by literature review and various qualitative sources. In addition, suggestions from post graduate medical students were taken. The statements were limited to common situations faced by medical undergraduates in personal and professional spheres of life. Subsequently expert opinion on the matter was obtained. Pool of 50 items was thus generated. These items were in the form of questions and options were generated around that situation. On the basis of the frequency of endorsement by expert reviews; the items were reduced to 39. This was done for content validation. The experts were requested to evaluate each of the items in terms of their relevance to measure the desired dimension as a part of the concept and domain of Emotional Intelligence. The questionnaire was re-drafted in the light of their comments.
4.11 PILOT STUDY

The questionnaire meant for the respondents was pre-tested with 150 5\textsuperscript{th} year, 9\textsuperscript{th} semester M.B.B.S students. A total of 50 questions were asked to the students and their results were analyzed. The questionnaire is designed in such a way that all the four dimensions are given equal importance and after pre-testing, necessary modifications were made in the questionnaire to fit in the track of the present study.

4.12 SELECTION OF STUDY AREA

Medical colleges in Delhi are centre of attraction among undergraduate students. From different centres of India graduate Medical students come to Delhi for pursuing higher education in different branches of medicine.

Qualitative assessment of Objective Structured Clinical Examination (OSCE) data reveals that urban area students demonstrated better mastery of rapport building and consent knowledge than rural area students.

Medical college in Delhi have students with strong records of academic achievement and ability, excellent interpersonal skills, evidence of compassion and concern for others, maturity and a well-informed motivation for medicine. So it is better to take survey among the best candidates to make the results closer to accurate.

A total of eight medical colleges are in New Delhi. Out of which only six has 5\textsuperscript{th} year students.

4.13 SAMPLING FRAMEWORK

The area for the study includes all the medical colleges in Delhi, Union Territory. A total of eight medical colleges are in New Delhi and Old Delhi.
Out of which only six colleges has 5\textsuperscript{th} year students which comprised of 751 medical students. The table 4.1 below shows the universe of the study.

**Table No – 4. 1 MEDICAL COLLEGES IN DELHI**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Course Name</th>
<th>Name and Address of Medical College/Medical Institution</th>
<th>University Name</th>
<th>Management of College</th>
<th>Year of Inception of College</th>
<th>No. of Students in 9\textsuperscript{th} semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M.B.B.S.</td>
<td>All India Institute of Medical sciences, New Delhi</td>
<td>Statutory Autonomous, Delhi</td>
<td>Govt.</td>
<td>1956</td>
<td>77</td>
</tr>
<tr>
<td>2</td>
<td>M.B.B.S.</td>
<td>Army College of Medical Sciences, New Delhi</td>
<td>Guru Gobind Singh Indraprastha University</td>
<td>Trust</td>
<td>2008</td>
<td>54</td>
</tr>
<tr>
<td>3</td>
<td>M.B.B.S.</td>
<td>Lady Hardinge Medical College, New Delhi</td>
<td>Delhi University</td>
<td>Govt.</td>
<td>1916</td>
<td>130</td>
</tr>
<tr>
<td>4</td>
<td>M.B.B.S.</td>
<td>Maulana Azad Medical College, New Delhi</td>
<td>Delhi University</td>
<td>Govt.</td>
<td>1958</td>
<td>200</td>
</tr>
<tr>
<td>5</td>
<td>M.B.B.S.</td>
<td>University college of Medical Sciences&amp;GTB Hospital, New Delhi</td>
<td>Delhi University</td>
<td>Govt.</td>
<td>1971</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>M.B.B.S.</td>
<td>Vardhman Mahavir Medical College &amp; Safdarjung Hospital, Delhi</td>
<td>Guru Gobind Singh Indraprastha University</td>
<td>Govt.</td>
<td>2002</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>751</td>
</tr>
</tbody>
</table>

*Source: Medical Council of India*

The universe or the total number of 5\textsuperscript{th} year 9\textsuperscript{th} semester medical students is 751 as per the table. The universe as such has been taken for the
study without any sampling procedure. In this 751, students in irregular batches and those who did not give consent were excluded from the study. 658 students were considered for the study after obtaining informed consent and willingness to participate in the study. Therefore, universe of the study is 751 medical students but the sample for the final administration comprised of only 658 undergraduates 5th year 9th semester M.B.B.S. students as respondents of this study. Questionnaires were duly filled and received with eight to nine visits.

4.14 PERIOD COVERED BY THE STUDY

The present study relied on primary and secondary data respectively. The required data was collected from 658 5th year 9th semester M.B.B.S. students in Delhi. The researcher collected the primary data from the selected respondents for a period of one year from June 2012 to May 2013.

4.15 LIMITATIONS OF THE STUDY

This study is confined to only M.B.B.S students in Delhi Union Territory. Hence, the results arrived from the study may or may not be applied to other states. However in order to make the results reliable for drawing conclusions relevant for the universe of the study, care had been taken to minimize the bias, through cross checks, whenever the accuracy and reliability of the data given by the respondents were doubted. Due to time and cost constraints, the study was conducted only in Delhi Union Territory.

4.16 CHAPTER FRAMEWORK

The present study entitled “AN EMOTIONAL INTELLIGENCE ASSESSMENT WITH SPECIAL REFERENCE TO MEDICAL STUDENTS OF DELHI” has been divided into six chapters as outlined below.
Chapter 1 captioned “Introduction and Design of the Study” gives a vivid account of introduction, statement of the problem and need of the study.

Chapter 2 titled “Review of Literature” presents a detailed survey of literature available on the subject.

Chapter 3 titled “Emotional Intelligence in Medical sector” has made an attempt to trace the potential causes and consequences of medical students’ distress and proposed solutions for the distress.

Chapter 4 titled “Research Methodology” gives a vivid account of objectives of the study, scope of the study, methodology, data collection, sampling plan, period of the study, and limitation of the study.

Chapter 5 deals with a detailed discussion on the analysis of data collected.

Chapter 6 gives a detailed discussion on the findings, suggestions, and conclusion of the study.