CHAPTER 3
METHODOLOGY

Overview of Methodology

Descriptive and Correlational Research Study

Study Area
- Delhi
- NCR

Sample (300)
School going Adolescents (16-17 years)
- Boys (150)
- Girls (150)

Variables
Independent
- Perceived Loneliness
- Gender
- Family Type
  - Nuclear
  - Joint

Dependent
- Self-Esteem
- Achievement Motivation
- Locus of control
  - Powerful Others
  - Chance Control
  - Individual Control

Tool used
- Perceived Loneliness Scale
- Self-esteem Inventory (SE)
- Achievement Motivation Scale
- Locus of control Scale

Conduct of the study
- Establishing Rapport
- Instruction were given
- Collection of data

Analysis of data
- Mean score and standard deviation
- Student ‘t’ and correlation
- ANOVA
- Regression and MANOVA

Figure 5: Methodology at a Glance
3.1. Aim

The present research aims to study The Effect of Perceived Loneliness on the Achievement Motivation, Self-Esteem and Locus of Control Among Late Adolescents.

3.2. Objectives

To assess the level of perceived loneliness in adolescents

To study the relationship between perceived loneliness and achievement motivation, self-esteem and locus of control of adolescents

To determine the relationship of gender on perceived loneliness, achievement motivation, self-esteem and locus of control of adolescents.

To compare the level achievement motivation, self-esteem and locus of control of adolescents.

3.3. Hypotheses

There will be a significant relationship between Perceived Loneliness and Achievement Motivation, Self-Esteem, Powerful Others, Chance Control and Individual Control Factors of Locus of Control among adolescents.

Adolescents with high Perceived Loneliness will have low level of Achievement Motivation and Self-Esteem as compared to adolescence with low Perceived Loneliness.

Adolescents with high Perceived Loneliness will be high on Powerful Others factor of Locus of Control as compared to adolescence with low Perceived Loneliness.

Adolescents with high Perceived Loneliness will be high on Chance Control Factor of locus of control as compared to adolescence with low Perceived Loneliness.

Adolescents with high Perceived Loneliness will have low Individual Control as compared to adolescence with low Perceived Loneliness.

There will be significant effect of Perceived Loneliness on Achievement Motivation, Self-Esteem, Powerful Others, Chance Control and Individual Control Factors of Locus of Control among adolescent boys and girls.

There will be significant effect of Perceived Loneliness on Achievement Motivation, Self-Esteem, Powerful Others, Chance Control and Individual Control
Factors of Locus of Control among adolescents belonging to nuclear and joint families
There will be significant interaction effect of Perceived Loneliness, Gender and Family Type on the Achievement Motivation, Self-Esteem, Powerful Others, Chance Control and Individual Control Factors of Locus of control among adolescents.

3.4. Variables

Independent Variable

- **Perceived loneliness**: It is said to be how an individual feels and perceive their social surroundings and what influences they take out from it. It is the perception, regardless of reality, that one’s social needs aren’t being met or that one is socially isolated.

- **Gender**: It refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It varies from society to society and can be changed.

- **Family type**: It refers to different family structure namely nuclear and joint. Nuclear family is traditional type of family structure. This family type consists of two parents and children. Joint families are when all the generations live together in one house.

Dependent Variable

- **Achievement Motivation**: It can be defined as the need for success or the attainment of excellence. Individuals will satisfy their needs through different means, and are driven to succeed for varying reasons both internal and external.

- **Self-esteem**: It is defined as a person’s overall evaluation of, or attitude toward, her- or himself. It is the complication of feelings about ourselves that guides our behaviour, influences our attitudes and drives our motivation.
Locus of Control: - It is a psychological construct that identifies an individual's beliefs about the degree of personal control that can be exercised over his/her environment. This variable includes three sub variables:

i. Powerful other
ii. Chance Control
iii. Individual Control

3.5. Sample

In the present study it was aimed to collect data for 300 school going students belonging to XI and XII standard. Ethical Guideline in line with APA, a consent letter was submitted to the principals of the schools seeking permission to collect data from the students.

Keeping in mind that some students will end up submitting incomplete information/forms, data was collected for 350 students studying in XI and XII standard in five private schools (referred to as school A, B, C, D and E hereafter) located in Delhi NCR region. The age range of the students was 16-17 years. The students did not have any medical history of depression.

The students belonged to Science and Commerce streams. There were 77 students from school A, 67 students from school B, 70 students from school C, 66 students from school D, and 70 students from school E. Further, the sample consisted of 173 boys and 177 girls. Out of 177 boys, 90 belonged to standard XI and 83 belonged to standard XII. Out of 177 girls, 90 belonged to standard XI and 87 belonged to standard XII.

Table 1

<table>
<thead>
<tr>
<th>Different Schools</th>
<th>COLLECTED SAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BOYS</td>
</tr>
<tr>
<td></td>
<td>11th</td>
</tr>
<tr>
<td>A School</td>
<td>26</td>
</tr>
<tr>
<td>B School</td>
<td>17</td>
</tr>
<tr>
<td>C School</td>
<td>22</td>
</tr>
</tbody>
</table>
Purposive sampling was used as a sampling procedure. Out of the collected data of 350 students, data for 300 students was selected as the remaining students had submitted forms with incomplete details.

![Diagram](image)

**Figure 6:** Distribution of Sample

### 3.6. Research design

Research design is an outline or a sequence of steps to be followed for conducting the study in such a way that maximum control will be exercised over factors that could interfere with the validity of the research results. (Polit and Hungler, 1999). The research design includes the researcher’s overall plan for obtaining answers to the research questions guiding the study. Types of research design which are commonly used are exploratory, descriptive, correlational, experimental and causal.

The present study followed an exploratory research design for deciding the hypotheses. Once the hypotheses were finalized, descriptive and correlational research designs were adopted. Exploratory research design is used for formulating the problem for more clear and definitive exploration. Extensive literature survey was done under exploratory research design to come up with the gaps in the current literature and identify hypothesis to be tested.
The present study is descriptive in nature as it attempts to describe in detail the relations between the variables and the possible reasons for the existence of such relations. The correlational research study aims to ascertain if a relationship exists between the variables of study.
3.7. Tools Used

It is proposed to use the following standardized tests / tools for the collection of data.

Table 2

Description of the tools used

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the test</th>
<th>Author of the test</th>
<th>Year</th>
<th>No. of items</th>
<th>Reliability*</th>
<th>Validity*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Perceived Loneliness Scale</td>
<td>Dr Pravin Kumar Jha</td>
<td>1997</td>
<td>36</td>
<td>.84</td>
<td>.59</td>
</tr>
<tr>
<td>2.</td>
<td>Deo- Mohan Achievement Motivation Scale (n-Ach)</td>
<td>Pratibha Deo and Asha Mohan</td>
<td>2011</td>
<td>50</td>
<td>0.69</td>
<td>.75</td>
</tr>
<tr>
<td>3.</td>
<td>Self Esteem Inventory</td>
<td>Stanley Coopersmith</td>
<td>1981</td>
<td>25</td>
<td>0.80</td>
<td>0.60</td>
</tr>
<tr>
<td>4.</td>
<td>Locus of Control Scale (Indian Adaptation of Levensons Scale)</td>
<td>Sanjay Vohra</td>
<td>1992</td>
<td>24</td>
<td>0.76</td>
<td>0.54</td>
</tr>
</tbody>
</table>

*Type of Reliability and Validity is mentioned in corresponding parts of Section 3.7.1 (Description of the tool used)

3.7.1 Description of the tool used.

1. *Perceived Loneliness Scale (Jha, 1997).*

Loneliness is considered an important personality variable in current psychological literature. Loneliness refers to an individual’s subjective perception that he/she lacks close interpersonal relationships.

Many people in their lifetime experience feeling of isolation and a sense of loneliness. As life is filled with social interaction which disrupts one’s personal relationship and may lead to feeling lonely.

Perceived Loneliness Scale was constructed by Dr. Praveen Kumar Jha (1997) and was used to measure the level of perceived loneliness in adolescents. The scale
consists of items which conceptualize loneliness as a unidimensional psychological state of an individual.

It is a comprehensive inventory to measure the extent of loneliness in a population and consists of 36 items. The scale consists of positive statements as well as negative (reverse scored) statements.

Table 3

*Showing the Positive and Negative statements of perceived loneliness scale*

<table>
<thead>
<tr>
<th>Statements</th>
<th>Items</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Statements</td>
<td>1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 15, 16, 17, 19, 20, 22, 23, 24, 25, 27, 28, 30, 31, 32, 33, 34, 36</td>
<td>28</td>
</tr>
<tr>
<td>Negative Statements</td>
<td>4, 12, 14, 18, 21, 26, 29, 35</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

The scale can be used in individual as well as group testing situations and can be administered in a class setting. No time limit is prescribed for administering the scale.

*Scoring of the scale.*

The perceived loneliness scale is self-report (scored) research tool which gives a holistic account of one’s loneliness in five-point scale format. There are five responses for each item which are: Totally agree, Agree, Can’t say, Disagree, totally disagree. The scoring for positive items is done from 5 to 1, i.e. 5 indicates high loneliness and 1 indicates low loneliness. Reverse scoring is done for negative items, i.e. 1 to 5 in which 5 indicates low loneliness and 1 indicates high loneliness. The minimum and maximum score ranges between 36 to 180. High score is interpreted as high loneliness and low score as low loneliness.

*Reliability of the test.*

The reliability of the loneliness scale was found to be fairly high. It was determined by using two indices: the first was determined by the Kuder-Richardson formula and second by test-retest method. The reliabilities obtained were 0.84 and 0.82.
**Validity of scale.**

The validity of loneliness scale was calculated in three ways, i.e. content validity, predictive validity, and concurrent validity. The validities which were obtained were significantly high.

**Norms of the scale.**

The percentile norms were determined on the basis of loneliness scores obtained from the normative samples. An individual scoring the 75th percentile or above is identified as highly lonely while one who scores the 25th percentile or below as non-lonely. The age range for the scale was 16-22 years.

**2. Achievement Motivation Scale (n-Ach) (Deo and Mohan, 2011).**

Achievement is the competence of a person in domain of knowledge. It is the whole sole learning that you derive from the experience. Achievement motivation is a type of motivation that determine how and why he has behaved in a certain manner.

Achievement motivation (n-Ach) scale was constructed by Dr. Pratibha Deo and Dr. Asha Mohan (2011). The scale was developed to measure the achievement motivation of the students. This variable has been used in many studies and is quite useful. To form the present scale an effort was made to study the factor suitable for measuring the achievement of students. The test includes majorly three areas such as academic factors, factor of general field and social interests.

1. Academic factors include areas such as academic motivation, need achievement, importance of grades or marks, meaningfulness of school tasks, attitude towards education, work methods, attitude towards teacher, etc.

2. Factor of general interest include sports and athletics, co-curricular activities, areas including creative work.

3. Social interest: It includes being involved in organizing and participation in social activities.
The test contains 50 items and 15 areas/dimensions of needs are described.

Table 4
Dimensions of Achievement Motivation Test

<table>
<thead>
<tr>
<th>S. No</th>
<th>Factor</th>
<th>Number of item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Academic Motivation</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Need for Achievement</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Academic Challenge</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Achievement Anxiety</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Important of Grades/ Marks</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Meaningfulness of Task</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Relevance of School College to Future goals</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Attitude Towards Education</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Working Methods</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Attitude Towards Teacher</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Interpersonal Relations</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>Individual Concern</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>General Interests</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>Dramatics</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>Sports etc.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
</tr>
</tbody>
</table>

The scale has 13 negative items and 37 positive items. The scale has been published both in Hindi and English but in this study the scale has been used in English.

Reliability of scale.

The reliability that was used was test retest method. Different sample was taken and the scale was administered on different occasion. The result obtained is given in the following table.
Table 5

*Reliability coefficient of the achievement motivation scale*

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Interval</th>
<th>R</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Group</td>
<td>51</td>
<td>4 weeks</td>
<td>0.69</td>
<td>0.01</td>
</tr>
<tr>
<td>Males</td>
<td>33</td>
<td>5-6 weeks</td>
<td>0.67</td>
<td>0.01</td>
</tr>
<tr>
<td>Females</td>
<td>50</td>
<td>5-6 weeks</td>
<td>0.78</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Validity of scale.**

Validity of the scale was calculated firstly by item validity and was established by high-low discrimination method. The coefficient between the verbal scale and projective test was observed to be 0.54, the validity being of concurrent nature. The scale was also correlated with scores obtained by administering the Aberdeen Academic Motivation Inventory of Entwistle (1968) yielding a coefficient of 0.75 for a mixed sample of 93.

**Scoring of scale.**

The scoring of scale was done for positive and negative items differently. There are five responses for each item which are: *Always, Frequently, Sometimes, Rarely and Never*. Positive items were scored 4, 3, 2, 1, 0, and the negative items were reverse score, i.e. 0, 1, 2, 3, 4. The minimum score that can be obtained is 0 and the maximum score that can be attained is 200. High score is interpreted as high achievement motivation and low score is interpreted as low achievement motivation.

Table 6

*Showing the scoring of the Achievement Motivation scale*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Negative</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Administration of the scale.**

The scale can be administered individually as well as in group settings. Full arrangements were done so that it could be conducted properly. Directions printed in
the test booklet were explained to the subjects. No time limit was given to complete the test. Subjects were asked to answer every item. After the subjects finished the making their responses the test was collected along the answer sheets.

**Norms of the scale.**
The obtained score was the raw score and the interpretation of the scores, z-Scores have been presented the manual. The scale is meant for boys and girls in the age group of 13-20 years. The z-Score norms have been presented age wise from 13 to 19 years.

3. **Locus of Control Scale (Indian Adaptation of Levensons Scale)** (*Vohra, 1992*).
The concept of locus of control was first given by Julian Rotter (1960). According to Rotter, the degree to which an individual believes that their lives are under their own control is an important dimension. People who are internally oriented believe that they are responsible for their destiny whereas externally oriented individuals feel that luck, chance and powerful others control the outcomes in their life.
The Levensons Locus of Control Scale (Indian Adaptation) was constructed by Sanjay Vohra (1992). The scale consists of 3 dimensions:

**Individual Locus of Control:** - Individual control indicates belief about one’s control on the experience and outcomes. High score in this dimension for an individual implies that the individual believes the outcomes are controlled by him.

**Chance Locus of Control:** - Chance control tells us about our beliefs on chance. High score in this dimension indicates that outcomes are controlled by unordered, chance, or random events.

**Powerful Other Locus of Control:** - Powerful others locus of control indicates the belief that behavior is controlled by powerful others. High score in this dimension indicates that other people control their outcomes.

The present scale is a Likert type format. It consists of 24 statements: 8 items for each dimension, i.e. for P – Powerful Others, C – Chance Control and I – Individual Control. The statements were thoroughly revised before being included in the final scale. The items have been presented in the scale in a random order.
Table 7

*Distribution of the items of Locus of control scale*

<table>
<thead>
<tr>
<th>S. No</th>
<th>Nature of Control</th>
<th>Item Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Individual Control (I)</td>
<td>1, 4, 5, 9, 18, 19, 21 &amp; 23</td>
</tr>
<tr>
<td>2</td>
<td>Chance Control (C)</td>
<td>2, 6, 7, 10, 12, 14, 16 &amp; 24</td>
</tr>
<tr>
<td>3</td>
<td>Powerful Others (P)</td>
<td>3, 8, 11, 13, 15, 17, 20 &amp; 22</td>
</tr>
</tbody>
</table>

**Reliability of the scale.**

To calculate the reliability of the scale, a trial run of the scale was done by the author. Firstly, split half method of reliability was employed. The scale was divided into parts of 12 statements each. Each part contained 4 statements for each dimension, i.e. powerful others, chance control and individual control. The reliability was found out to be 0.72 for Powerful Others, 0.79 for Chance Control and 0.65 for Individual Control by using Spearman-Brown. Then test-retest method was used to calculate the reliability of the scale. A sample of 200 was tested after one-week time. The test-retest reliability coefficient was found to be 0.76.

**Validity of the scale.**

The validity of scale was calculated by validating the present scale with Rotter’s locus of control scale (I-E Scale). Both scales were done one after another with very little time interval in between. Then the score of both scales were correlated with each other and correlation coefficient was found to be 0.54 (with N=220).

**Scoring of scale.**

The scoring of the scale is done by using 2 Stencils. Each item (answer) is scored as 1, 2, 3, 4 or 5. Scores for the 3 dimensions (P – Powerful Others, C – Chance Control and I – Individual Control) have to be added separately and calculate the score. There are 5 responses for each item which are:
Table 8

Scoring of locus of control scale

<table>
<thead>
<tr>
<th>Response</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>5</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
</tbody>
</table>

High score is interpreted as high strength of the factors of locus of control and low score is interpreted as low strength of the factors of locus of control.

**Norms of the scale.**

In research applications the examiner will have no need to convert the raw score obtained with the scoring key stencil to sten score. However, commonly the test user would like to know how an individual stand in relation to a defined population. For this purpose, the raw score should be converted into sten score. The sten scores are disturbed over ten equal intervals of standard scores points from 1 to 10. The score of 5-6 devote average strength of the factor. Score above 6, i.e. from 1-4, indicate gradual decrease of strength. Apart from the stenscores, examiner can calculate the raw score from the scoring key stencil and find out the equivalent percentile ranking of the subject.

**4. Self-esteem Inventories (Adult form) (Coopersmith, 1981).**

Self refers to the totality of an individual’s conscious experiences, ideas, thoughts and feelings with regard to herself or himself. Self-esteem refers to the way we see and think about ourselves. It is an expression of an individual’s perception about themselves the reactions and response of others to you as an individual.

The Coopersmith Self-Esteem Inventory (SEI) was developed by Cooper Smith (1981) for the purpose of assessing towards oneself in general (global) and in specific (situational) contents, namely peers, parents, school and personal interests. The SEI
(Adult Form) is a 25-item instrument which has been adapted from the school short form for use with persons over 15 years of age.

**Scoring of the form.**

The scale includes two types of responses, i.e., positive (like me) and negative (unlike me). The ‘like me’ statements which hold true for him and ‘unlike me’ indicates statements which do not hold true for him. The inventory yields a total score with 25 item and the score ranges from 0-25 and the obtained score is then multiplied by 4. The maximum score of the scale can be 100 and minimum score can be 0. The form is self-administered and there is no time limit for the test. High score is interpreted as high self-esteem and low score is interpreted as low self-esteem.

**Reliability.**

The reliability for the Adult Form was calculated by using internal consistency and estimate ranges from 0.71 to 0.80. Test-retest method was also used to calculate the reliability of the scale and it was found to be 0.80 and 0.82.

**Validity.**

Construct validity of the inventory along with concurrent and factorial validity had been established. The mean normative score is 70 with standard deviation (SD) of 11 (Coopersmith, 1981).

**3.8. Procedure for Data Collection**

Data was collected from various private schools in Delhi/NCR. As per the APA Ethical Guideline which states that approval should be taken prior in conducting the research. Then the research is conducted in accordance with the approved research protocol. So. prior permission was taken from the principal of the school to collect the data. The class teachers were requested to arrange a session for an hour. After allocation of the time slot by the class teacher, the researcher went to the class room and distributed the booklets and the process of data collection started. During the data collection, firstly rapport with the participants was established. APA ethical guideline also suggest that informed consent is very important in a research.
Therefore, the participants were briefed about the nature of the study, were then asked to sign the informed consent form and were insured about confidentiality of the results. The participants were also informed that the information collected from them will only be used for educational research purpose and signed consent forms were collected. The four tools were used one after the other to collect the required information. Further instructions were given to the students regarding filling up information in the booklet and timely doubts of the students were clarified. The administration was done in a group setting. As per APA ethical guideline a research should conduct a debriefing session after the completion of the data collection i.e. the psychologist should inform about nature results and possible conclusions of the study. On completion the tools were collected and examined to check if any were left by the participant.

3.9. Statistical Analysis

The collected data was scored according to directions given in the list manuals. Then standard statistical procedures were used to conduct the analysis. Descriptive statistics such as Mean and Standard Deviation were calculated to test significance of means of different variables in the study. Correlational Analysis was performed to derive the relationship between the variables and to see one variable’s effect on other variables. Analysis of Variance was used to derive the significance between the variables of the study. Then Regression Analysis was performed to see how one variable predicts other variables. Lastly, MANOVA (Multivariate Analysis) was applied to measure the interaction effect between the variables.