CHAPTER-IV

METHODOLOGY & DESIGN OF THE STUDY

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CHAPTER-IV
METHODOLOGY AND PROCEDURE

4.1 STATEMENT OF THE PROBLEM

The present study purported to study the impact of Indian Music on anxiety and stress level at adolescent stage of human development. The problem can, therefore, be stated in the following words:

‘Impact of Indian Music on Anxiety and Stress levels at Adolescent Stage of Human Development’

4.2 OBJECTIVES OF THE PRESENT STUDY

The present study aimed to

1. Study the impact of Instrumental music in reducing anxiety and stress level at adolescent stage of human development.

2. Study the impact of Fusion music in reducing anxiety and stress level at adolescent stage of human development.

3. Study the impact of Folk music in reducing anxiety and stress level at adolescent stage of human development.

4. Compare the effectiveness of all three kinds of Indian music in reducing anxiety and stress level at adolescent stage of human development.

5. Study the differential impact of three kinds of Indian music in the reduction of anxiety and stress level on gender basis at adolescent stage of human development.

4.3 OPERATIONAL DEFINITIONS

For the realization of the objectives stated above, the following definitions have been made operational:
**Indian Music:** In the present study, three kinds of Indian Music, namely Instrumental (Sitar based compositions), Fusion (blend of Indian classical & Western) and Folk music (Punjabi) were used as intervention strategies to see its impact on anxiety and stress level of adolescents studying in private schools affiliated to PSEB of district Roopnagar of Punjab.

**Anxiety:** Anxiety was what General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar measured.

**Stress:** Stress in the present study was what Scale of Academic Stress, Family Stress and Social Stress of Bisht Battery of Stress Scales for adolescents developed by Abha Rani Bisht measured.

**Human Development:** Human development referred to the adolescent stage which was chosen for the present investigation.

**Adolescent:** In the present study, adolescent means subjects aged between 13 to 15 years studying in private schools affiliated to PSEB of district Roopnagar of Punjab.

**4.4 SAMPLE**

For conducting the present study, a sample of 500 adolescents was included. Description of the sample has been discussed under two major heads: initial sample and final sample.

**Initial Sample**

In order to achieve the objectives and verify the hypotheses of the study, it was essential to identify the adolescents with high anxiety and stress level. Based on convenient sampling technique, the investigator conducted a survey on 500 adolescents in selected 4 private schools affiliated to PSEB of district Roopnagar, Punjab. The principals of selected schools were contacted and consent to carry out the research work in the respective schools was taken. Table 4.4.1 presents the list of schools included in the study:

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1 Appendix I: Consent Letters from the Principals of respective schools.
Table No. 4.4.1

List of Schools Taken in the Study

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gurukul Model School, Roopnagar</td>
</tr>
<tr>
<td>2</td>
<td>Dashmesh Model School, Roopnagar</td>
</tr>
<tr>
<td>3</td>
<td>New Model High School, Roopnagar</td>
</tr>
<tr>
<td>4</td>
<td>Blue Bird School, Roopnagar</td>
</tr>
</tbody>
</table>

The adolescents of class VIII<sup>th</sup> and IX<sup>th</sup> constituted the sample of the present study. Further, those adolescents fulfilling following criteria were included in the initial sample:

1. Children belonging to adolescent stage i.e., age ranging from 13 to 15 years only.
2. Children regularly coming to school.
3. Children having no musical background.
4. Children having Punjabi as their mother tongue for Experimental Group III i.e. EG<sub>3</sub>.

On the basis of cumulative record diary (for age proof), regular attendance record (for checking regularity), subjects preferred and interest (for testing the musical background) and language preferred (for selecting the subjects for EG<sub>3</sub>) by adolescents were confirmed.

Hence out of 500, only 462 adolescents fulfilling the above mentioned criteria constituted the initial sample of the present study. Further, to make all the
schools homogenous, a fixed ratio of adolescents from each school was chosen by the investigator. Hence 112 adolescents, each from 4 schools were chosen making a total of 448 adolescents for initial sample. Details of the initial sample are given below in Table 4.4.2 and Figure 4.4.2.

Table No. 4.4.2
Sex-wise distribution of Initial Sample of Schools

<table>
<thead>
<tr>
<th>Schools</th>
<th>Name of the School</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>% in group</td>
<td>No.</td>
</tr>
<tr>
<td>S₁</td>
<td>Gurukul Model School, Roopnagar</td>
<td>62</td>
<td>55.00</td>
<td>50</td>
</tr>
<tr>
<td>S₂</td>
<td>Dashmesh Model School, Roopnagar</td>
<td>54</td>
<td>48.00</td>
<td>58</td>
</tr>
<tr>
<td>S₃</td>
<td>New Model High School, Roopnagar</td>
<td>64</td>
<td>57.00</td>
<td>48</td>
</tr>
<tr>
<td>S₄</td>
<td>Blue Bird School, Roopnagar</td>
<td>56</td>
<td>50.00</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>236</td>
<td>53.00</td>
<td>212</td>
</tr>
</tbody>
</table>
Table and Figure 4.4.2 shows sex wise distribution of the initial sample of schools. In S₁ out of total 112 adolescents, 62 adolescents i.e. 55 percent were boys and 50 i.e. 45 percent were girls. In S₂ out of 112 adolescents, 54 adolescents i.e. 48 percent were boys and 58 adolescents i.e. 52 percent were girls. Table 4.4.2 further shows that in S₃ out of total 112 adolescents, 64 i.e. 57 percent were boys and 48 i.e. 43 percent were girls and in S₄, out of total 112 adolescents 56 i.e. 50 percent were boys and similarly 56 i.e. 50 percent were girls.
Finally Table and Figure 4.4.2 also reveals that out of total 448 adolescents, 236 adolescents i.e. 53 percent were boys and 212 adolescents i.e. 47 percent were girls which forms the initial sample of the present study.

**Final Sample**

Adolescents (448 in totality) were pre-tested on General Anxiety Scale for children & adolescents for anxiety developed by Dr. Anil Kumar and Bist Battery of Stress Scales (namely; Scale of Academic Stress, Scale of Social Stress and Scale of Family Stress) for children developed by Abha Rani Bisht. Out of these 448, the above 50% upper cases (boys or girls) i.e., adolescents who scored high on anxiety and stress together were selected for the final sample. Details of the final sample are presented below in Table 4.4.3 and Figure 4.4.3.

<table>
<thead>
<tr>
<th>Schools</th>
<th>Name of the School</th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>% in</td>
<td>No.</td>
<td>% in</td>
<td>No.</td>
</tr>
<tr>
<td>S1</td>
<td>Gurukul Model School, Roopnagar</td>
<td>21</td>
<td>37.00</td>
<td>35</td>
<td>63.00</td>
<td>56</td>
</tr>
<tr>
<td>S2</td>
<td>Dashmesh Model School, Roopnagar</td>
<td>14</td>
<td>25.00</td>
<td>42</td>
<td>75.00</td>
<td>56</td>
</tr>
<tr>
<td>S3</td>
<td>New Model High School, Roopnagar</td>
<td>22</td>
<td>39.00</td>
<td>34</td>
<td>61.00</td>
<td>56</td>
</tr>
<tr>
<td>S4</td>
<td>Blue Bird School, Roopnagar</td>
<td>23</td>
<td>41.00</td>
<td>33</td>
<td>59.00</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>80</td>
<td>36.00</td>
<td>144</td>
<td>64.00</td>
<td>224</td>
</tr>
</tbody>
</table>

Table No. 4.4.3

*Sex-wise Distribution of Final Sample of Schools*
Table and Figure 4.4.3 shows sex-wise distribution of the final sample of schools. In S₁ out of total 56 adolescents, 21 adolescents i.e. 37 percent were boys and 35 i.e. 63 percent were girls. In S₂ out of 56 adolescents, 14 adolescents i.e. 25 percent were boys and 42 adolescents i.e. 75 percent were girls. Table 4.4.3 further shows that in S₃ out of total 56 adolescents, 22 i.e. 39 percent were boys and 34 i.e. 61 percent were girls and in S₄, out of total 56 adolescents 23 i.e. 41 percent were boys and similarly 33 i.e. 59 percent were girls.
Finally Table and Figure 4.4.3 also reveals that out of total 224 adolescents, 80 adolescents i.e. 36 percent were boys and 144 adolescents i.e. 64 percent were girls which forms the final sample of the present study. This indicated that incidence of high anxiety and stress level is found greater in girls as compared to boys.

**Distribution of Final Sample into Groups**

Table and Figure 4.4.4 shows distribution of the final sample into three experimental groups (EGs) and one control group (CG) designed for the present study.

<table>
<thead>
<tr>
<th>Schools</th>
<th>Name of the School</th>
<th>EG₁</th>
<th>EG₂</th>
<th>EG₃</th>
<th>CG</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>Gurukul Model School, Roopnagar</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>8</td>
<td>11</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>S₂</td>
<td>Dashmesh Model School, Roopnagar</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>S₃</td>
<td>New Model High School, Roopnagar</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>S₄</td>
<td>Blue Bird School, Roopnagar</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>18</td>
<td>21</td>
<td>20</td>
<td>21</td>
<td>224</td>
</tr>
<tr>
<td>% in Groups</td>
<td></td>
<td>32.00</td>
<td>37.00</td>
<td>35.00</td>
<td>37.00</td>
<td>224</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>224</td>
</tr>
</tbody>
</table>
In EG₁ out of total 56 adolescents, 18 adolescents i.e., 32 percent were boys and 38 i.e., 68 percent were girls. In EG₂ out of 56 adolescents, 21 adolescents i.e. 37 percent were boys and 35 adolescents i.e. 63 percent were girls. Table 5.4.4 further shows that in EG₃ out of total 56 adolescents, 20 i.e. 35 percent were boys and 36 i.e. 65 percent were girls and in CG, out of total 56 adolescents 21 i.e. 37 percent were boys and similarly 35 i.e. 63 percent were girls.

4.5 DESIGN OF THE STUDY

To achieve the stated objectives, pre-test, post-test experimental and control group design was used. The experimental control group design includes at least two groups, one experimental and one control group. In the present study, there were four groups in totality (one control and three experimental). Initial sample of 448 adolescents in the age range of 13-15 years were taken from 4 private schools affiliated to PSEB of district Roopnagar, Punjab. All the adolescents
were pre-tested on General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar and Bist Battery of Stress Scales (namely, Scale of Academic Stress, Scale of Social Stress and Scale of Family Stress) for children developed by Abha Rani Bisht. 224 adolescents those scored high in both tests were selected for the final sample. Out of these 224, 56 adolescents were randomly assigned to each of the four groups (one control and three experimental groups). Musical treatment randomly selected was assigned to all the three experimental groups for 20 minutes at alternative days for a period of three months. No treatment was given to the control group. Pictorial form of the design of the present study is represented in Figure 4.5.1.

<table>
<thead>
<tr>
<th><strong>Figure No. 4.5.1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design of the Present Study</strong></td>
</tr>
<tr>
<td>Experimental Groups</td>
</tr>
<tr>
<td>EG₁ (Instrumental Music)</td>
</tr>
</tbody>
</table>

**A. Identification of Subjects**

**B. Measurement of Anxiety and Stress by**

**Pre-test (Base-line)**

- 1. General Anxiety Scale for Children
- 2. Bisht Battery of Stress Scales

**Intervention**

Three treatments i.e. one for each experimental groups (3 months) treatment

**Post-test**

- 1. General Anxiety Scale for Children
- 2. Bisht Battery of Stress Scales
In the present study, different musical strategies/kinds i.e. Indian Instrumental music, Indian Fusion music and Indian Folk music served as independent (manipulated variables) and their effectiveness was studied on anxiety and stress level at adolescent stage of human development.

4.6 PROCEDURE OF DATA COLLECTION

The data of the present study was collected in the following five phases:

Phase-I: In the first phase of data collection, Principals of 4 private schools affiliated to PSEB of district Roopnagar, Punjab were contacted and consent was sought for data collection. Class VII<sup>th</sup> and IX<sup>th</sup> adolescents fulfilling the criteria already discussed under sample were included in the study.

Phase-II: In the second Phase, all adolescents were pre-tested on General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar and Bist Battery of Stress Scales (namely, Scale of Academic Stress, Scale of Family Stress and Scale of Social Stress) for children developed by Abha Rani Bisht. 224 adolescents those scored high in both tests were selected for the final sample. Out of these 224, 56 adolescents were randomly assigned to each of the four groups i.e. one control and three experimental groups (Table 4.4.4).

Phase –III: Phase III consisted of preparation of schedule according to the time allotted by the school authorities for conducting the investigation. A tentative plan was made with consultation of time table in-charge of the respective schools as shown in Table 4.6.1.

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<sup>2</sup>Appendix-I: Consent Letters from the Principals of respective schools.
Table No. 4.6.1
Time-Schedule Undertaken for the Study

<table>
<thead>
<tr>
<th>Schools</th>
<th>Name of the School</th>
<th>Days for Experimentation Work</th>
<th>Period Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>Gurukul Model School, Roopnagar</td>
<td>Monday, Wednesday, Friday</td>
<td>EG₁  8:45-9:10 A.M (Assembly) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₂  9:10-9:50 A.M (Zero Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₃  9:10-9:50 A.M (Zero Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>S₂</td>
<td>Dashmesh Model School, Roopnagar</td>
<td>Monday, Wednesday, Friday</td>
<td>EG₁  2:20-3:00 P.M (Creative Abilities Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₂  12:10-12:30 P.M (Library Period) Class IX&lt;sup&gt;th&lt;/sup&gt; 12:30-1:00 P.M (Games Period) Class VIII&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₃  2:20-3:00 P.M (Creative Abilities Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>S₃</td>
<td>New Model High School, Roopnagar</td>
<td>Tuesday, Thursday, Saturday (excluding 2&lt;sup&gt;nd&lt;/sup&gt; Saturday)</td>
<td>EG₁  1:45-2:45 P.M (Zero Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₂  2:45-3:10 P.M (Diary Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₃  1:45-2:45 P.M (Zero Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>S₄</td>
<td>Blue Bird School, Roopnagar</td>
<td>Tuesday, Thursday, Saturday</td>
<td>EG₁  9:00-10:00 A.M (Zero Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₂  9:00-10:00 A.M (Zero Period) Common for Class VIII&lt;sup&gt;th&lt;/sup&gt; and IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EG₃  11:20-11:40 P.M (Music Period) Class VIII&lt;sup&gt;th&lt;/sup&gt; 11:50-12:10 P.M (Games Period) Class IX&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Phase-IV: Phase IV consisted of treatment/intervention period. Intervention was provided to subjects of three experimental groups through three kinds of Indian music (Instrumental, Fusion and Folk respectively). No treatment was provided to the subjects in control group. Treatment was assigned randomly to all experimental groups, namely experimental group I (EG₁), experimental group II (EG₂) experimental group III (EG₃).

The subjects were given the following instructions before the start of the treatment session:

“*My dear students, for the next 20 minutes, I am taking you away from yourself. Just relax and listen to the music carefully. Forget about all your worries. Be with your present. Imagine yourself to be freed from all worries and tensions of life. Just live your life you want to, in these 20 minutes. Concentrate on the good times you spent or want to spend further. Spread the wings of your imagination and fly higher and higher and higher*”.

Musical Intervention in EG₁: Subjects in EG₁ were provided intervention with instrumental music i.e. Sitar based compositions. Three Ragas based on personal preference of the investigator and belonging to the specific timings of the day were selected to make deeper impact on the subjects. As it has already been mentioned that the intervention is provided every alternate day, the ragas were selected as per the time allotted in respective schools. For the morning sessions, two morning ragas i.e. *Raga Vrindabani Sarang* and *Raga Bilaskhani Todi* were used and for the noon sessions, afternoon raga i.e. *Raga Bhimplasi* were chosen. Before the starting of Raga, a brief introduction was given verbally to make them acquaint with what they are listening. Following Ragas were played during the intervention period with the help of laptop and speakers³.

³ Appendix VIII: DVD of instrumental (sitar based compositions) used during treatment phase.
• **Raga Bilaskhani Todi**- Ustad Shahid Parvez, Ustaad Vilayat Khan and Pandit Nikhil Banerjee

• **Raga Vrindavani Sarang**- Pt. Ravi Shankar and Ustad Shahid Parvez

• **Raga Bhimplasi**- Pt. Ravi Shankar, Nikhil Banerjee and Ustad Shahid Parvez

**Musical Intervention in EG2:** Subjects in EG2 were provided intervention/treatment through following of fusion pieces or tracks⁴:

- Ustaad Zakir Hussain on Tabla, Pt. Hari Prasad Chaurasia on Flute, John Mclauglin on Guitar and Jan Garberek on Saxophone from the album ‘Making Music’.
- Ustaad Zakir Hussain on Tabla, Pt. Hari Prasad Chaurasia on Flute, John Mclauglin on Guitar and Vikku Vinayakram on Ghatam.
- Ustaad Zakir Hussain on Tabla and John Mclaughlin on Guitar from the album ‘Remember Shakti’.
- Rahul Sharma on Santoor and Richard Clayderman on Piano, from the album ‘Confluence’.

**Musical Intervention in EG3:** Subjects in EG3 were given an open choice to select their favourite songs from the list provided to them by the investigator before the start of the treatment session. Choice was given acknowledging the fact that Punjabi is their mother-tongue and choice by themselves will ensure their enthusiastic participation in the experiment. The selection was done at two stages:

**Stage 1 (Initial Selection of Songs):** In stage 1, the investigator prepared a list of 20 Punjabi folk songs of her personal choice which she considered to be popular amongst the subjects⁵. The subjects were given the list of songs and were further instructed to choose 10 songs of their choice; they want to listen during the intervention/treatment session.

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⁴ Appendix IX: DVD of Fusion tracks used during treatment phase.
⁵ Appendix X: List of Punjabi folk songs given to the subjects to chose.
Stage II (Final Selection of Songs): In stage II, 10 songs were selected as the final Punjabi Folk Songs used in the study based on the choice of the subjects. The list is as follows:

- Balle ni Punjab diye sher bachiyen by Asa Singh Mastana
- Batti baal ke banere ute rakhni by Shamshad Begum
- Challa by Gurdass Mann
- Charkha by Wadali Brothers
- Boliyan by Gurdass Mann
- Bajre da sitta by Surinder Kaur & Prakash Kaur
- Kalla dariya kunde naal by Surinder Kaur
- Sadke sadke jandiye by Surinder Kaur & Prakash Kaur
- Lathe di chaddar ute saleti by Surinder Kaur & Prakash Kaur
- Jugni by Kuldeep Manak

Phase-V: Phase-V consisted of re-administration of General Anxiety for children and adolescents by Dr. Anil Kumar and Bist Battery of Stress Scales for children (namely, Scale of Academic Stress, scale of Family Stress and Scale of Social Stress) by Abha Rani Bisht on all (EGs and CG) groups to find out the changes in anxiety and stress level of adolescents in order to see the effectiveness of three types of Indian music used in the current study.

4.7 HYPOTHESES FRAMED FOR THE STUDY

1. Instrumental Music would be effective in reducing the anxiety and stress level at adolescent stage of human development.

2. Fusion music would be effective in reducing the anxiety and stress level at adolescent stage of human development.

3. Folk Music would be effective in reducing the anxiety and stress level at adolescent stage of human development.

Appendix XI: DVD of Punjabi Folk Songs used during treatment phase.
4. There would be differentials in the effectiveness of instrumental music, fusion music and folk music in reducing the anxiety and stress level at adolescent stage of human development.

5. There would be differentials in the effectiveness of three kinds of Indian music in the reduction of anxiety and stress level on gender basis at adolescent stage of human development.

4.8 TOOLS USED FOR THE STUDY

To test the above-mentioned hypotheses, the following tools were used:

1. General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar to determine anxiety.

2. Bist Battery of Stress Scales for children developed by Abha Rani Bisht to determine stress level.

3. Samples from Indian music (namely, Instrumental- Sitar based compositions, Fusion music and Punjabi Folk music) for musical interventions/ treatment sessions.

4.9 STATISTICAL ANALYSIS

In the present study following statistical techniques were employed for testing research hypotheses:

- Descriptive statistics namely mean and Standard Deviation for all variables was obtained for ascertaining the nature of distribution of scores on the effect of Indian music on anxiety and stress level at adolescent stage of human development.

- Analysis of variance was worked out to test the homogeneity of all groups and to find out variance between treatment techniques.

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7 Appendix II: Manual of General Anxiety Scale for children and adolescents developed by Dr. Anil Kumar to determine anxiety.

8 Appendix III: Manual of Bist Battery of Stress Scales for adolescents developed by Abha Rani Bisht to determine stress levels.

9 Appendix VIII, IX & XI: DVDs for Instrumental Sitar based compositions, Fusion pieces and Punjabi Folk Songs used in the study.
• t-test was applied to test the effectiveness and to find out the significance of difference between different kinds of Indian music on anxiety and stress level at adolescent stage of human development.

• Graphic representation presented through pie diagrams, bar charts and histograms was done wherever necessary.

4.10 DELIMITATIONS

The present study was delimited to:

1. Three Kinds of Indian Music i.e. Instrumental, Fusion and Folk.

2. For EG1, only Sitar Based compositions.

3. For EG1, only three Ragas as selected by the investigator.

4. For EG2, only Fusion pieces/tracks as selected by the investigator.

5. For EG3, only Punjabi Folk music.

6. For EG3, only songs selected by the investigator.

7. Subjects belonging only to adolescent stage of human development.

8. Subjects falling in the age range of 13-15 years only.

9. Subjects studying in class VIII and IX.

10. Subjects having Punjabi as mother tongue for Experimental Group III.

11. Subjects studying in private schools affiliated to PSEB.

12. Schools falling in the jurisdiction of district Roopnagar, Punjab.

13. Only two variables chosen for study i.e., anxiety and stress.

14. Only three types of stress scales used namely, Scale of Academic Stress, Scale of Family Stress and Scale of Social stress taken from Bisht Battery of Stress Scales.