CHAPTER 4
METHODOLOGY
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The prime purpose of the present study is to find out the influence of yoga therapy in curtailing state and trait anxiety, test anxiety and stress and its influence in enhancing negative mood regulation, achievement motivation and self esteem. The purpose also is to know whether Arts and Science female adolescent subjects differ with regard to their anxiety, stress and other components such as negative mood, achievement motivation and self-esteem.

This chapter comprises of Sample, Experimental Design, Preparation and Standardization of the Stress Inventory, Inventories Used, Intervention, Instructions, Procedure, Scoring of the Inventories Used and Statistical Analysis.

4.1: SAMPLE

The sample comprises of a hundred female adolescent +1 and +2 students, within the age range of 16-19 years from Auckland House School of Shimla. The randomly selected sample has fifty Arts and fifty Science female adolescent subjects out of which twenty-five Arts and twenty-five Science subjects participated in yoga therapy treatment workshop. The rest twenty-five Arts and twenty-five Science female subjects are taken as no treatment control group. The factors that are controlled are educational qualification, gender, age and institute, such that the activities being faced by the subjects are more or less similar during the time of yoga therapy workshop.
FIGURE (I): EXPERIMENTAL DESIGN

ADOLESCENT FEMALE SUBJECTS
(N=100)

<table>
<thead>
<tr>
<th>ARTS</th>
<th>SCIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=50)</td>
<td>(n=50)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TG1 (A)</th>
<th>CG1 (A)</th>
<th>TG2 (S)</th>
<th>CG2 (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 25</td>
<td>n = 25</td>
<td>n = 25</td>
<td>n = 25</td>
</tr>
</tbody>
</table>

PRE TRIAL | POST TRIAL | PRE TRIAL | POST TRIAL | PRE TRIAL | POST TRIAL | PRE TRIAL | POST TRIAL |

TG1 (A) - Treatment group one, Arts.
CG1 (A) - Control group one, Arts.
TG2 (S) - Treatment group two, Science.
CG2 (S) - Control group two, Science.
4.2: EXPERIMENTAL DESIGN

A (2x2x2) AXBXC analysis of variance design is used in this study. ‘A’ here denotes two class of subjects (Arts and Science), ‘B’ denotes the two groups (Yoga therapy treatment group and no treatment control group), and ‘C’ denotes the two trials (pre and post).

The Arts and Science class of subjects have fifty subjects each. Arts treatment group one TG1 (A) comprises of twenty-five subjects who participated in the yoga therapy workshop. The Arts no treatment control group one CG1 (A) also comprises of twenty five subjects. Similarly the Science treatment group two TG2 (S) comprises of twenty-five subjects who participated in the yoga therapy workshop. The Science no treatment control group two CG2 (S) also comprises of twenty-five subjects. The four groups TG1 (A), CG1 (A), TG2 (S), CG2 (S) each has to perform the pre and post trials on all the dependent variables. The experimental design is illustrated in FIGURE:(I)

4.3: PREPARATION OF THE STRESS INVENTORY

The Stress Inventory has been prepared for the purpose of knowing the stress causing factors of the female adolescent students. For this purpose eleventh and twelfth grade female science students are used, as it is assumed that perhaps these students experience greater levels of anxiety and stress.
There were about fifty students assembled from two institutes of Shimla and made to sit at ease. After giving a brief introduction to the students about anxiety and stress and how people are afflicted by it every day, sheets of plain paper were distributed to the students and were requested to pen down all the stress causing factors that discomposed them. To make it easy for them to report factors causing stress broad categories were stated to them such as ‘Family’, ‘Education’, ‘Friends’, ‘Health’, ‘Behaviour and Personal’.

The stress factors reported by the subjects were immense. Each subjects’ response was analyzed and the stress causing factors were underlined to make it easy for tallying it with one another. The commonly stated issues were grouped under the above stated categories of ‘Family’, ‘Education’, ‘Friends’, ‘Health’, ‘Behaviour and Personal’. On the first analyzing stage about ninety-five stress causing items were epitomized. In the second stage those stress causing factors were selected which were reported more often and were reduced to about forty items.

Finally on analyzing the stated stress items with the help of adept psychologists thirty stress causing items are short listed under the five categories with ‘Family’, ‘Education’, ‘Friends’ and ‘Health’ comprising of five items each and ‘Behaviour and Personal’ category comprising of ten items. To interlude the effect of continuity of items in their particular categories the items were selected at random for the final sequel of the Stress inventory. A three-point scale is used whereby every item has three optional responses ‘Never Stressful’, ‘Sometimes Stressful’ and ‘Always Stressful’. ‘Never Stressful’ is scored (0), ‘Sometimes Stressful’ is scored (1) and
‘Always Stressful’ (2). The highest score a subject can get is sixty and the lowest one can get is zero.

The Stress Inventory consists of thirty items, each item having three optional answers out of which the subject is supposed to choose one.

4.4: STANDARDIZATION OF THE STRESS INVENTORY

The Stress Inventory is standardized by assessing its reliability and validity for the female adolescent subjects used as the sample for the present study (Arts and Science, N=100). The two essential characteristics of a sound test are its reliability and validity. For this purpose only the pre trial scores were used.

Reliability of the Stress Inventory

In order to measure the internal consistency reliability Cronbach’s alpha has been calculated for the whole Stress Inventory and also for the sub categories of this inventory. These values are presented in TABLE 4.1, and all these values are highly significant at p<.001 level.
TABLE: 4.1 Cronbach’s alpha for the reliability measurement of the Stress Inventory.

<table>
<thead>
<tr>
<th>STRESS INVENTORY</th>
<th>N</th>
<th>NO OF ITEMS</th>
<th>CRONBACH ALPHA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL INVENTORY</td>
<td>100</td>
<td>30</td>
<td>.84</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>FAMILY</td>
<td>100</td>
<td>5</td>
<td>.72</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>EDUCATION</td>
<td>100</td>
<td>5</td>
<td>.69</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>FRIENDS</td>
<td>100</td>
<td>5</td>
<td>.66</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>HEALTH</td>
<td>100</td>
<td>5</td>
<td>.54</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>BEHAVIOURAL AND PERSONAL</td>
<td>100</td>
<td>10</td>
<td>.74</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

The test-retest reliability has also calculated for this Stress Inventory. For this purpose also the pre and post scores of only the Arts and Science subjects belonging to no treatment control groups were used. The test-retest reliability of .69 has turned out to be significant at p<.001.

**Validity of the Stress Inventory**

The construct validity of the Stress Inventory has been obtained by finding out the correlation between the Stress Inventory (SI) and State Trait Anxiety Inventory X-1 (STAI-X1), State Trait Anxiety Inventory X-2 (STAI-X2), Test Anxiety Inventory (TAI-H), Negative Mood Regulation Scale (NMRS) and Self-Esteem Inventory (SEI). TABLE: 4.2 illustrates the means, standard deviation scores for all the dependent variables and the
product moment correlation for the construct validity of the Stress Inventory with other inventories.

TABLE 4.2 Mean Scores, Standard Deviations and product moment correlations of Arts and Science female adolescent subjects for the dependent variables used (N=100).

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre scores of Arts and Science (TG1-CG1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Scores</td>
</tr>
<tr>
<td>SI</td>
<td>43.69</td>
</tr>
<tr>
<td>STAI-X1</td>
<td>30.12</td>
</tr>
<tr>
<td>STAI-X2</td>
<td>45.14</td>
</tr>
<tr>
<td>TAI-H</td>
<td>45.57</td>
</tr>
<tr>
<td>NMRS</td>
<td>105.22</td>
</tr>
<tr>
<td>SEI</td>
<td>15.08</td>
</tr>
</tbody>
</table>

The reliability and validity performed for the Stress Inventory standardization proves the Stress Inventory to be reliable and valid. The Pearson Product Moment correlation calculated for the construct criterion validity shows that there is a high positive correlation between SI and STAI-X1, STAI-X2 and TAI-H and high negative correlation between SI and NMRS and SEI (p<.001).
4.5: INVENTORIES USED

The instruments employed serve as the dependent variables for the present study.

(1) **(STAI-X1) State Trait Anxiety Inventory X-1** (Spielberger, Gorsuch & Lushene, 1970): The STAI-X1 form consists of twenty items indicating statements so as to how one ‘feels at that moment’ measuring the state anxiety. Each statement has four response options ‘Not at all’, ‘Somewhat’, ‘Moderately so’, and ‘Very much so’. The test-retest reliability of A-State scale for college undergraduates ranged from .16 to .54. Alpha coefficient provided a more meaningful index of reliability of A-State than test-retest correlations, which for freshman male is .83 and that for freshmen female is .86, and that for high school male is .86 and for female is .92. The concurrent validity showed a positive correlation (.47) between the hostility scale of the (MAACL) Multiple Affective Adjective Checklist (Zuckerman & Lubin) and the A-State scale.

(2) **(STAI-X2) State Trait Anxiety Inventory X-2** (Spielberger, Gorsuch, and Lushene, 1970): This inventory consists of a form comprising of twenty items each. The STAI-X1 form indicates statements so as to how one feels ‘generally’ measuring the trait anxiety. Each statement has four response options ‘Not at all’, ‘Somewhat’, ‘Moderately so’, and ‘Very much so’. The test retest reliability of A-Trait scale for college undergraduates ranged from .73 to .86. The test-retest reliability of A-Trait for females is .76 and that for males being .84. The alpha coefficient reliability of A-Trait for freshman
males.80 and that for freshman females is .86. The alpha reliability for A-
Trait for high school students male is .89 and that for females is .92. The 
concurrent validity of STAI-X2 (A-Trait) scale shows high correlation with 
IPAT Anxiety Scale (Cattell & Scheier ,1963), TMAS Taylor (1953) 
Manifest Anxiety Scale and AACL Affect Adjective Checklist 
(Zuckerman,1960). For college female student, moderately high correlations 
among A-Trait Scale and IPAT, TMAS and AACL with .75, .80 and .52 
respectively has been seen.

(3) (TAI-H) Test Anxiety Inventory (Sud and Sud,1997) : This Hindi 
inventory comprises of twenty items , each consisting of four response 
inventory assesses individual differences in anxiety proneness in test or 
examination situations. The reliability of the Hindi TAI-H, in terms of a high 
alpha coefficient (.89 and .83) for high school boys and girls attested to the 
high degree of the internal consistency of the Hindi TAI. The concurrent 
validity was observed from the very high correlation obtained between TAI-
H and TAS (.85 for girls and .69 for boys). The moderate correlation 
between TAI-H and Hindi STAI-T scale was (.61for girls and .45 for boys) 
depicting a relationship as expected between a situation specific measure of 
test anxiety and general anxiety (Sharma, Sud & Spielberger,1983). The low 
negative but significant correlation with a non verbal measure of intelligence 
(r = -.21,<.01) and with academic achievement (r = -.26,<.01) provide 
preliminary evidence of the construct validity of Hindi TAI (Rao,1979; 
Sharma et al.1983). The factorial validity was also established by (Sud, Jutshi 
& Spielberger,1987). As a result of factor analysis 8 worry and 8
emotionality items were identified among high school boys and girls. The factor loadings of TAI-H were similar in strength as reported on English TAI (Spielberger, Gonzalez, Taylor, Algaze & Anton, 1978).

(4) (SI) Stress Inventory (prepared in English by the investigator of this research herself): This inventory comprises of thirty items, consisting of three response options ‘Never Stressful’, ‘Sometimes Stressful’, ‘Always Stressful’. This inventory assesses the stress level of the adolescent female students only, with regard to issues of the family, education, friends, health, behavioural and personal. The alpha internal consistency reliability, test-retest reliability and the construct validity of this Stress Inventory is reported in Section 4.4 Standardization of the Stress Inventory.

(5) (NMRS) Negative Mood Regulation Scale (Catenzaro and Mearns, 1990): This questionnaire comprises of thirty items, each consisting of five response options ‘Strongly Disagree’, ‘Mildly disagree’, ‘Agree Disagree Equally’, ‘Mildly Agree’, and ‘Strongly Agree’. This questionnaire seeks to find out what people believe they can do about upsetting emotions. The test-retest reliability obtained over an interval of three to four weeks was .74 for females and .76 for males, and that obtained over an interval of six to eight weeks on a separate sample of boys and girls was .67 and .78 respectively. High alpha coefficients ranging from .80 to .90 have been obtained for three different samples of boys and girls of three different universities. The discriminant validity showed a high negative correlation between Negative Mood Regulation and Beck Depression Inventory (short form) with (r = -.58,p<.001) for men and (r = -.39,p<.01) for women. High correlation was
found between Negative Mood Regulation Scale and Social Desirability Scale ($r = .23, p < .01$) in case of women.

(6) (AMS) Costello Achievement Motivation Scale (Misra, and Srivastava, 1990): This questionnaire comprises of twenty-four items each consisting of two response options 'Yes' and 'No'. This questionnaire is used to assess the achievement motivation of a person. The test retest reliability was .80 for a collective sample ($N = 140$) of college students and the split half reliability coefficient of .82 for a collective sample ($N = 410$) of college students. Factorial validity of the scale obtained by principle axis method and varimax rotation identified two clear-cut factors. The first factor is measured by the scale, which refers to the motivational dispositions of an individual who wants to do a job well. And the second factor refers to the need of the individual to be a success. Attempt has also been made to validate the test by showing that recognized high achievers score high on this test.

(7) (SEI) Self - Esteem Inventory (Coopersmith, 1975): This inventory comprises of twenty-five items, consisting of two response options 'Like Me' and 'Unlike Me'. This is used to measure evaluative attitudes towards the self in social, academic, family and personal areas of experience. The Adult Form is used with persons aged sixteen and above. The twenty-five items have been selected from the School Short Form. The correlation of total scores on the School Short Form and the Adult Form exceeds .80 for three samples of high school and college students. The Cronbach alpha reliability for the Adult Form of SEI for males is .79 and that for females is
.83. The construct validity of the inventory along with concurrent and factorial validity has been established (Kokenes, 1973, 1978; Matteson, 1974; Simon & Simon, 1975; Williams, 1977; Cowan, Attmann & Pysh, 1978; Reasoner, 1982).

4.6: INTERVENTION

The 'yoga therapy condition' and the 'no treatment control condition' serve as the independent variables for the present study.

(1) Yoga Therapy Programme: The common complaints of the students were enlisted and then finally a yoga workshop profile was prepared with due assistance rendered by a teacher from the Department of Yoga, HP University, Shimla, which could help students deal with problems they had reported such as lack of concentration, headaches, backaches, problems during menstrual cycles, inability to cope with daily problems pertaining to work overload, family, friends, personal behaviours and much more. Thus most of the problems pertaining to these students were dealt with in this workshop. The workshop included pranayama, sukhsham vyam, mudars, asanas and meditation. The researcher herself took training of yoga for a period of two months before conducting the workshop. Concentration, deep slow rhythmic breathing is the prime factor to be kept in mind while performing yoga.

There was an interactive session held one day prior to the beginning of the workshop. In this the subjects were informed briefly about what yoga
is, it as healthy effects, its use in daily life and that yoga was not only a
treatment session but that it was a life time commitment which involves
daily routine practice to avail its fruitful effects completely. The subjects
were inquired about their health and if any one has had any severe illness or
injury in the past. The subjects questions however pertained to how yoga
would help them in scoring well and concentrating, handling long hours of
work, eliminating stage fear, dealing with friends, teachers and school,
helping them in being effective, loosing weight, looking good and charming.

Everyday prior to the actual session ‘Om Chanting’ was carried out
by the subjects in a relaxed posture. Every session ended with five to ten
minutes of interactive session where students discussed their problems such
as their possessive nature of friends, high expectations of family and
teachers, neglection, unexplainable behaviour at times, academic
achievement, future insecurities, building positive mental attitude and much
more, for which solutions were sorted for.

The precautions the subjects had to bear in mind were that their
bowel had to be evacuated and blabber emptied. They should not bathe
immediately after yoga practice and that yoga must be performed at early
morning hours. The clothes worn should be comfortable and the place of
practice must be clean and airy. The subjects must not be too harsh with the
body and perform yoga slowly and steadily such that no undue pressure is
felt. One must avoid certain asanas during menstrual cycle and perform only
those, which are beneficial. The subjects performed well throughout the
session with some initial problems.
The yoga therapy workshop included ‘Pranayama’, which means the control of the vital forces or cosmic energy by concentration and regulated breathing. Nadi shodan (Alom Vilom) is what was primarily taught which involves inhaling and exhaling in a correct rhythmic manner. Nadishodan is then performed with retention performing the performing the Jalandhar and Mul bandhas. The ratio involved for inhalation, retention and exhalation is 1:4:2. The pranayamas taught to the subjects included suryabedi, sitali, sitkari, bhastrika, bhramri, ujjai and kapalbhati, each of them having their own special effects. Prana is present as a living force and it not only ensures the proper functioning of the body but also regulates the psyche.

‘Mudras’ that were taught to the subjects were kaki, shambhavi, bhujangi, yoni and taragi. Mudras are sealing postures which involve inhaling, retaining and exhaling but without a ratio schedule. Mudras are effective in toning the muscles, building concentration and strengthening the sensory organs.

‘Sukhsham vyam’ provides flexibility to almost each and every part of the body, relaxing every muscle, tissue, bones and joints of the body. It releases tension that accumulates at various muscle and bone joints making the body light and supple. This involves rhythmic slow breathing during the up down, sideways and circular and anti circular movements with full concentration on the moving body part. It further prepares the body to perform asanas more effectively and helps to overcome the feeling of tensed and contracted muscles.
‘Asanas’ are postures that bring strength, equilibrium to the limbs of the body. The asanas that were included in this workshop were bhujang, nauka, aeri darshan, kon, trikon, pawanmukt, vriksh, ushtra, shalabh and shav asana/yoga nidra. Each asana is effective in its own way. There is slow regular breathing that is involved while performing asanas without retention of breath.

‘Meditation’ involves training the mind to concentrate such that one is able to control one’s thoughts. The mediation procedure involved the recitation of the mantra Om in a relaxed posture and then followed by sitting in complete silence and trying to achieve a no thought state. This is a tool for relaxing oneself and improving one’s power of concentration thereby introspecting oneself.

The workshop profile was scheduled keeping in mind the availability of the four weeks with six days and forty five minutes daily in hand to carry out the schedule. That which was performed one day was rehearsed the next day, which helped the subjects to rehearse on what had already been taught previously. New add-on was also included. The profile of the workshop is presented in Appendix (II). All the pranayamas, sukhsham vyam, mudras, asanas and meditation are explained in detail in Appendix (III) ‘yoga therapy workshop’.

(2) No Treatment control Group: This group of subjects are not given any intervention in between the pre and post assessment trials for all the inventories used. They however have been evenly matched with respect to their age, gender and education level with the subjects of the yoga therapy
treatment group. These no treatment control group subjects fill up the inventories at the same time as that of the yoga therapy treatment group subjects, that is, prior to beginning of the yoga therapy workshop and when it is over after a period of one month without being given any intervention. The instructions given to both the yoga therapy treatment and no treatment control group with regard to filling up the inventories follows next.

4.7: INSTRUCTIONS

The instructions imparted to the subjects of yoga therapy treatment group and no treatment control group with regard to filling up the inventories were administered in the same manner. The subjects of both Arts and science treatment and control groups filled up the inventories on the same day prior to the onset of yoga therapy and after the completion of yoga therapy after one month on the same day.

The subjects were instructed to blacken in the appropriate circle to the right of the statement according to the one response option they choose in case of State Trait Anxiety Inventory (STAI form X-1, X-2). In case of the Test Anxiety Inventory (TAI-H), the subjects were instructed to circle the one response option chosen by them for each statement. To fill up the Stress Inventory (SI) the subjects were instructed to put a tick (✓) mark on the one category chosen as a response. With regard to the Negative Mood Regulation Scale (NMRS) the subjects were instructed to fill in the one space option provided among the five optional categories. The subjects were instructed to put a tick (✓) mark on the one category chosen as a response in case of Achievement Motivation Scale (AMS). Finally for the Self-Esteem
Inventory (SEI) the subjects were instructed to put an (x) mark in the column provided according to one's choice of optional response.

The subjects were instructed to choose only one optional answer in case of all the items with regard to all the inventories and were specifically told not to leave any item unanswered, and further not to spend too much time on any one statement. The instructions are written clearly in the beginning of every inventory for the convenience of the subjects. The subjects were asked to read these instructions carefully before providing their respective answers.

4.8: PROCEDURE

The Arts and Science treatment group subjects [TG1(A), TG2(S)] were administered all the inventories prior to the yoga therapy workshop, and were given a theoretical summary of all that was going to be conducted in the one month session. For a time period of one month, the sessions on yoga therapy were carried out for forty-five minutes daily excluding Sundays. The same inventories were administered to the Arts and Science treatment group subjects after the one month session was completed.

The Arts and Science no treatment control group adolescent subjects were not given any treatment session for that period of one month but were administered the inventories before and after the one month period. The subjects were asked to read instructions and items carefully and fill in the inventories by being utmost true to themselves.
4.9: SCORING OF THE INVENTORIES USED

The scoring of all the inventories were done individually as follow

(1) STAI X-1: The STAI X-1 comprises of a four point scale providing optional categories of ‘Not at all’, ‘Somewhat’, ‘Moderately so’, and ‘Very much so’ depicted as 1 2 3 4 respectively. The reversed items for this state anxiety inventory are 1, 2, 5, 8, 10, 11, 15, 16, 19, 20 to be scored as 4, 3, 2, 1. The rest of the items are scored as 1, 2, 3, 4. The total is calculated by adding the scores for all the items.

(2) STAI X-2: The STAI X-2 comprises of a four point scale providing optional categories of ‘Not at all’, ‘Somewhat’, ‘Moderately so’, and ‘Very much so’ depicted as 1 2 3 4 respectively. The reversed items for this trait anxiety inventory are 36, 39, 21, 26, 27, 30, 33 to be scored as 4, 3, 2, 1. The rest of the items are scored as 1, 2, 3, 4. The total is calculated by adding the scores of all the items.

(3) TAI-H: The TAI-H has a four point scale having four response options of ‘Almost never’, ‘Sometimes’, ‘Often’, and ‘Almost always’ represented as 1 2 3 4 respectively. There is only one reversed item 1 to be scored as 4, 3, 2, 1. The rest of the items are scored as 1, 2, 3, 4. The total is calculated by adding the scores of all the items.
(4) **SI** : The SI has a three point scale having three response options 'Never Stressful', 'Sometimes Stressful', 'Always Stressful' which are to be scored as 0,1,2 respectively. The total is calculated by adding the scores of all the items.

(5) **NMRS** : The NMRS comprises of a five point scale with optional categories of 'Strongly Disagree', 'Mildly disagree', 'Agree Disagree Equally', 'Mildly Agree', and 'Strongly Agree'. The negative items 3,5,8,9,11,14,18,19,21,22,24,25,27,28,30 are scored as 5,4,3,2,1 and the other items are scored as 1,2,3,4,5. The total is calculated by adding the scores of all the items.

(6) **AMS** : This inventory comprises of a two point scale with response categories of 'Yes' and 'No'. The item numbers 2,3,5,7,9,11,13,17 are to be scored as 1 'Yes' for and 0 for 'No'. The other items will get a score of 0 for 'Yes' and 1 for 'No'. The total is calculated by adding the scores for all the items.

(7) **SEI** : The inventory comprises of a two point scale with two response options of 'Like Me' and 'Unlike Me'. The items 2,3,6,7,10,11,12,13,15,16,18,21,22,23,24,25 get a score of 1 for 'Unlike Me' and 0 for 'Like Me'. The other items get a score of 1 for 'Like me' and 0 for 'Unlike Me'. The total is calculated by adding the scores of all the items.
4.10: STATISTICAL ANALYSIS

(1) PEARSON PRODUCT MOMENT CORRELATION

This statistical analysis has been employed to find out the test-retest reliability as well as the construct validity of the Stress Inventory (Bruning & Kintz, 1987). It has also been used to find out the inter relation among the dependent variables (STAI-X1, STAI-X2, TAI-H, SI, NMRS, AMS, SEI) used in this study.

(2) CRONBACH’S ALPHA

This internal consistency method of correlation was used to find out the reliability of the Stress Inventory prepared. The Cronbach’s alpha for the whole test and its sub categories were calculated and reported in the relevant text (Carmines & Zeller, 1983).

(3) ANALYSIS OF VARIANCE (ANOVA)

This statistical analysis is employed to know the difference among the Arts and Science adolescent female subjects on all the dependent variables.

Further one ways analysis of variance has been employed to find out the pre differences existing among the treatment and control groups for the two class of subjects (Arts and Science) for all the dependent variables individually.
Preliminary one way analysis of variance is then calculated on the pre and the post scores of all the treatment and control groups of the two class of subjects (Arts and Science) for each dependent variable as a prerequisite before performing the analysis of covariance (Garrett and Woodworth, 1981).

Single group method of analysis of variance is then used to find out the pre to post mean score differences among the treatment and control groups for the two class of subjects (Arts and Science) for all the dependent variables.

(4) ANALYSIS OF COVARIANCE (ANCOVA)

Analysis of covariance has been used to control the initial differences and further adjust the post scores. Here post (adjusted) F value is calculated by adjusting among and within variances of the post scores. Analysis of covariance is used to determine whether the groups differ in the post scores as a result of the intervention (Garrett and Woodworth, 1981). Analysis of covariance has been performed due to the pre differences reported by the one way analysis of variance carried out on the treatment group and control group for the two class of subjects individually (see RESULTS Section 5.3).
(5) DUNCAN’S MULTIPLE-RANGE TEST

All the post hoc comparisons among the post (adjusted) means have been made by Duncan’s Multiple-Range Test (Bruning and Kintz, 1987).