

CHAPTER: 3

RESEARCH METHODOLOGY

As has been elaborated in the first and second chapters, the present research attempts to investigate the thesis on the effect of Gayatri mantra and Nadisudhi pranayama on the Personality Development of Pre-adolescent Children.

3.1. Objectives

1. To find the personality factors (A to Q4) of Children's Personality Questionnaire (CPQ) in the sample.
2. To find the effect of Nadisudhi pranayama and Gayatri mantra (Treatment I) on the personality factors (A to Q4) of CPQ in the sample.
3. To find the effect of Gayatri mantra chanting alone (Treatment II) on the personality factors (A to Q4) of CPQ in the sample.

3.2. Hypotheses

The following hypotheses were assumed from the above thesis to facilitate empirical verification.

(1) Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to

- a. **Factor A:** Schizothymia (A-) versus Affectothymia (A+)
- b. **Factor B:** Low Intelligence (B-) versus High Intelligence (B+)
- c. **Factor C:** Emotional Instability/ Ego weakness(C-) versus Higher Ego strength(C+)
- d. **Factor D:** Phlegmatic temperament (D-) versus Excitability (D+)
- e. **Factor E:** Submissiveness (E-) versus Dominance/Ascendance (E+)
- f. **Factor F:** Desurgency (F-) versus Surgency (F+)
- g. **Factor G:** Low Super-Ego strength/Lack of acceptance of group moral standards (G-) versus Stronger super ego strength/ Character (G+)
- h. **Factor H:** Threctia(H-) versus Parmia(H+)
- i. **Factor I:** Harria (I-) versus Premsia (I+)

- j. **Factor J:** Zeppia (J-) versus Coasthenia (J+)
- k. **Factor N:** Naivete (N-) versus Shrewdness (N+)
- l. **Factor O:** Untroubled adequacy (O-) versus Guilt proneness (O+)
- m. **Factor Q3:** Low Self-Sentiment Integration (Q3-) versus High Strength of Self-Sentiment (Q3+)
- n. **Factor Q4:** Low Ergic Tension (Q4-) versus High Ergic Tension (Q4+)

(2) Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to

- a. **Factor A:** Schizothymia (A-) versus Affectothymia (A+)
- b. **Factor B:** Low Intelligence (B-) versus High Intelligence (B+)
- c. **Factor C:** Emotional Instability/ Ego weakness(C-) versus Higher Ego strength(C+)
- d. **Factor D:** Phlegmatic temperament (D-) versus Excitability (D+)
- e. **Factor E:** Submissiveness (E-) versus Dominance/Ascendance (E+)
- f. **Factor F:** Desurgency (F-) versus Surgency (F+)
- g. **Factor G:** Low Super-Ego strength/Lack of acceptance of group moral standards (G-) versus stronger super ego strength/ Character (G+)
- h. **Factor H:** Threctia (H-) versus Parmia (H+)
- i. **Factor I:** Harria (I-) versus Premsia (I+)
- j. **Factor J:** Zeppia (J-) versus Coasthenia (J+)
- k. **Factor N:** Naivete (N-) versus Shrewdness (N+)
- l. **Factor O:** Untroubled adequacy (O-) versus Guilt proneness (O+)
- m. **Factor Q3:** Low Self-Sentiment Integration (Q3-) versus High Strength of Self-Sentiment (Q3+).
- n. **Factor Q4:** Low Ergic Tension (Q4-) versus High Ergic Tension (Q4+)

(3) Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to

- a. **Factor A:** Schizothymia (A-) versus Affectothymia (A+)
- b. **Factor B:** Low Intelligence (B-) versus High Intelligence (B+)
- c. **Factor C:** Emotional Instability/ Ego weakness (C-) versus Higher Ego strength(C+)
- d. **Factor D:** Phlegmatic temperament (D-) versus Excitability (D+)

- e. **Factor E:** Submissiveness (E-) versus Dominance/Ascendance (E+)
- f. **Factor F:** Desurgency (F-) versus Surgency (F+)
- g. **Factor G:** Low Super-Ego strength/Lack of acceptance of group moral standards (G-) versus Stronger super ego strength/ Character (G+)
- h. **Factor H:** Threctia (H-) versus Parmia (H+)
- i. **Factor I:** Harria (I-) versus Premsia (I+)
- j. **Factor J:** Zeppia (J-) versus Coasthenia (J+)
- k. **Factor N:** Naivete (N-) versus Shrewdness (N+)
- l. **Factor O:** Untroubled adequacy (O-) versus Guilt proneness (O+)
- m. **Factor Q3:** Low Self-Sentiment Integration (Q3-) versus High Strength of Self- Sentiment (Q3+).
- n. **Factor Q4:** Low Ergic Tension (Q4-) versus High Ergic Tension

3.3. Sample

The Sample for this research were from two schools namely, A.U.P.E.T Chinmaya Vidyalaya and Mahathma Gandhi School in Tirunelveli. These schools gave permission and rendered necessary support for the conduct of research. The sample belonged to the age range eight through twelve (mean age = ± 10.2 and $SD=1.58$) and were found to be normal, healthy pre-adolescent children with Intelligence Quotient (IQ) ranging between 85 to 120 based on IQ assessments using Coloured Progressive Matrices Coloured (Ravens et.al, 2012) with reliability coefficient of 0.88 and General Health Questionnaire-12 (Goldberg, 1988) with Cronbach's reliability coefficient 0.87. The initial sample size was 100, selected using convenient sampling method. Further, members were randomly assigned to the two experimental groups (Experimental group - I and Experimental group - II) and a Control group respectively. Due to unpredictable circumstances, 10 samples dropped from the study. Therefore, the sample size saturated to 90 (45 girls and 45 boys) with 30 in each group. Parents of the sample gave their consent. The participants co-operated. No one was made to participate with coercion. Ethical practices were strictly adhered all through the research.

Inclusion Criteria: Normal pre-adolescents with age range between eight and twelve years, IQ range 85 to 120 and whose parents gave their consent.

Exclusion Criteria: Individuals over and below the age range selected for study, those who were exceptional with IQ less than 85 and whose parents did not give their consent.

3.4. Tool

3.4.1: Screening Tools

- 1) Coloured Progressive Matrices (Ravens et.al, 2012) with reliability coefficient of 0.88.
- 2) General Health Questionnaire-12 (Goldberg, 1988) with Cronbach's reliability coefficient 0.87.

3.4.2: Assessment Tool

The tool used for the measure of personality was Children's Personality Questionnaire (CPQ) devised by Rutherford B. Porter and Raymond B. Cattell. CPQ is intended for an age range of eight through twelve. It measures personality comprehensively through fourteen dimensions. CPQ has one hundred and forty items in each form (Forms A, B, C, D), having ten items per factor per form. Each form is split into two (e.g; A1, A2, B1 and B2), each consisting of seventy items. Each item has forced choice responses - "Yes" or "No". Time of administration is approximately forty five minutes.

Based on extensive research CPQ is found to meet the following criteria:

- It is available in 4 equivalent forms - A, B, C, D. This enables the use of either a short form or a more extended version of the test, according to brevity of the testing time that suits the examiner
- It can be conveniently applied as a group test in the school setting.
- It is adapted for repeated use on the same individual and describes individual differences comprehensively.
- It has items that are internally consistent and possess direct concept validity.

Table A: Shows Reliability Coefficients approached in the form of Internal Consistencies and Direct Validity Coefficients are as follows:

Form B	Personality Factors													
	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4
Reliability coefficients	72	86	81	80	75	73	83	65	82	65	82	49	80	80
Validity coefficients	54	90	87	80	42	64	34	64	68	64	41	74	45	68

For the purpose of this test Form B (B1 and B2) was used. The fourteen dimensions are identified and referred to by letters of alphabet; A through Q4 and thus maintain the same designations as have been used in 16PF. All fourteen dimensions (A to Q4) constitute normal personality factors. Precaution should be taken against the assumption that '+' pole in some sense good and '-' pole in some sense bad.

Primary source traits measured in CPQ are as follows:

PRIMARY SOURCE TRAITS MEASURED BY THE CPQ

Low Score Description	Factor	High Score Description
RESERVED, Detached, Critical, Cool, Aloof (Schizothymia)	A	WARMHEARTED, Outgoing, Easygoing, Participating (Affectothymia, formerly Cyclothymia)
DULL (Crystallized, power measure) (Low intelligence)	B	BRIGHT (Crystallized, power measure) (High intelligence)
AFFECTED BY FEELINGS, Emotionally Less Stable, Easily Upset (Lower ego strength)	C	EMOTIONALLY STABLE, Faces Reality, Calm, Mature (Higher ego strength)
PHLEGMATIC, Undemonstrative, deliberate, Inactive, Stodgy (Phlegmatic temperament)	D	EXCITABLE, Impatient, Demanding, Overactive, Unrestrained (Excitability)
OBEDIENT, Mild, Accommodating, Easily Led (Submissiveness)	E	DOMINANT, Assertive, Competitive, Aggressive, Stubborn (Dominance)
SOBER, Prudent, Serious, Taciturn (Desurgency)	F	ENTHUSIASTIC, Happy-go-lucky, Heedless (Surgency)
EXPEDIENT, Disregards Rules (Weaker superego strength)	G	CONSCIENTIOUS, Persevering, Staid, Rule-bound (Stronger superego strength)
SHY, threat-sensitive, Diffident, Timid (Threctia)	H	VENTURESOME, Socially Bold, Uninhibited (Parmia)
TOUGH-MINDED, Self-reliant, Realistic, No-nonsense (Harria)	I	TENDER-MINDED, Sensitive, Over-protected (Premsia)
ZESTFUL, Likes Group Action, Vigorous (Zeppia)	J	CIRCUMSPECT INDIVIDUALISM, Reflective, Internally Restrained (Coasthenia)
FORTHRIGHT, Natural, Artless, Sentimental (Artlessness)	N	SHREWD, Calculating, Artful (Shrewdness)
SELF-ASSURED, Confident, Secure, Complacent (Untroubled adequacy)	O	GUILT-PRONE, Apprehensive, Worrying, Troubled, Insecure (Guilt proneness)
UNDISCIPLINED SELF-CONFLICT, Follows Own Urges, Careless of Social Rules (Low self-sentiment integration)	Q3	CONTROLLED, Socially Precise, Following Self-images, Compulsive (High self-concept control)
RELAXED, Tranquil, Torpid, Composed, Unfrustrated (Low ergic tension)	Q4	TENSE, Frustrated, Driven, Overwrought, Fretful (High ergic tension)

Factor A: Schizothymia (A-) versus Affectothymia (A+)

Schizothymia (derived from Latin word for 'flat') is highly restrained expression of A which refers to hardness in approachability. Critically, stands in his own ideas, cool and aloof, Precise and objective, distrustful and sceptical, rigid and prone to sulk, prefers things or words to people, introspective. Pertaining to their evaluations of people and things, more dependable in long term understanding and require exactness.

Affectothymia is the tendency to be full of emotional expressiveness. Refers to, warm-heartedness sociability and sentimentality. Good natured, easy going, ready to cooperate, likes to participate, easy-going and relaxed, more tolerant to difficult people, attentive to people, casual, trustful, adaptable, laughs readily, enjoy social recognition, impulsively generous in personal relationships, less disturbed by criticism, better able to remember names of people.

Factor B: Low Intelligence (B-) and High Intelligence (B+)

This measures intelligence in terms of power test rather than speed test. Therefore, it measures crystallized rather than fluid general ability.

Low Intelligence refers to low mental capacity and inability to handle abstract problems.

High Intelligence refers to high general mental capacity, insightful, fast learning and intellectually adaptable.

Factor C: Emotional Instability/ Ego weakness(C-) versus Higher Ego strength(C+)

Emotional Instability/ Ego weakness refers to the tendency to get affected by feelings, emotionally less stable; easily upset; changeable in attitude and interest, easily perturbed; evasive of responsibilities; tending to give up; gets into fights and problem situations, easily annoyed by things and people, tend to be more dissatisfied with family and school, has emotional difficulty in keeping quiet and restraining himself, and discouraged by the inability to meet good standards of behaviour.

Higher Ego strength refers to the tendency to be calm, emotionally stable and mature, face reality, constant in interest, adjusts to facts, unruffled, show restraint in avoiding difficulties.

Ego strength is a factor that expresses the level of natural dynamic integration, emotional control and stability. It is also the capacity for frustration tolerance.

Factor D: Phlegmatic temperament (D-) versus Excitability (D+)

Phlegmatic temperament refers to the tendency to be stoical, complacent, inactive, undemonstrative, constant, not restless, self-effacing, deliberate and not easily jealous.

Excitability refers to the tendency to be demanding, impatient, attention-getting, showing-off, self-assertive, distractible, overactive, jealous, and excited and show many nervous symptoms.

Factor E: Submissiveness (E-) versus Dominance/Ascendance (E+)

Submissiveness refers to the tendency to be mild, easily led, obedient, submissive, dependent, docile, accommodative, considerate, diplomatic, expressive, conventional, conforming, humble, easily upset by authority.

Dominance/Ascendance refers to the tendency to be assertive, self-assured, Independent-minded, headstrong self-will, solemn, stubborn, competitive, unconventional, stubborn, rebellious, aggressive, stern and hostile, admiration demanding, creative. In a group, they play effectively in role interaction, and display more truly individualistic, democratic procedure.

Both extremes on the dimension pose problems for adjustment.

Factor F: Desurgency (F-) versus Surgency (F+)

Desurgency refers to the tendency to be silent, introspective, reflective, sticks to inner values, sober, taciturn, serious, slow and cautious.

Surgency refers to the tendency to be cheerful, frank, expressive, enthusiastic, talkative, happy-go-lucky, reflects the group, quick and alert, heedless.

This factor is a very important component of extraversion.

Factor G: Low Super-Ego strength/Lack of acceptance of group moral standards (G-) versus Super ego strength/ Character (G+)

Low Super-Ego strength/Lack of acceptance of group moral standards refers to the tendency to be expedient, frivolous, slack, indolent, undependable, quitting, fickle, self-indulgent and disregards rules and obligations to people.

Super ego strength/ Character refers to the tendency to be conscientious, persistent, moralistic, persevering, determined, responsible, emotionally disciplined, consistently ordered, concerned about moral standards and rules, dominated by sense of duty.

Subjectively, the person with stronger super ego strength views himself as correct, and a guardian of manners, morals; persevering, planful, able to concentrate, cautious in thinking before he speaks and preferring efficient people to other companions.

Factor H: Threctia (H-) and Parmia (H+)

Threctia refers to the tendency to be shy, withdrawn, timid, restrained, retiring in face of opposite sex, emotionally cautious, rule-bound, careful and considerate; have restricted interests; quick to see dangers/threat-sensitive.

Threctia-person reports himself to be intensely shy, slow, impeded in expressing himself. He dislikes occasions with personal contacts, prefer one or two friends to crowd, avoids large parties or open competition, fearful of situations, easily resentful and distrustful.

Parmia refers to the tendency to be active, responsive, genial, impulsive, carefree, adventurous, socially-bold, thick-skinned and friendly; likes meeting people; emotional and artistic interest; does not see danger signals; overt interest in opposite sex. They are privately voted to be long – winded; insensitive speakers

This factor is another component of extraversion.

Factor I: Harria (I-) versus Premsia (I+)

Harria refers to the tendency to be self-reliant, hard, tough-minded, reject illusions, unsentimental, expect little, act on practical and logical evidence, keep to the point, not to dwell in physical disabilities, take responsibility and have few artistic responses but do not lack taste for the same; remain unaffected by fancies.

Harria- person is described as group solidarity generating and realistic

Premisia refers to the tendency to be kind, gentle, tender-minded, sensitive, get affected dependent, sensitive, over-protected, show fidgety, expect attention and affection, cling, feel insecure, attention-seeking, seek help and sympathy, indulgent in self and others, flighty, artistically fastidious, theatrical, imaginative in inner self and in conversation, hypochondriacal and anxious about self.

Premisia- person shows a definite, fastidious dislike of crude people, and rough occupations; a recreational taste for romantic travel and new experiences; a labile imaginative aesthetic mind; love for dramatics, certain impracticality in general affairs. Such persons receive descriptions as fussing, slowing group performance in arriving at decisions, and making social-emotional negative remarks that are self-indulgent and morale-upsetting.

Factor J: Zeppia (J-) versus Coasthenia (J+)

Zeppia refers to the tendency to like group action, be zestful, like attention, sink personality into group enterprise, be vigorous, and accept common standards.

Coasthenia refers to circumspect individualism and the tendency to be reflective, act individually, internally restrained, to act individualistically guarded, wrapped in self, be fastidiously obstructive, get neurasthentially fatigued, evaluates coldly.

Coasthenia- individuals prefer to do things on his own; think over his mistakes and how to avoid them; do not forget if he is unfairly treated, has private viewpoints that differ from the group but prefers to keep in the background to avoid argument and know the fact that they have fewer friends.

Factor N: Naivete (N-) versus Shrewdness (N+)

Naivete refers to the tendency to be forthright, gregarious, spontaneous, genuine, natural, unpretentious, but socially clumsy; to have vague and injudicious mind; to be unskilled in analyzing motives; lack self-insight; content with what comes; has blind trust in human nature.

Shrewdness refers to the tendency to be exact, polished, smart, socially aware, artful, calculative, ambitious, disciplined, aesthetically fastidious, and insightful regarding self, insightful regarding others; emotionally detached and disciplined.

Factor O: Untroubled adequacy (O-) versus Guilt proneness (O+)

Untroubled adequacy refers to the tendency to be self- confident, self-assured, cheerful, placid, secured, complacent, serene, resilient, expedient, insensitive to people's approval or disapproval, rudely vigorous, fearless.

Guilt proneness refers to the tendency to be apprehensive, self - reproaching, insecure, worrying, anxious, troubled, lonely, brooding, depressed, easily touched, overcome by moods, scrupulous, fussy, hypochondriacal, and show phobic symptoms, has strong sense of obligation, sensitive to other's approval and disapproval.

Guilt prone person feels over fatigued by exciting situations and has sense of inferiority and inadequacy in meeting the rough daily demands of life. He/ She is unable to sleep through worrying and gets downhearted easily especially remorseful and guilty. They feel that people are not so moral and concerned about things as they should be and are inclined to piety. They get emotionally upset by pressure from authority; prefers books and quiet interests to people and noise. They overreact to difficulties and need encouragement. Individuals do not feel accepted in a group and do not feel free to participate in group activities.

Factor Q3: Low Self-Sentiment Integration (Q3-) versus High Strength of Self-Sentiment (Q3+)

Low Self-Sentiment Integration refers to the tendency to follow one's own urges, remain uncontrolled, and be careless of social rules; have an untutored and unreflective emotionality and narcissistic rejection of cultural demands.

High Strength of Self- Sentiment refers to the tendency to remain self-controlled, exert will power, be socially precise, follow self-image, strive to accept approved ethical standards, be ambitious to do well; be concerned with his/ her social image; be considerate of others; reduce and control expression of emotion; be conscientious.

Factor Q4: Low Ergic Tension (Q4-) versus High Ergic Tension (Q4+)

Low Ergic Tension refers to tendency to be relaxed, tranquil, torpid, unfrustrated, remain composed.

High Ergic Tension refers to tendency to be tense, frustrated, driven, overwrought, and fretful.

All fourteen dimensions (A through Q4) constitute normal personality factors.

Precaution should be taken against the assumption that ‘+’ pole in some sense good and ‘-’ pole in some sense bad.

3.5. Treatments

- **Treatment I:** Consisted of both *Nadisudhi pranayama* and *Gayatri mantra*.
- **Treatment II:** Consisted of *Gayatri mantra* only.

Nadisudhi pranayama

“Sit erect with your legs folded (Sukhasana posture) and gently, close your eyes. In your right hand, fold the index finger and the middle finger inward while the thumb, ring finger and the little finger remains erect. This is called Nasika Mudra. Do not exert any pressure while touching the nose with your fingers. Now, exhale completely. Close the right nostril with the thumb of your right hand. Inhale slowly, steadily and deeply through left nostril. After inhalation, close the left nostril also with the little finger and ring finger. And while holding the breath in both closed nostrils, bend your head downward so that the chin touches the throat region. This stage is called *Kumbaka*. Hold the breath as long as you could. Gently straighten up your head. As the head rises, release the right nostril gently and exhale slowly by taking your thumb away little by little. Generally, exhalation time should be two times the time taken for inhalation. After complete exhalation through the right nostril, inhale through right nostril, until you feel the fullness in your lungs. After complete inhalation, close the right nostril with your thumb; follow kumbaka procedure and exhale slowly through left nostril. Ensure complete exhalation and the exhalation time to be two times the time taken for inhalation. This forms one cycle of Nadisudhi pranayama.” Eleven such cycles will take nine minutes approximately.

Gayatri mantra

Subjects are instructed to sit erect in Sukhasana with Adhithya mudra (Rangaraja Iyengar. K ,2011) - a mudra using both hands with the fingers interwoven so that each fingertip of one hand touches the tip of its corresponding finger in the other hand; in their hands, placed right below the abdomen and to ensure that tip of both the thumbs touch each other. Mudra should be firm but not tight. Each time Gayatri mantra is chanted, it is preceded by AUM. ‘A’ is sounded with wide opening of mouth whose vibrations may be felt in the abdominal region; ‘U’ is sounded with progressive decrease in the widening of mouth whose vibrations can be felt in the thoracic region; ‘M’ is sounded with mouth closed whose vibration can be felt in the face and head region. ‘AUM’ will be chanted for one full – breath time while ‘A’ and ‘U’ will take equal length of time and ‘M’ will take an extended length of time.

A.....U.....MMMMMM.....

BhurBhuvahSwah:

Tat SaviturVarenyam

BhurgoDevasyaDheemahi

DhiyoYo Nah: Prachodayat

Chanting this mantra 21 times takes 17.5 minutes approximately (50 seconds per chant).

3.6. Variables

For the purpose of this research “Effect of Gayatri mantra and Nadisudhi Pranayama on the Personality Development of Pre-adolescent Children”, the independent variables are Nadisudhi pranayama and Gayatri mantra whose effect on the dependent variables the personality factors (A to Q4) of CPQ will be found.

Independent variables - Nadisudhi pranayama and Gayatri mantra

Dependent variables - Personality factors A to Q4 of Children’s Personality Questionnaire (CPQ)

3.7. Procedure

From two schools in Tirunelveli, 90 (45 girls and 45 boys) sample were assigned to Experimental group - I (who received Treatment I), Experimental group - II (who received Treatment II), and a Control group (who received no treatment) using convenient sampling. Good rapport was established between the sample and the present researcher. Sample were subjected to a psychometric assessment using Children's Personality Questionnaire (CPQ) devised by Rutherford B. Porter and Raymond B. Cattell (1999) and their personality factors (A to Q4) were measured before intervening with their respective treatments. The Experimental group - I was initiated with Nadisudhi pranayama and Gayatri mantra (Treatment I); the other Experimental group - II was initiated with Gayatri mantra alone (Treatment II) and the Control group received no such treatments. Initiation was facilitated by Dr. Atma Dev and Dr. Mrs. Jeyanthi Atma Dev, who are homeopaths by profession and yoga practitioners cum instructors for more than a decade.

Instructions were given as follows:

Step 1: Sit erect on a mat in Sukhasana posture; let your spine remain straight. Ensure there is no strain anywhere along the body.

Step 2: Take Nasika mudra in your right hand. Let mudra be firm but not tight.

Step 3: Now, exhale completely.

Step 4: Close the right nostril with the thumb of your right hand. Do not exert pressure as you close the nostril.

Step 5: Inhale slowly, steadily and deeply through left nostril.

Step 6: After inhalation, close the left nostril also with the little finger and ring finger.

Step 7: While holding the breath in both closed nostrils, bend your head downward so that the chin touches the throat region.

Step 8: Hold the breath as long as you could.

Step 9: Gently straighten up your head. As the head rises, release the right nostril gently and exhale slowly by taking your thumb away little by little. Exhalation time should be two times the time taken for inhalation.

Step 10: After complete exhalation through the right nostril, inhale through right nostril, until you feel the fullness in your lungs.

Step 11: After complete inhalation, close the right nostril with your thumb; follow kumbaka procedure and exhale slowly through left nostril. Ensure complete exhalation and that the exhalation time to be two times the time taken for inhalation.

These eleven steps form one cycle of Nadisudhi pranayama

Step 12: Do eleven such cycles.

Step 13: Remain in sukhasana with your eyes gently closed and hold Adhithya mudra that is firm but not tight.

Step 14: Inhale completely with both nostrils.

Step 15: As you exhale chant 'AUM'. Say 'Aaaaa' with mouth wide open. Vibrations will be felt at the abdominal region. Continuously, say 'Uuuuu' with lips in circle shape. Vibrations will be felt at the thoracic region. Chant 'Mmmmmmmmm' until you feel exhaled and you will feel vibrations in the face as well as in the head region. Ensure that 'Aaa' and 'Uuu' are chanted for equal interval of time while 'Mmmm' is said a little longer. There should be no intermediate breaks in chanting AUM.

Step 16: Now inhale until your lungs feel full.

Step 17: Chant Gayatri mantra with proper pronunciation and intonation. Chant for twenty one times or until I chant 'AUM Shanthi Shanthi Shanthi hee'

Experimental group - I was instructed with steps 1 through 17 whereas Experimental group - II were instructed with steps 13 through 17 but instead of twenty one times they were instructed to chant thirty two times (i.e. eleven times more when compared with Experimental group - I). Thus the time taken for each session of intervention was twenty six and half minutes approximately for both experimental groups. Treatment I was scheduled between 4 P.M to 4.30 P.M for the Experimental group - I and Treatment II was scheduled between 12.00 P.M to 12.30 P.M for

Experimental group - II based on the convenience of school working hours. This schedule was adhered all along the period of study (approximately two months- June'14 through March'14; approximately three hundred days). On all the working days of the school, the present researcher supervised both the treatment sessions.

Every session began with oration of facts pertaining to the treatment(s) by the present researcher, so that the importance of practice would be well appreciated by the participants. Sample were corrected for their practice of Nadisudhi pranayama and the intonation, pronunciation of individual syllables (24 syllables) in the Gayatri mantra by the initiators periodically. Moreover, sample were reinforced periodically with gifts for regular attendance and perseverance. Finally, the personality factors (A to Q4) of the sample were measured by administering a post-test with CPQ at the end of the tenth month in order to facilitate pre and post comparisons.

3.8. Experimental Design

The schematic presentation of distribution of the sample is as follows:

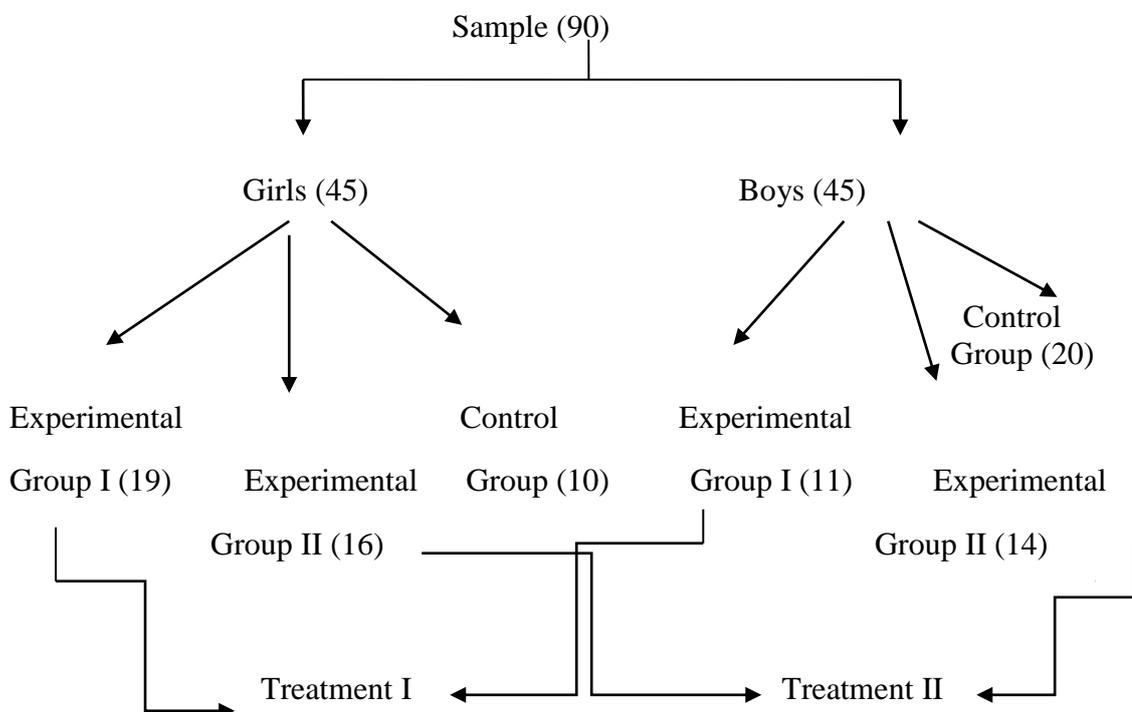


Table shows the groups and their respective treatments

Groups	Treatments
Experimental group-I	Treatment I
Experimental group-II	Treatment II
Control group	–

Thus the experimental design adopted for this research is **2 x 3 factorial design** two experimental and one control group.

3.9. Statistical Analysis

The data collected from the individual subjects using the different instrument on variables of interest were subjected to appropriate statistical analyses. The t-test for before and after treatment(s) were appropriately employed to test the hypotheses. Chi-square analysis, and graphs were also applied. All statistical analyses were performed using Software Package for (SPSS version 21).