



## **RESULTS AND DISCUSSION**

'Effect of Gayatri mantra and Nadisudhi pranayama on the Personality Development of Pre-adolescent Children' was taken up for research. From two private schools in Tirunelveli, 90 students, 45 boys and 45 girls belonging to the age range of eight through twelve years with IQ range of 80 to 120 were chosen using convenient sampling method. They were screened using Coloured Progressive Matrices (Ravens et.al, 2012) with reliability coefficient of 0.88 and General Health Questionnaire-12 (Goldberg, 1988) with Cronbach's reliability coefficient 0.87. They were subjected to a pre-test with CPQ- Children's Personality Questionnaire (Rutherford B. Porter & Raymond B. Cattell, 1979) with reliability coefficient ranging between 72 and 80, validity coefficient ranging between 54 and 68. Then the sample were randomly assigned into three groups - Experimental group - I, Experimental group - II and a Control group. Experimental group - I was intervened with Gayatri mantra and Nadisudhi pranayama; Experimental group - II was intervened with Gayatri mantra alone and the Control group received neither of the treatments for a period of ten months. The interventions were initiated by Dr. Atma Dev and Dr. Mrs. Jeyanthi Atma Dev. Periodically, sample were corrected for their pronunciation and intonation of mantra and perfection in the practice of Nadisudhi pranayama. Finally, post-test with CPQ- Children's Personality Questionnaire at end of the tenth month was administered to the entire sample. The results from both the assessments (pre and post) were subjected to statistical analysis using SPSS and the statistical output was discussed. The demographic data of the sample are also discussed.

**TABLE 4.1: AGE -WISE DISTRIBUTION OF THE ENTIRE SAMPLE N= 90**

Groups	Age range of Sample (Mean age=10.2±SD=1.58)											
	8 years		9 years		10 years		11 years		12 years		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
<b>Experimental group I</b> (Nadisudhi pranayama and Gayatri mantra)	0	0	12	40	10	33	4	13	4	13	30	33
<b>Experimental group II</b> (Gayatri mantra alone)	0	0	7	23	11	36	6	20	6	20	30	33
<b>Control group</b>	0	0	4	13	9	30	11	36	6	20	30	33

(Percentages are rounded off)

**CHART 4.1.1: AGE-WISE DISTRIBUTION OF THE ENTIRE SAMPLE**

**N=90**

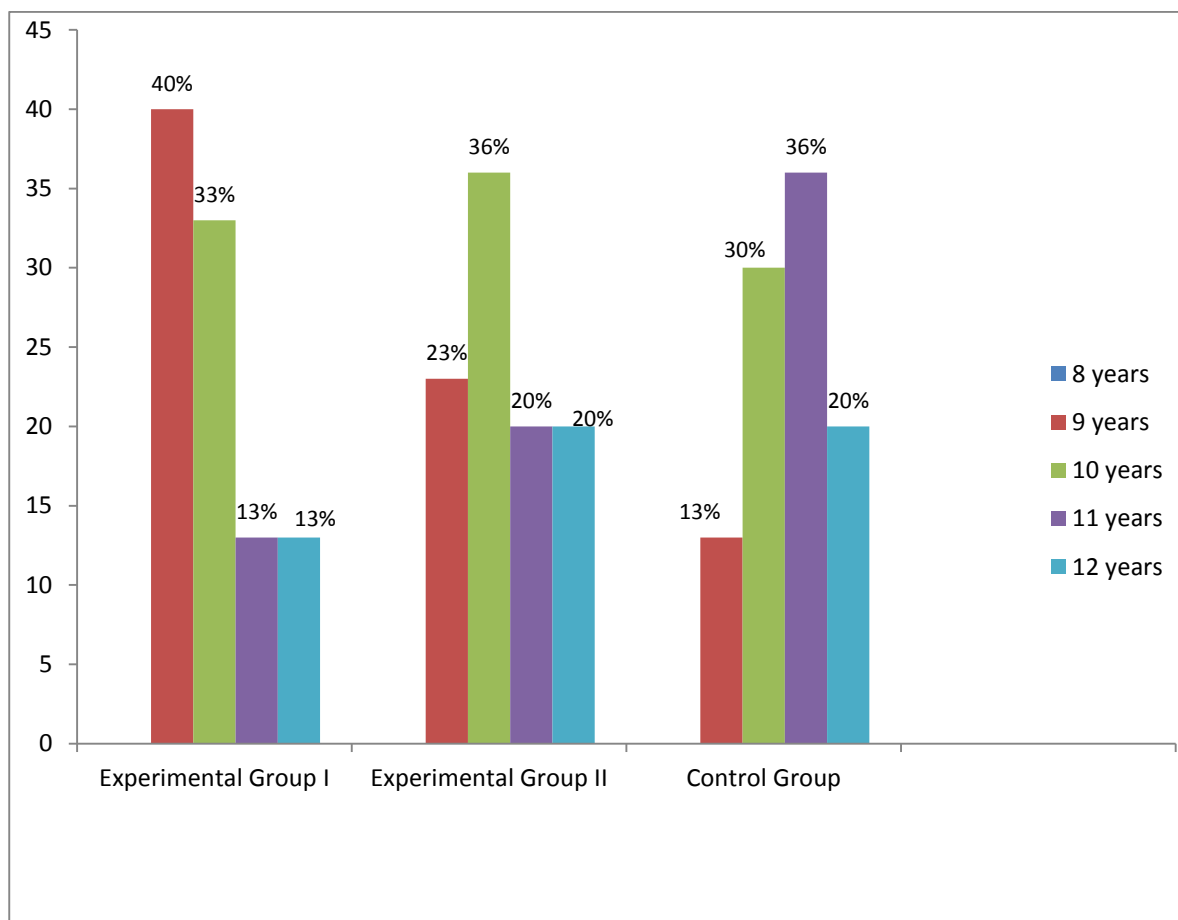


Table 4.1 and Chart 4.1.1 show age-wise distribution of the entire sample. In the Experimental group I; 40% were 9 years old, 33% were 10 years old, 13% were 11 years old and 13% were 12 years old which is 33 % of the entire sample. In the Experimental group II; 23% were 9 years old, 36% were 10 years old; 20% were 11 years old and 20% were 12 years old which is 33% of the entire sample. In the Control group; 13% were 9 years old, 30% were 10 years old, 36% were 11 years old and 20% were 12 years which is 33% of the entire sample.

Pre-adolescents are growing towards self-identity development. During the process they undergo so many subjective confusions that reflect in their behaviour. Appropriate interventions that help them cope up with this stage of life is mandatory. This research identifies the need to intervene the pre-adolescent with Indian psychology based intervention- Nadisudhi pranayama and Gayatri mantra.

When this stage of development is not guided by appropriate interventions, these children grow more vulnerable to deviance in personality making life more complicated for them and their family. It is an obvious social responsibility to guide them in personality development.

**TABLE 4.2: GENDER-WISE DISTRIBUTION OF THE ENTIRE SAMPLE**

N= 90

Groups	Boys		Girls	
	N	%	N	%
<b>Experimental group I</b> (Nadisudhi pranayama and Gayatri mantra)	11	24	19	42
<b>Experimental group II</b> (Gayatri mantra alone)	14	31	16	35
<b>Control group</b>	20	44	10	22
<b>Total</b>	45	50	45	50

(Percentages are rounded off)

**CHART 4.2.1: GENDER-WISE DISTRIBUTION OF THE ENTIRE SAMPLE**

N=90

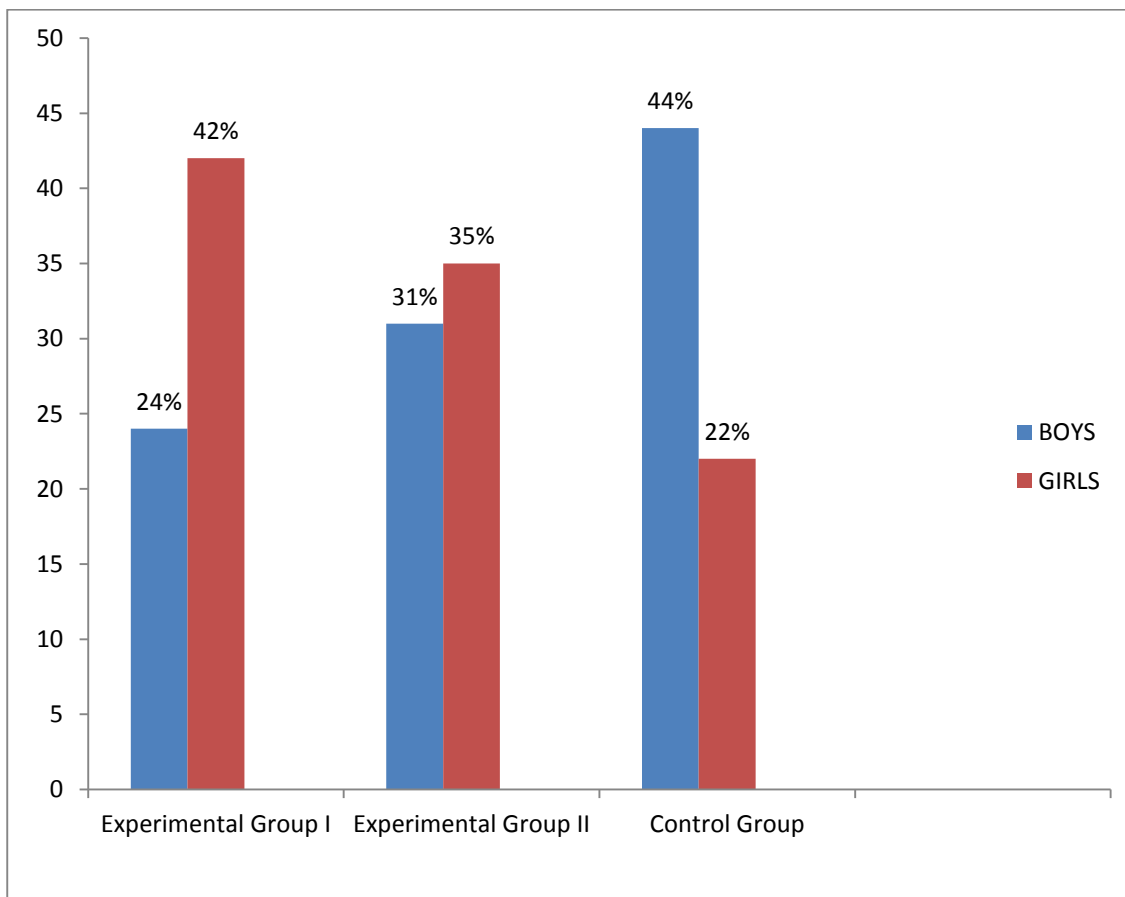


Table 4.2 and Chart 4.2.1 show gender-wise distribution of the entire sample. 50% of the entire sample were boys and 50% were girls. In the Experimental group I, 24% were boys and 42% were girls. In the Experimental group II, 31% were boys and 35% were girls. In the Control group, 44% were boys and 22% were girls.

During pre-adolescence, Children exhibit similarity to both late-childhood and adolescence. Even though they carry traits of childhood, they are on the process of developing gender-appropriate behaviour. In order to ensure appropriateness in gender-specific behaviour; intervening personality is important. Healthy development at this stage is essential for adjustment and adaptation. Society is built on family. Family is built by its members. Hence, mutual contribution from its male and female members is important.

**TABLE 4.3: SOCIO-ECONOMIC STATUS OF THE ENTIRE SAMPLE**

N=90

Groups	Socio-Economic status of subject									
	Very low		Low		Middle		High		Very High	
	N	%	N	%	N	%	N	%	N	%
<b>Experimental group I</b> (Nadisudhi pranayama and Gayatri mantra)	0	0	4	13	21	70	3	10	2	7
<b>Experimental group II</b> (Gayatri mantra alone)	5	17	18	60	7	23	0	0	0	0
<b>Control group</b>	1	3	6	20	17	57	5	16	1	10

(Percentages are rounded off)

**CHART 4.3.1: SOCIO-ECONOMIC STATUS OF THE ENTIRE SAMPLE**

N=90

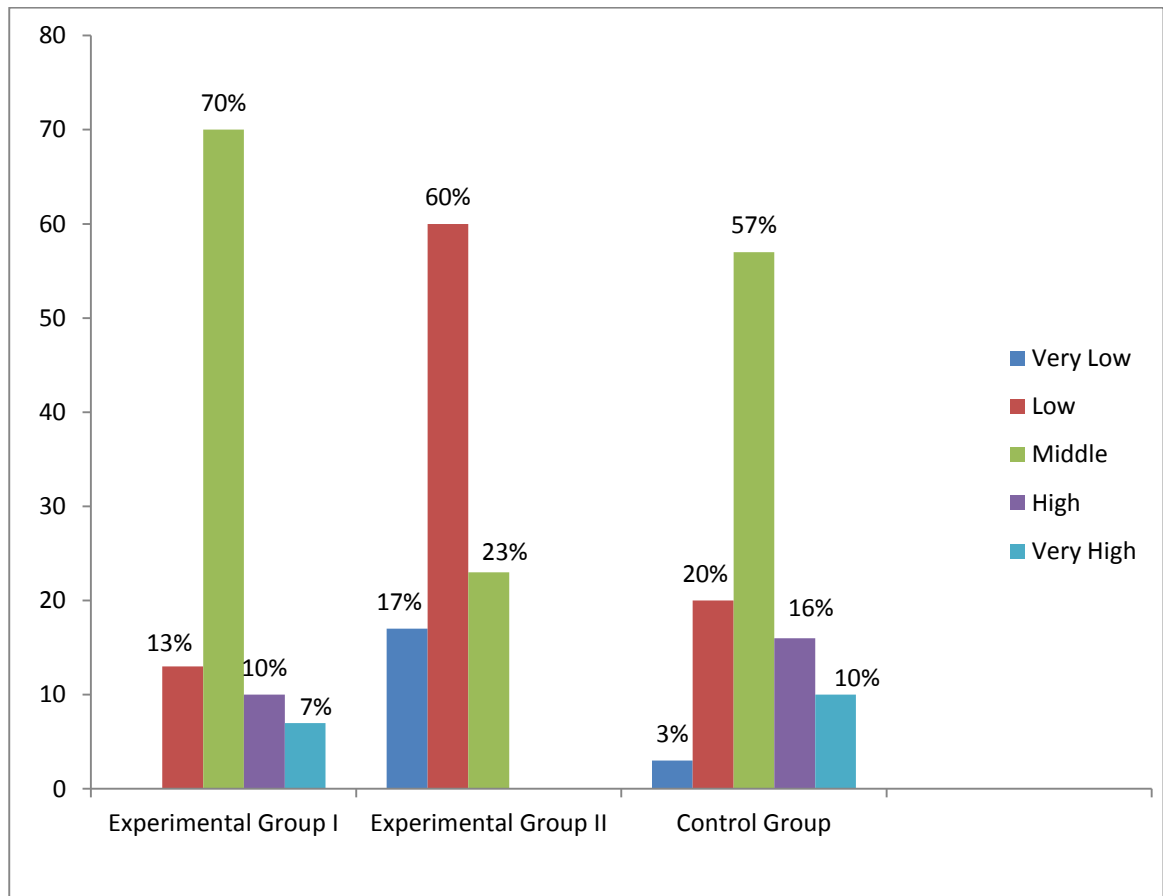


Table 4.3 and Chart 4.3.1 show the Socio-Economic status of the entire sample. In Experimental group I; 13% of the sample were in low, 70% were in middle, 10% were in high and 7% were in Very high Socio-Economic status. In the Experimental group II; 17% of the sample were in very low, 60% were in low and 23% were in middle Socio-Economic status. In Control group; 3% of the sample were in very low, 20% were in low, 57% were in middle, 16% were in high, 10% were in very high Socio-Economic status.

Socio-Economic status plays a major role in the development of an individual. Both, over-provision or under-provision; of the socio-economic status impacts behaviour. It is important to inculcate value system to the pre-adolescents so that they are able to appreciate the impact of socio-economic status. For the value systems to reach the pre-adolescent, he/she should possess personal traits that ensure right perception.



**TABLE 4.4: TYPE OF FAMILY OF THE ENTIRE SAMPLE**

**N=90**

Groups	Nuclear family		Joint family	
	N	%	N	%
<b>Experimental group I</b> (Nadisudhi pranayama and Gayatri mantra)	24	80	6	20
<b>Experimental group II</b> (Gayatri mantra alone)	28	93	2	7
<b>Control group</b>	28	93	2	7

(Percentages are rounded off)

**CHART 4.4.1: TYPE OF FAMILY OF THE ENTIRE SAMPLE**

**N=90**

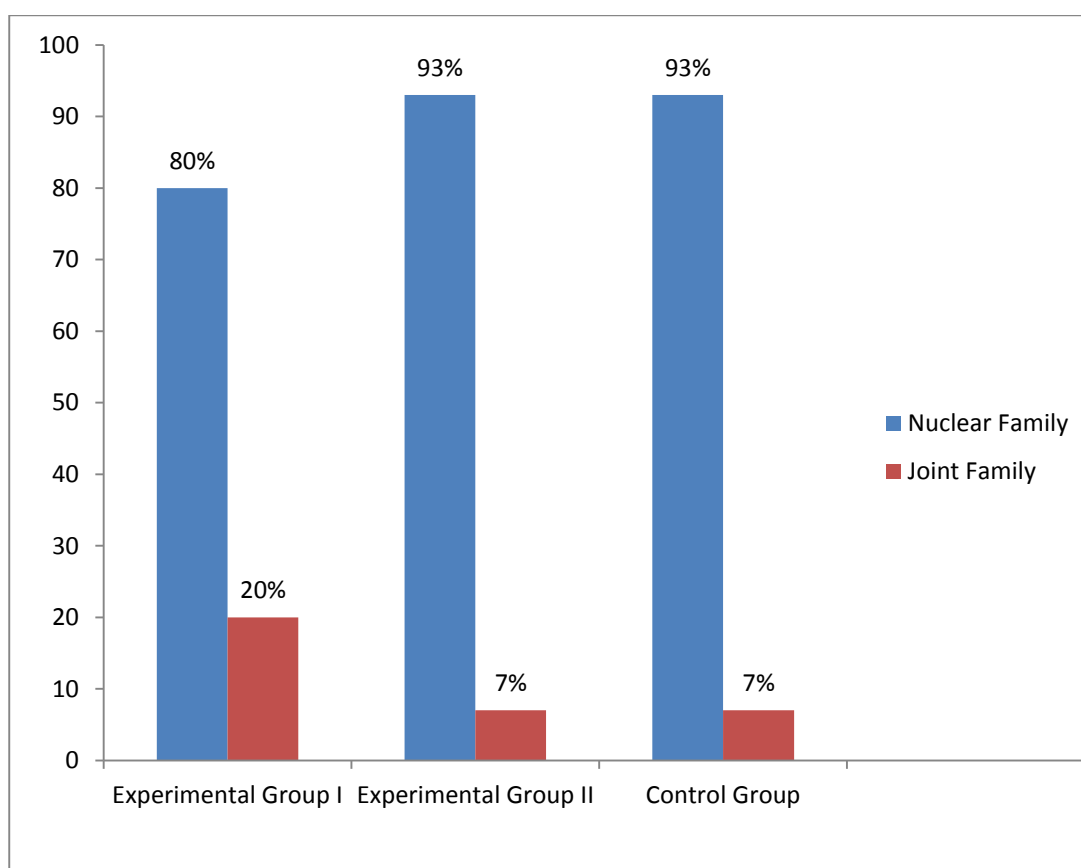


Table 4.4 and Chart 4.4.1 shows the type of family of the entire sample. In the Experimental group I; 80% of the sample were in nuclear family and 20% were in joint family. In Experimental group II; 93% of the sample were in nuclear family and 7% were in joint family. In the Control group; 93% of the sample were in nuclear family and 7% were in joint family.

Today the system of family has become more nuclear. Children lack role-models to develop appropriate behaviour. Personality deviances are a consequence of this status. It is the need of the hour to intervene personality to counter the negative impacts of nuclear family.

**TABLE 4.5: PERSONALITY FACTORS (A TO Q4 OF CPQ) OF THE ENTIRE SAMPLE BEFORE AND AFTER TREATMENT**

N=90

Factors	Scores on 10 Point Sale  Lower end score (0-5) Higher end score (6-10)	Number of Students					
		Experimental group I (Nadisudhi pranayama and Gayatri mantra)		Experimental group II (Gayatri mantra alone)		Control group	
		Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment
A	0-5 (Schizothymia)	6	3	15	11	7	9
	6-10 (Affectothymia)	24	27	15	19	23	21
B	0-5 (Low Intelligence)	24	2	24	14	23	15
	6-10 (High Intelligence)	6	28	6	16	7	15
C	0-5 (Ego weakness)	2	1	16	14	4	20
	6-10 (Higher Ego Strength)	28	29	14	16	26	10
D	0-5 (Phlegmatic Temperament)	28	30	20	13	27	23
	6-10 (Excitability)	2	0	10	17	3	7
E	0-5 (Submissiveness)	26	25	21	21	23	21
	6-10 (Dominance)	4	5	9	9	7	9
F	0-5 (Desurgency)	8	8	25	25	7	12
	6-10 (Surgency)	22	22	5	5	23	18
G	0-5 (Low super- ego strength)	14	9	19	11	9	11
	6-10 (Stronger Super Ego Strength)	16	21	11	19	21	19

**PERSONALITY FACTORS (A TO Q4 OF CPQ) OF THE ENTIRE SAMPLE**  
**BEFORE AND AFTER TREATMENT (continued)**

Factors	Scores on 10 point scale  Lower end score (0-5) Higher end score (6-10)	Number of Students					
		Experimental group I (Nadisudhi pranayama and Gayatri mantra)		Experimental group II (Gayatri mantra alone)		Control group	
		Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment
H	0-5 (Threctia)	11	12	23	21	9	11
	6-10 (Parmia)	19	18	7	9	21	19
I	0-5 (Harria)	2	3	7	9	5	11
	6-10 (Premsia)	28	27	23	21	25	19
J	0-5 (Zeppia)	25	24	13	12	28	26
	6-10 (Coasthenia)	5	6	17	18	2	4
N	0-5 (Naivete)	30	28	22	20	28	26
	6-10 (Shrewdness)	0	2	8	10	2	4
O	0-5 (Untroubled adequacy)	12	14	8	9	13	15
	6-10 (Guilt Proneness)	18	16	22	21	17	15
Q3	0-5 (Low self-sentiment integration)	9	2	17	18	4	15
	6-10 (High strength of self-sentiment)	21	28	13	12	26	15
Q4	0-5 (Low ergic tension)	30	30	19	20	27	26
	6-10 (High ergic tension)	0	0	11	10	3	4

Table 4.5 show the personality factors (A to Q4 of CPQ) of the entire sample before and after treatment.

Factor A: Schizothymia (Reserved) versus Affectothymia (Warm-hearted)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 6 sample were at the lower end and 24 sample were at the higher end. After Treatment I, 3 sample were at the lower end and 27 sample were at the higher end indicating that the sample have moved towards affectothymia.
- Before Treatment II (Gayatri mantra), 15 sample were at the lower end and 15 sample were at the higher end. After Treatment II, 11 sample were at the lower end and 19 sample were at the higher end denoting that the sample have moved towards affectothymia.
- In the Control group; 7 sample were at the lower end, 23 sample were at the higher end on initial assessment and 9 sample were at the lower end, 21 sample were at the higher end on the final assessment showing that the sample have moved towards schizothymia.

Factor B: Low Intelligence versus High Intelligence

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 24 sample were at the lower end and 6 sample were at the higher end. After Treatment I, 2 sample were at the lower end and 28 sample were at the higher end indicating that the sample have moved towards high intelligence.
- Before Treatment II (Gayatri mantra), 24 sample were at the lower end and 6 sample were at the higher end. After Treatment II, 14 sample were at the lower end and 16 sample were at the higher end denoting that the sample have moved towards high intelligence.
- In the Control group; 23 sample were at the lower end, 7 sample were at higher end on initial assessment and 15 sample were at the lower end and 15 sample were at the higher end on final assessment showing that the sample have moved towards high intelligence.

Factor C: Emotional Instability/ Ego weakness (Affected by feelings) versus Higher Ego strength (Emotionally stable)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 2 sample were at the lower end and 28 sample were at the higher end. After Treatment I, 1 sample were at the lower end and 29 sample were at the higher end indicating that the sample have moved towards higher ego strength.
- Before Treatment II (Gayatri mantra), 16 sample were at the lower end and 14 sample were at the higher end. After Treatment II, 14 sample were at the lower end and 16 sample were at the higher end denoting that the sample have moved towards higher ego strength.
- In the Control group; 4 sample were at the lower end, 26 sample were at higher end on initial assessment and 10 sample were at the lower end, 20 sample were at the higher end on final assessment showing that the sample have moved towards lower ego strength.

Factor D: Phlegmatic temperament (Undemonstrative) versus Excitability

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 28 sample were at the lower end and 2 sample were at the higher end. After Treatment I, 30 sample were at the lower end and none were at the higher end indicating that the sample have moved towards phlegmatic temperament.
- Before Treatment II (Gayatri mantra), 20 sample were at the lower end and 10 sample were at the higher end. After Treatment II, 13 sample were at the lower end and 17 sample were at the higher end denoting that the sample have moved towards excitability.
- In the Control group; 27 sample were at the lower end, 3 sample were at higher end on initial assessment and 23 sample were at the lower end, 7 sample were at the higher end on final assessment showing that the sample have moved towards excitability.

Factor E: Submissiveness versus Dominance/Ascendance

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 26 sample were at the lower end and 4 sample were at the higher end. After Treatment I,

25 sample were at the lower end and 5 sample were at the higher end indicating that the sample have moved towards dominance.

- Before Treatment II (Gayatri mantra), 21 sample were at the lower end and 9 sample were at the higher end. After Treatment II, 21 sample were at the lower end and 9 sample were at the higher end denoting that the sample have remained stable.
- In the Control group; 23 sample were at the lower end, 7 sample were at higher end on initial assessment and 21 sample were at the lower end and 9 sample were at the higher end on final assessment showing that the sample have moved towards dominance.

#### Factor F: Desurgency (Sober) versus Surgency (Enthusiastic)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 8 sample were at the lower end and 22 sample were at the higher end. After Treatment I, 8 sample were at the lower end and 22 sample were at the higher end indicating that the sample remained stable.
- Before Treatment II (Gayatri mantra), 25 sample were at the lower end and 5 sample were at the higher end. After Treatment II, 25 sample were at the lower end and 5 sample were at the higher end denoting that the sample have remained stable.
- In the Control group, 7 sample were at the lower end, 23 sample were at the higher end on initial assessment and 12 sample were at the lower end, 18 sample were at the higher end on final assessment showing that the sample have moved towards desurgency.

#### Factor G: Low Super-Ego strength/Lack of acceptance of group moral standards (Disregard rules) versus Stronger super ego strength/ Character (Conscientious)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 14 sample were at the lower end and 16 sample were at the higher end. After Treatment I, 9 sample were at the lower end and 21 sample were at the higher end indicating that the sample have moved towards super ego strength.
- Before Treatment II (Gayatri mantra), 19 sample were at the lower end and 11 sample were at the higher end. After Treatment II, 11 sample were at the lower

end and 19 sample were at the higher end denoting that the sample have moved towards super ego strength.

- In the Control group; 9 sample were at the lower end, 21 sample were at higher end on initial assessment and 11 sample were at the lower end, 19 sample were at the higher end on final assessment showing that the sample have moved towards low super ego strength.

#### Factor H: Threctia (Shy) versus Parmia (Venturesome)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 11 sample were at the lower end and 19 sample were at the higher end. After Treatment I, 12 sample were at the lower end and 18 sample were at the higher end indicating that the sample have moved towards threctia.
- Before Treatment II (Gayatri mantra), 23 sample were at the lower end and 7 sample were at the higher end. After Treatment II, 21 sample were at the lower end and 9 sample were at the higher end denoting that the sample have moved towards parmia.
- In the Control group; 9 sample were at the lower end, 21 sample were at higher end on initial assessment and 11 sample were at the lower end, 19 sample were at the higher end on final assessment showing that the sample have moved towards threctia.

#### Factor I: Harria (Tough- Minded) versus Premsia (Tender-Minded)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 2 sample were at the lower end and 28 sample were at the higher end. After Treatment I, 3 sample were at the lower end and 27 sample were at the higher end indicating that the sample have moved towards harria.
- Before Treatment II (Gayatri mantra), 7 sample were at the lower end and 23 sample were at the higher end. After Treatment II, 9 sample were at the lower end and 21 sample were at the higher end denoting that the sample have moved towards harria.
- In the control group; 5 sample were at the lower end, 25 sample were at higher end on initial assessment and 11 sample were at the lower end and 19 sample were at the higher end on final assessment showing that the sample have moved towards harria.



Factor J: Zeppia (Likes group action) versus Coasthenia (Internally Restrained)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 25 sample were at the lower end and 5 sample were at the higher end. After Treatment I, 24 sample were at the lower end and 6 sample were at the higher end indicating that the sample have moved towards coasthenia.
- Before Treatment II (Gayatri mantra), 13 sample were at the lower end and 17 sample were at the higher end. After Treatment II, 12 sample were at the lower end and 18 sample were at the higher end denoting that the sample have moved towards coasthenia.
- In the Control group; 28 sample were at the lower end, 2 sample were at higher end on initial assessment and 26 sample were at the lower end, 4 sample were at the higher end on final assessment showing that the sample have moved towards coasthenia.

Factor N: Naivete (Sentimental) versus Shrewdness (Artful)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 30 sample were at the lower end and none were at the higher end. After Treatment I, 28 sample were at the lower end and 2 sample were at the higher end indicating that the sample have moved towards shrewdness.
- Before Treatment II (Gayatri mantra), 22 sample were at the lower end and 8 sample were at the higher end. After Treatment II, 20 sample were at the lower end and 10 sample were at the higher end denoting that the sample have moved towards shrewdness.
- In the Control group; 28 sample were at the lower end, 2 sample were at higher end on initial assessment and 26 sample were at the lower end, 4 sample were at the higher end on final assessment showing that the sample have moved towards shrewdness.

Factor O: Untroubled adequacy (Self- assured) versus Guilt proneness

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 12 sample were at the lower end and 18 sample were at the higher end. After Treatment I, 14 sample were at the lower end and 16 sample were at the higher end indicating that the sample have moved towards untroubled adequacy.

- Before Treatment II (Gayatri mantra), 8 sample were at the lower end and 22 sample were at the higher end. After Treatment II, 9 sample were at the lower end and 21 sample were at the higher end denoting that the sample have moved towards untroubled adequacy.
- In the Control group; 13 sample were at the lower end, 17 sample were at higher end on initial assessment and 15 sample were at the lower end and 15 sample were at the higher end on final assessment showing that the sample have moved towards untroubled adequacy.

Factor Q3: Low Self-Sentiment Integration (Self-conflict) versus High Strength of Self- Sentiment (High self- concept control)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 9 sample were at the lower end and 21 sample were at the higher end. After Treatment I, 2 sample were at the lower end and 28 sample were at the higher end indicating that the sample have moved towards high strength of self- sentiment.
- Before Treatment II (Gayatri mantra), 17 sample were at the lower end and 13 sample were at the higher end. After Treatment II, 18 sample were at the lower end and 12 sample were at the higher end denoting that the sample have moved towards low self-sentiment integration.
- In the Control group; 4 sample were at the lower end, 26 sample were at higher end on initial assessment and 15 sample were at the lower end, 15 sample were at the higher end on final assessment showing that the sample have moved towards low self-sentiment integration.

Factor Q4: Low Ergic Tension (Relaxed) versus High Ergic Tension (Tense)

- Before Treatment I (Nadisudhi pranayama and Gayatri mantra), 30 sample were at the lower end and none were at the higher end. After Treatment I, 30 sample were at the lower end and none were at the higher end indicating that the sample remained stable.
- Before Treatment II (Gayatri mantra), 19 sample were at the lower end and 11 sample were at the higher end. After Treatment II, 20 sample were at the lower end and 10 sample were at the higher end denoting that the sample have moved towards low ergic tension.

- In the Control group, 27 sample were at the lower end, 3 sample were at the higher end on initial assessment and 26 sample were at the lower end, 4 sample were at the higher end on final assessment showing that the sample have moved towards high ergic tension.

**TABLE 4.6: MEAN DIFFERENCE IN SCHIZOTHYMIA VERSUS AFFECTOTHYMIA (FACTOR A) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	6.60	7.70	1.07	1.29	3.86**	Significant
Experimental group II	5.13	6.20	1.76	1.96	3.06**	Significant
Control group	6.30	6.53	1.73	1.93	0.67	Not Significant

\*\*Significance at 0.01 level

**CHART4.6.1: MEAN DIFFERENCE IN SCHIZOTHYMIA VERSUS AFFECTOTHYMIA (FACTOR A) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

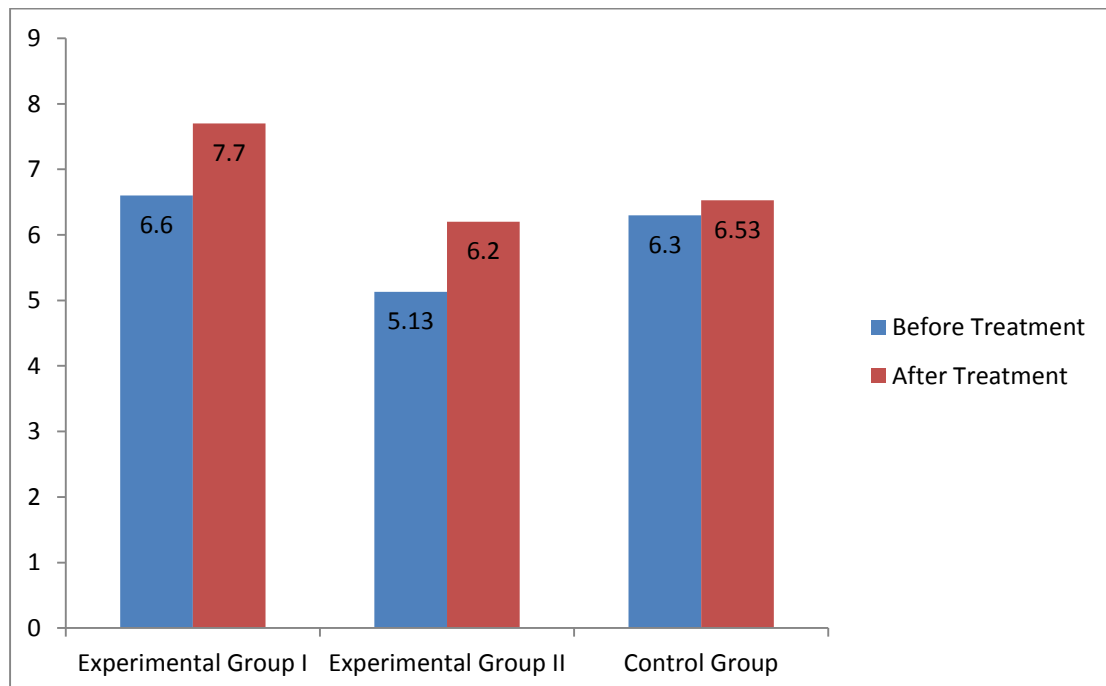


Table 4.6 and chart 4.6.1 show the mean difference in Schizothymia (Reserved) versus Affectothymia (Warm-hearted) - Factor A of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 6.60, after Treatment I is 7.70 and t-value is 3.8 which indicates that there is statistically significant difference at 0.01 level proving the efficacy of Nadisudhi pranayama and Gayatri mantra pertaining to Factor A (Schizothymia versus Affectothymia).

Nadisudhi pranayama and Gayatri mantra together have improved warm-heartedness and tolerance towards difficult people, helped people respect sentiments; kept the sample relaxed and more adaptable; emotionally expressive and trustworthy.

Treatment II: The mean value of the Experimental group - II before Treatment II is 5.13, after Treatment II is 6.20 and t-value is 3.06 which indicates that there is statistically significant difference at 0.01 level proving the efficacy of Gayatri mantra in Factor A (Schizothymia versus Affectothymia).

Gayatri mantra alone enabled the participants to remain good natured, easy going and attentive to people. They grew more generous in social relationships, improved cooperativeness and participation. They were less disturbed by criticism. They seem to have improved in their ability to remember names and also enjoyed social recognition.

Participants turned more empathetic while relating to others. Children exhibited more concern towards their parents and siblings. This has elaborated their sense of belongingness. Enhanced sense of belongingness and improved ability to manage affect improved social cooperativeness.

Today's society longs for humaneness in humanity which cannot do without warm-heartedness. This attribute can favour the strength of any relationship. This can work as a prime source that protects the society from delinquency. Pre- adolescence is the appropriate stage to instil this personality trait.

Control group: The mean value of the Control group in the initial assessment is 6.30, the final assessment is 6.53 and the t-value is 0.67 indicating that there is no

statistically significant difference pertaining to Factor A (Schizothymia versus Affectothymia).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri Mantra (Treatment I) with regard to Factor A”, the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor A” and the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor A” are accepted.

**Joshua C. Felver et al (2014)** compared the effect of participating in a single yoga class and a single physical education (PE) class on student mood. Forty-seven high school students completed self-report questionnaires assessing mood and affect immediately before and after participating in a single yoga class and a single PE class one week later. Participants reported significantly greater decreases in anger, depression and fatigue from before to after participating in yoga compared to PE. Significant reductions in negative affect occurred after yoga but not after PE. Results suggest that school-based yoga may provide unique benefits for students above and beyond participation in PE.

This research review is based on Indian psychology concept and it supports the present research in proving the efficacy of interventions based on Indian psychology.

**TABLE 4.7: MEAN DIFFERENCE IN LOW INTELLIGENCE VERSUS HIGH INTELLIGENCE (FACTOR B) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	4.47	6.33	1.22	0.84	8.55**	Significant
Experimental group II	3.57	5.47	1.81	1.36	6.32**	Significant
Control group	4.50	5.27	1.41	1.17	3.36**	Significant

\*\*Significance at 0.01level

**CHART 4.7.1: MEAN DIFFERENCE IN LOW INTELLIGENCE VERSUS HIGH INTELLIGENCE (FACTOR B) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

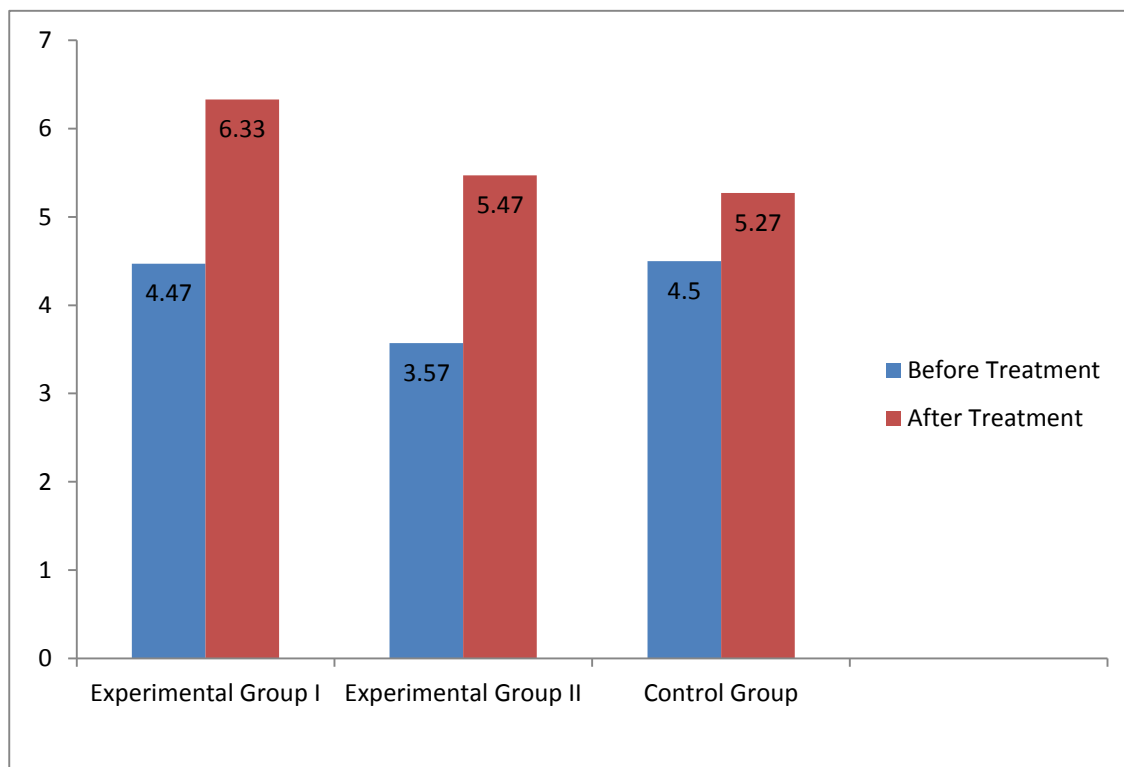


Table 4.7 and chart 4.7.1 show the mean difference in Low Intelligence versus High Intelligence - Factor B of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 4.47, after Treatment I is 6.33 and t-value is 8.55 indicating that there is statistically significant difference at 0.01 level proving the efficacy of Nadisudhi pranayama and Gayatri mantra pertaining to Factor B (Low Intelligence versus High Intelligence).

Nadisudhi pranayama and Gayatri mantra together improved the general mental capacity of the participants and helped them grow more insightful.

Treatment II: The mean value of the Experimental group - II before Treatment II is 3.57, after Treatment II is 5.47 and t-value is 6.32 indicating statistically significant difference at 0.01 level proving the efficacy of Gayatri mantra pertaining to Factor B (Low Intelligence versus High Intelligence).

Gayatri mantra alone enhanced their easy grasp of academic skills and participants were learning fast.

Both interventions enhanced the intellectual adaptability of the sample. Mantra japa focuses on moving beyond limits of concentration and facilitate perceptions of higher facts and higher knowledge. During the time of intervention, slow-learners showed considerable improvement in their pace of learning. Students also reported that they required less time to master new facts.

When participants were able to master the environment, they quickly adapted to that environment and managed themselves to suit the environment. This feature reduced inter-personal conflicts and ensured smooth progress in their task at hand.

Control group: The mean value of the Control group in the initial assessment is 4.50, final assessment is 5.27 and t-value is 3.36 indicating statistically significant difference at 0.01 level pertaining to Factor B (Low Intelligence versus High Intelligence).

There seems to be interference of other variables such as genetic factors, neurological developments, organic etc. beyond the treatments.



Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri Mantra (Treatment I) with regard to Factor B” and the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor B” are accepted but the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor B” is rejected.

**Mayasandra S. Chaya et.al (2012)** studied the effect of Yoga on cognitive abilities in school children. Two hundred school children, aged between seven and nine years from Bangalore, India, after baseline assessment of cognitive functioning were randomly allocated to either yoga or physical-activity group. Cognitive functions (attention and concentration, visuo-spatial abilities, verbal ability, and abstract thinking) were assessed using an Indian adaptation of the Wechsler Intelligence Scale for Children at baseline, after three months of intervention, and later at a three month follow-up. Of the two hundred subjects, One hundred and ninety three were assessed at three months after the study, and then One hundred and eighty were assessed at the three month follow-up. There were no significant differences in cognitive performance between the two study groups (yoga versus physical activity) at post-intervention, after controlling for grade levels. Yoga was as effective as physical activity in improving cognitive performance in school children.

This review supports the present research by pointing out the interference of some internal factors that seem to enhance intellectual capabilities beyond external interventions.

**TABLE 4.8: MEAN DIFFERENCE IN EMOTIONAL INSTABILITY/ EGO WEAKNESS VERSUS HIGHER EGO STRENGTH (FACTOR C) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	7.03	7.23	0.96	1.07	0.665	Not Significant
Experimental group II	5.03	5.63	2.08	1.54	1.663	Not Significant
Control group	7.07	5.50	1.53	1.82	4.16**	Significant

\*\*Significance at 0.01 level

**CHART 4.8.1: MEAN DIFFERENCE IN EMOTIONAL INSTABILITY/ EGO WEAKNESS VERSUS HIGHER EGO STRENGTH (FACTOR C) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

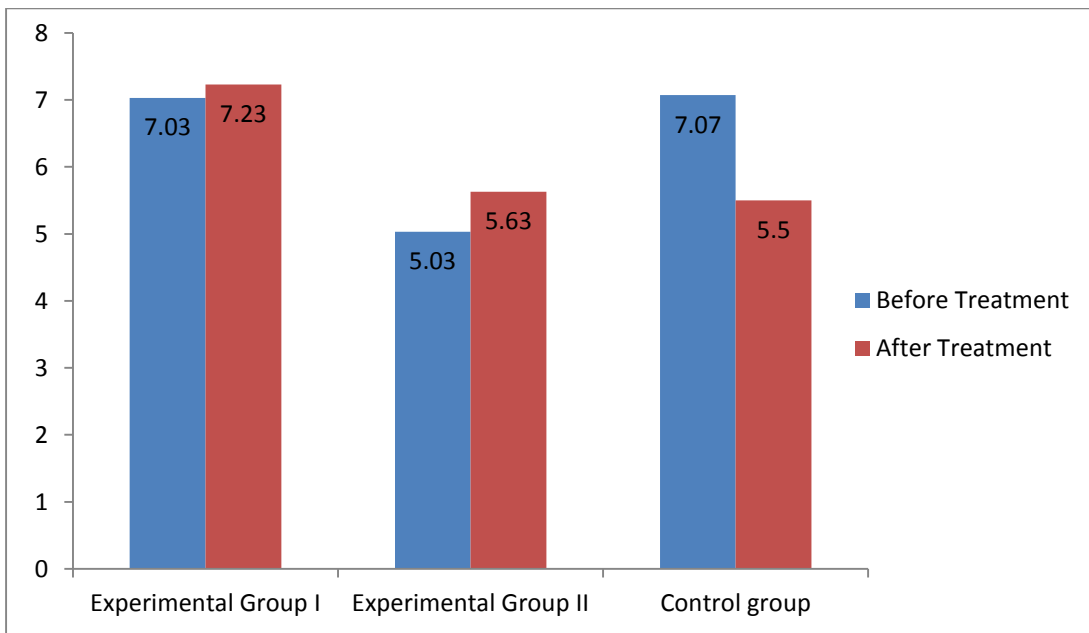


Table 4.8 and chart 4.8.1 show the mean difference in Emotional Instability/ Ego weakness (Affected by feelings) versus Higher Ego Strength (Emotionally stable) - Factor C of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 7.03, after Treatment I is 7.23 and t-value is 0.67 indicating that there is no statistically significant difference pertaining to Factor C (Emotional Instability/ Ego weakness versus Higher Ego strength).

Nadisudhi pranayama and Gayatri mantra together were instrumental to keep the sample emotionally stable. On increasing the intervention time, participants might remain stable in their interests, and more readily adjust to the environment. Pranayama controls the velocity of mind making it more stable and facilitate focus on task. Emotional stability improvises rationality in decision-making.

Pranamaya kosha must be maintained in good balance without which the normal functioning of manomaya kosha, vignanamaya kosha and anandamaya kosha may not be possible.

Treatment II: The mean value of the Experimental group - II before Treatment II is 5.03, after Treatment II is 5.63 and t-value is 1.66 indicating no statistically significant difference pertaining to Factor C (Emotional Instability/ Ego weakness versus Higher Ego strength).

Gayatri mantra alone when intervened for an extended period of time, the sample might become more mature, more open to face reality and confidently face difficulties. Both interventions are likely to enhance dynamic integration and the capacity for frustration tolerance.

Mantra japa ensures the health of manomaya kosha thereby ensuring the harmony of mind. Harmony of mind when exercised during pre-adolescence is likely to bring about good citizens for the future.

Control group: The mean value of the Control group in the initial assessment is 7.07, final assessment is 5.50 and t-value is 4.16 indicating statistically significant difference at 0.01 level pertaining to Factor C (Emotional Instability/ Ego weakness versus Higher Ego strength).

In the Control group, sample tend towards Emotional Instability/ Ego weakness. They tend to get affected by feelings, emotionally less stable; easily upset; change in attitude and interest, easily perturbed; evasive of responsibilities; tend 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 oneself, and discouraged by the inability to meet good standards of behaviour.

In Control group, the sample were easily annoyed over trivial issues and could not take any disappointments. They negatively reacted for almost everything. Hence, they failed to learn from experience and could not perceive the positive side of issues.

Pre-adolescents appear vulnerable to imbalance of emotions which mandates appropriate intervention that will enable them to learn emotional display rules.

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor C”;the Hypothesis 2:“Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor C” and the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor C” are rejected.

**Jennifer T. Frank1 et.al (2016)** assessed the effectiveness of a yoga-based social-emotional wellness promotion program-Transformative Life Skills (TLS), on indicators of adolescent emotional distress, pro-social behaviour, and school functioning. Participants included One hundred and fifty nine students who were randomly assigned to treatment and business-as-usual comparison conditions. Results suggested that students who participated in the TLS program demonstrated significant reductions on unexcused absences, detentions, and increase in school engagement. Specifically, significant increase in student’s emotional regulation, positive thinking and cognitive restructuring response to stress were found.

This review supports the present research in the use of interventions based on Indian psychology to gain emotional stability and regulation.

**TABLE 4.9: MEAN DIFFERENCE IN PHLEGMATIC TEMPERAMENT  
VERSUS EXCITABILITY (FACTOR D) OF THE SAMPLE BEFORE AND  
AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	2.73	2.80	1.64	1.13	0.232	Not Significant
Experimental group II	4.53	5.43	1.94	2.45	2.48*	Significant
Control group	3.00	4.20	1.95	1.83	3.14**	Significant

\*\*Significance at 0.01 level \*Significance at 0.05 level

**CHART 4.9.1: MEAN DIFFERENCE IN PHLEGMATIC TEMPERAMENT  
VERSUS EXCITABILITY (FACTOR D) OF THE SAMPLE BEFORE AND  
AFTER TREATMENT**

(N=90)

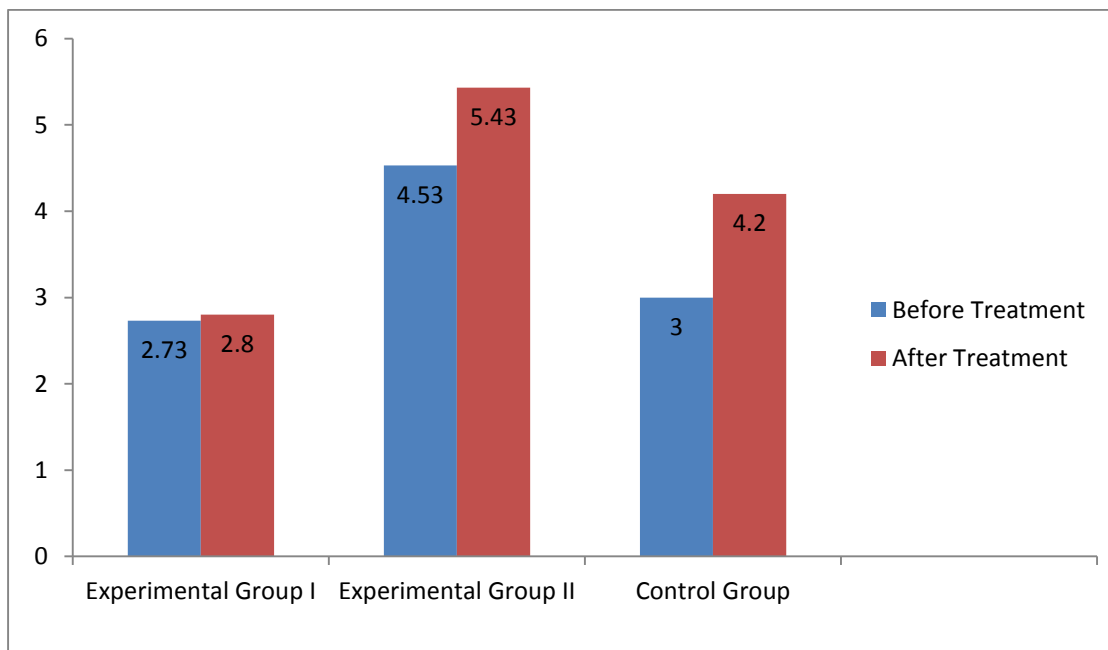


Table 4.9 and chart 4.9.1 show the mean difference in Phlegmatic temperament (Undemonstrative) versus Excitability - Factor D of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 2.73, after Treatment I is 2.8 and t-value is 0.23 indicating no statistically significant difference pertaining to Factor D (Phlegmatic temperament versus Excitability).

Nadisudhi pranayama and Gayatri mantra together were instrumental to the stability of Factor D, striking a balance between inactivity and over activity, complacency and showing off, impatience and restfulness, jealous and not so jealous. Regulated breathing using pranayama technique is likely to help the sample in striking the balance between Phlegmatic temperament (Undemonstrative) and Excitability. Pranayama establishes sattva which is obscured by rajas and tamas.

Treatment II: The mean value of the Experimental group - II before Treatment II is 4.53, after Treatment II is 5.43 and t-value is 2.48 indicating statistically significant difference at 0.05 level proving the efficacy of Gayatri mantra pertaining to Factor D (Phlegmatic temperament versus Excitability).

Gayatri mantra alone increases the tendency towards Excitability. Thus the sample tend to be demanding, impatient, attention-getting, showing-off, self-assertive, distractible, overactive, jealous and excited, show many nervous symptoms

Control group: The mean value of the Control group in the initial assessment is 3.00, final assessment is 4.20 and t-value is 3.14 indicating statistically significant difference at 0.01 level pertaining to Factor D (Phlegmatic temperament versus Excitability).

In the control group, sample were over-demonstrative, attention-seeking, restless, found it hard to focus on task-at-hand and were on high.

From these findings it show that pranyama practices are essential for psychic balance.

Hence, the Hypothesis 1: "Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra

(Treatment I) with regard to Factor D” is rejected; the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor D” is accepted and the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor D” is rejected.

**TABLE 4.10: MEAN DIFFERENCE IN SUBMISSIVENESS VERSUS DOMINANCE/ASCENDANCE (FACTOR E) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	4.77	4.70	1.01	1.29	0.29	Not Significant
Experimental group II	4.73	5.40	1.87	1.48	2.00	Not Significant
Control group	5.07	5.10	1.26	1.19	0.13	Not Significant

**CHART 4.10.1: MEAN DIFFERENCE IN SUBMISSIVENESS VERSUS DOMINANCE/ASCENDANCE (FACTOR E) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

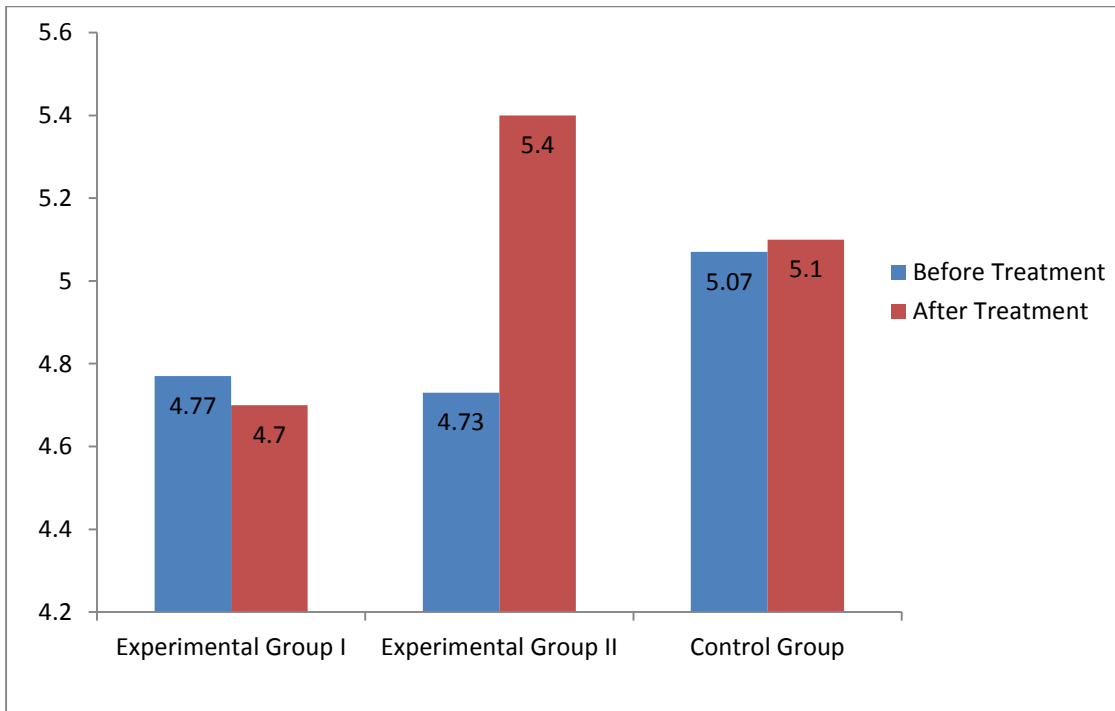




Table 4.10 and chart 4.10.1 show the mean difference in Submissiveness versus Dominance/Ascendance – Factor E of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 4.77, after Treatment I is 4.70 and t-value is 0.29 indicating that there is no statistically significant difference pertaining to Factor E (Submissiveness versus Dominance/Ascendance).

Treatment II: The mean value of the Experimental group - II before Treatment II is 4.73, after Treatment II is 5.40 and t-value is 2.00 indicating no statistically significant difference at pertaining to Factor E (Submissiveness versus Dominance/Ascendance).

Nadisudhi pranayama and Gayatri mantra together as well as Gayatri mantra alone do not seem to facilitate the movement of the sample towards either Submissiveness or Dominance/Ascendance. This implies a healthy trend as both extremes might pose problems for adjustment. Submissiveness will dissolve a person's individuality and dominance will dictate on the individuality of others.

Pre-adolescents, who were intervened, were able to speak for themselves and regarded the interest of others. Moreover, each participant asserted their own personal space and provided for others to experience theirs.

Control group: The mean value of the Control group in the initial assessment is 5.07, final assessment is 5.10 and t-value is 0.13 indicating no statistically significant difference pertaining to Factor E (Submissiveness versus Dominance/Ascendance).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri Mantra (Treatment I) with regard to Factor E” and the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor E” are rejected but the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor E” is accepted.

**TABLE 4.11: MEAN DIFFERENCE IN DESURGENCY VERSUS SURGENCY  
(FACTOR F) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	5.47	5.97	1.89	1.73	1.06	Not Significant
Experimental group II	4.40	4.10	1.33	1.71	0.95	Not Significant
Control group	6.20	5.27	1.71	1.96	2.67*	Significant

\*Significance at 0.05 level

**CHART 4.11.1: MEAN DIFFERENCE IN DESURGENCY VERSUS  
SURGENCY (FACTOR F) OF THE SAMPLE BEFORE AND AFTER  
TREATMENT**

(N=90)

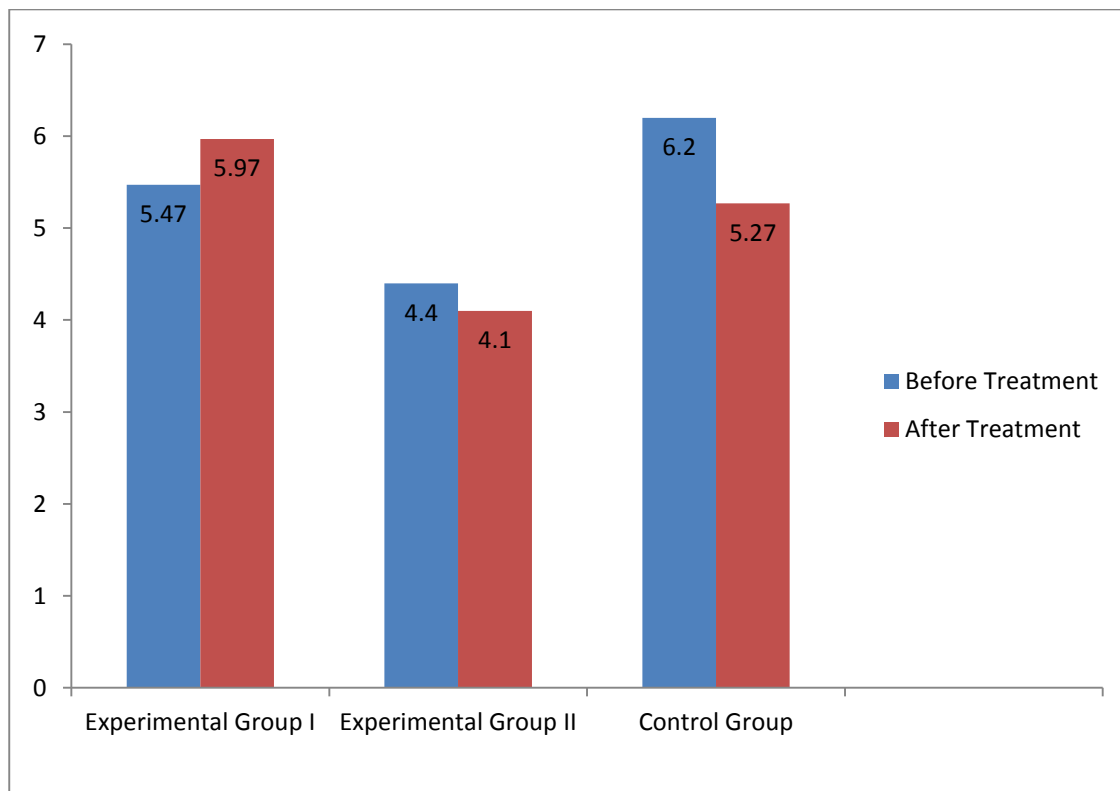


Table 4.11 and chart 4.11.1 show the mean difference in Desurgency (Sober) versus Surgency (Enthusiastic) - Factor F of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 5.47, after Treatment I is 5.97 and t-value is 1.06 indicating no statistically significant difference pertaining to Factor F (Desurgency versus Surgency).

Treatment II: The mean value of the Experimental group - II, before Treatment II is 4.40, after Treatment II is 4.10 and t-value is 0.95 indicating no statistically significant difference pertaining to Factor F (Desurgency versus Surgency).

Nadisudhi pranayama and Gayatri mantra together as well as Gayatri mantra alone are likely to enable the sample to mediate between silence and talkativeness, self-reflective and reflective to the group, taciturn and enthusiastic, introspectiveness and expressiveness, seriousness and happy-go-lucky, slowness and being quick, cautiousness and heedlessness.

Pranayama practices and Mantra japa work to establish a state of equilibrium within a person and protect them from becoming an extremist.

Control group: The mean value of the Control group in the initial assessment is 6.20, final assessment is 5.27 and t-value is 2.67 indicating statistically significant difference at 0.05 level pertaining to Factor F (Desurgency versus Surgency).

The sample in Control group moved towards being silent, introspective and reflective. They might stick to inner values and become sober, taciturn, serious, slow and cautious. This feature hampered their interaction with others. They perceived their frame of thoughts more elaborately while they failed to regard the value basis of others.

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri Mantra (Treatment I) with regard to Factor F”; the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor F” and the Hypothesis 3: “Pre-adolescents in the

Control group will not differ significantly in the initial and final assessment with regard to Factor F” are rejected.

**Suchitra S. Patil and Nagendra H.R (2014)** studied the effect of yoga based personality development camp on the Triguna in Two hundred children (One hundred children in each group) aged eight to twelve years, selected from a residential camp at Prashanti kutiram Jigani (Yoga group) and Jayagopal Garodia Rastothana school. Experimental group children practiced Integral Yoga module including Asanas, pranayama, nadanusandhana, chanting, and games. Control group children were under daily routine. Sushruta Child personality inventory was administered before and after ten days. Sattva increased significantly, while Rajas and Tamas decreased significantly as compared to the Control group. Yoga Personality Development camp has the significant effect on Sattva, Rajas and Tamas in Children.

This research review supports the present research in the use of yoga methods to mediate personality variables.

**TABLE 4.12: MEAN DIFFERENCE IN LOW SUPER-EGO STRENGTH/LACK OF ACCEPTANCE OF GROUP MORAL STANDARDS VERSUS STRONGER SUPER EGO STRENGTH/ CHARACTER (FACTOR G) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	6.53	7.37	1.17	1.73	3.12**	Significant
Experimental group II	4.57	5.93	1.70	1.70	5.34**	Significant
Control group	6.43	5.93	1.85	1.80	1.41	Not Significant

\*\*Significance at 0.01 level

**CHART 4.12.1: MEAN DIFFERENCE IN LOW SUPER-EGO STRENGTH/LACK OFACCEPTANCE OF GROUP MORAL STANDARDS VERSUS STRONGER SUPER EGO STRENGTH/CHARACTER (FACTOR G) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

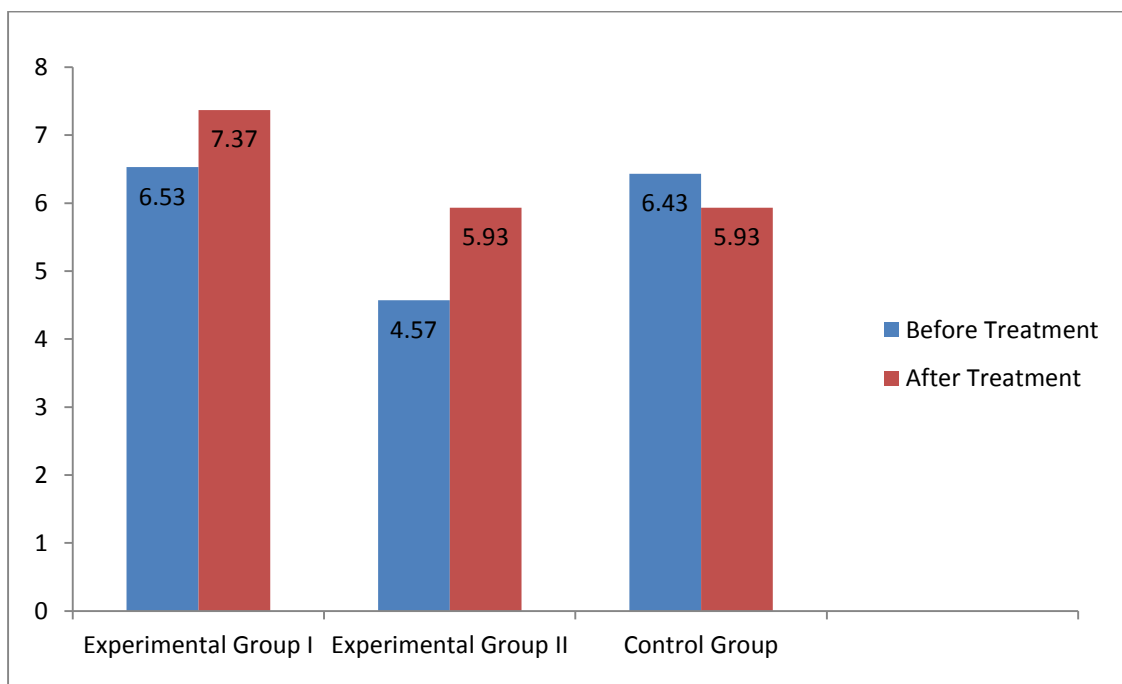


Table 4.12 and Chart 4.12.1 show mean difference in Low Super-Ego strength/Lack of acceptance of group moral standards (Disregards rules) versus Stronger Super ego strength/ Character (Conscientious) - Factor G of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 6.53, after Treatment I is 7.37 and t-value is 3.12 indicating statistically significant difference at 0.01 level proving the efficacy of Nadisudhi pranayama and Gayatri mantra pertaining to Factor G (Low Super-Ego strength/Lack of acceptance of group moral standards versus Stronger super ego strength/ Character).

Nadisudhi pranayama and Gayatri mantra together increases the tendency to be conscientious, persevering, determined, consistently ordered and dominated by sense of duty. Sample is likely to view himself as correct, as a guardian of manners, planful and more likely to prefer the company of efficient people to other companions.

Treatment II: The mean value of the Experimental group - II before Treatment II is 4.57, after Treatment II is 5.93 and t-value is 5.34 indicating the statistically significant difference at 0.01 level proving the efficacy of Gayatri mantra pertaining to Factor G (Low Super-Ego strength/Lack of acceptance of group moral standards versus Stronger super ego strength/ Character).

Gayatri mantra alone enhances the participant's ability to concentrate, be moralistic, emotionally disciplined, persistent, responsible and are more concerned about moral standards. Sample are more likely to be extra cautious and think before speaking.

Mantra japa potentially eradicate untoward thoughts, feeling, perversion of human-instincts and potentiate righteous human values and moral development. Pre-adolescence could not comprehend abstract phenomenon like morality. Therefore external indirect means of moral potentiation is mandatory.

During the intervention, the school authorities expressed that there was lesser need for moral instruction classes. They also noted that moral and ethical standards of behaviour of the participants had improved. External means to control the behaviour of children like punishment was not necessary. Mere instructions to follow the

righteous behaviour was enough to ensure good behaviour. Management of these children has become comparatively easy. Both schools still follow the practice of chanting Gayatri mantra during every day prayer and they are confident that continued practice will ensure healthy management of teenagers.

Control group: The mean value of the Control group in the first assessment is 6.43, final assessment is 5.93 and t-value is 1.41 indicating no statistically significant difference pertaining to Factor G (Low Super-Ego strength/Lack of acceptance of group moral standards versus Stronger Super ego strength/ Character).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor G”; the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor G” and the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor G” are accepted.

**Allison M. Tackman, Sanjay Srivastava, and Jennifer H. Pfeifer (2017)** studied how conscientiousness change from late childhood through middle adolescence. This longitudinal study had participants of ages ten, thirteen and sixteen (N = 90). Mean levels of conscientiousness decreased from ten to thirteen and then increased to age sixteen. The later increase was stronger among females. Conscientiousness is related to a range of important life outcomes, so it is important to understand its development early in life.

This research review supports the present research by denoting the developmental nature of conscientiousness.

**TABLE 4.13: MEAN DIFFERENCE IN THRECTIA VERUS PARMIA  
(FACTOR H) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	5.97	5.97	1.38	1.33	0.00	Not Significant
Experimental group II	4.63	4.93	1.27	1.46	1.07	Not Significant
Control group	6.20	5.50	1.67	1.96	1.70	Not Significant

**CHART 4.13.1: MEAN DIFFERENCE IN THRECTIA VERUS PARMIA  
(FACTOR H) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

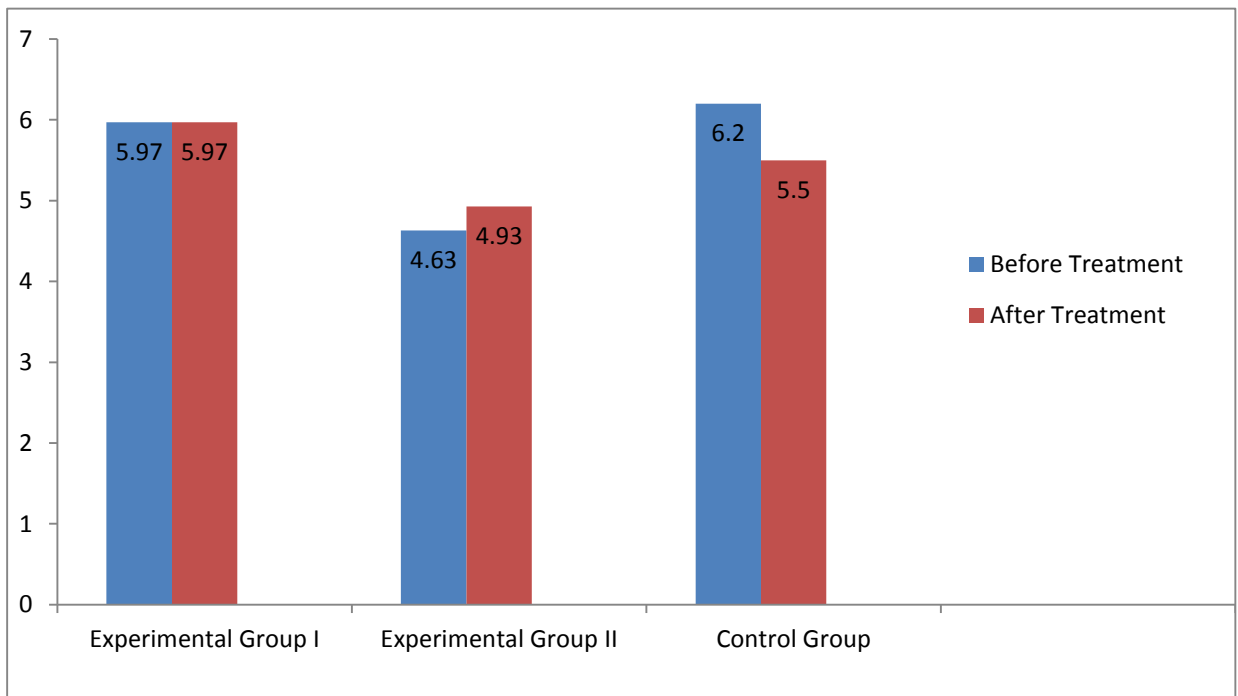




Table 4.13 and chart 4.13.1 show the mean difference in Threctia (Shy) versus Parmia (Venturesome) Factor H of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 5.97, after Treatment I is 5.97 and t-value is 0.00 indicating no statistically significant difference in pertaining to Factor H (Threctia versus Parmia).

Treatment II: The mean value of the Experimental group - II before Treatment II is 4.63, after Treatment II is 4.93 and t-value is 1.07 indicating no statistically significant difference the pertaining to Factor H (Threctia versus Parmia).

Nadisudhi pranayama and Gayatri mantra together and Gayatri mantra alone are instrumental in helping the sample balance between shyness and adventurousness, restricted interest and artistic interest, restrain from opposite sex and overt interest in opposite sex, threat sensitiveness and least sensitiveness to danger, cautious/restricted socialization and social boldness, sensitiveness and thick-skinned.

Regulated breathing as well as mantra chanting stimulates balance in a person. During the intervention period parents reported lack of impulsivity in interest, sensitiveness and socialization in the pre-adolescent.

Control group: The mean value of the initial assessment is 6.20, final assessment is 5.50 and t-value is 1.70 indicating no statistically significant difference in the Control group pertaining to Factor H (Threctia versus Parmia).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor H” and the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor H” are rejected but the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor H” is accepted.

**TABLE 4.14: MEAN DIFFERENCE IN HARRIA VERSUS PREMSIA  
(FACTOR I) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	7.87	7.43	1.48	1.81	1.25	Not Significant
Experimental group II	6.90	6.47	2.06	2.43	1.17	Not Significant
Control group	7.43	6.20	1.94	1.71	3.94	Significant

\*\*Significance at 0.01 level

**CHART 4.14.1: MEAN DIFFERENCE IN HARRIA VERSUS PREMSIA  
(FACTOR I) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

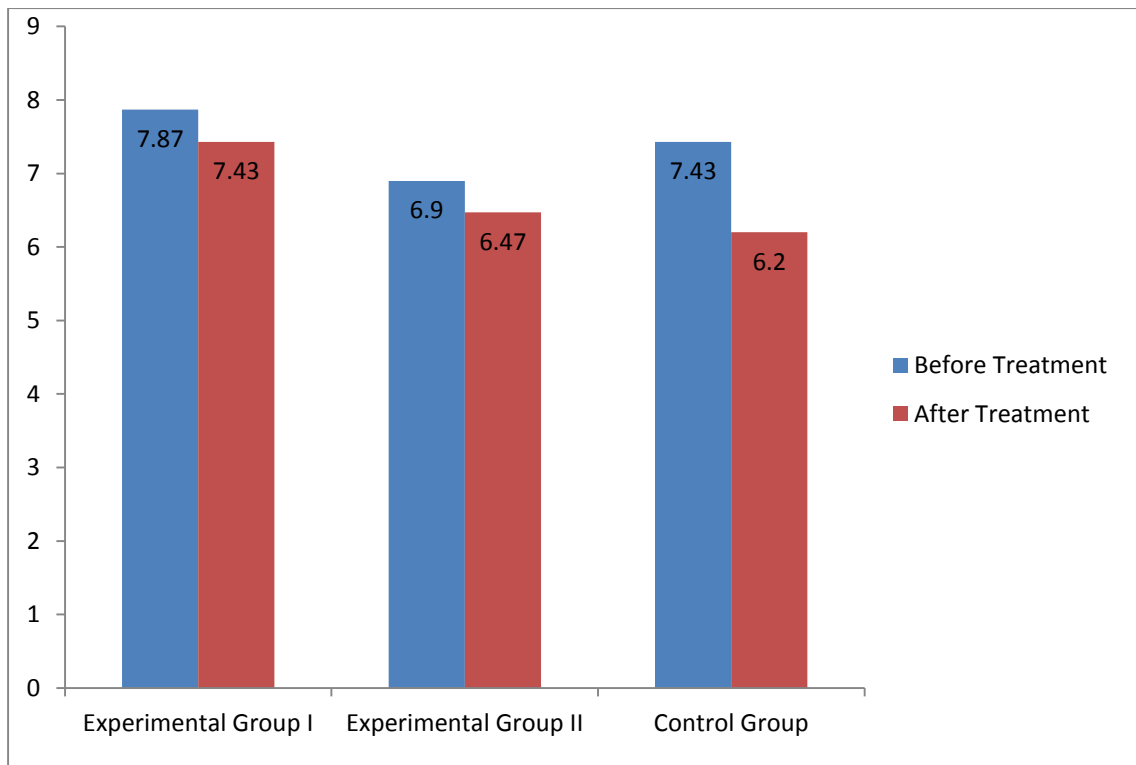


Table 4.14 and chart 4.14.1 show the mean difference in Harria (Tough-minded) versus Premsia (Tender-minded) - Factor I of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 7.87, after Treatment I is 7.43 and t-value is 1.25 indicating no statistically significant difference pertaining to Factor I (Harria versus Premsia).

Treatment II: The mean value of the Experimental group - II before Treatment II is 6.90, after Treatment II is 6.47 and t-value is 1.17 indicating no significant difference pertaining to Factor I (Harria versus Premsia).

Nadisudhi pranayama and Gayatri mantra together and Gayatri mantra alone help the sample to be establish stability in self- reliance, expecting little, acting on practical and logical evidence, keeping to the point, not to dwell in physical disabilities, taking responsibility and have few artistic responses as well as remain kind, gentle, tender-minded, sensitive, get affected, dependent, over-protected, expect attention and affection, feel insecure, 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.

Both tough-mindedness and tender-mindedness might not help to preserve the peace of mind. If a personality characteristic is to support the peace of mind it has to strike mediocrity.

Control group: The mean value of the Control group in the initial assessment is 7.43, final assessment is 6.20 and t-value is 3.94 indicating statistically significant difference at 0.01 level in the Control group pertaining to Factor I (Harria versus Premsia)

In Control group, the sample tend 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.

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra

(Treatment I) with regard to Factor I”, the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor I” and the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor I” are rejected.

**TABLE 4.15: MEAN DIFFERENCE IN ZEPPIA VERSUS COASTHENIA  
(FACTOR J) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	3.37	3.80	1.79	1.79	1.08	Not Significant
Experimental group II	5.90	5.77	1.54	1.33	0.36	Not Significant
Control group	3.17	3.47	1.84	2.42	0.71	Not Significant

**CHART 4.15.1: MEAN DIFFERENCE IN ZEPPIA VERSUS COASTHENIA  
(FACTOR J) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

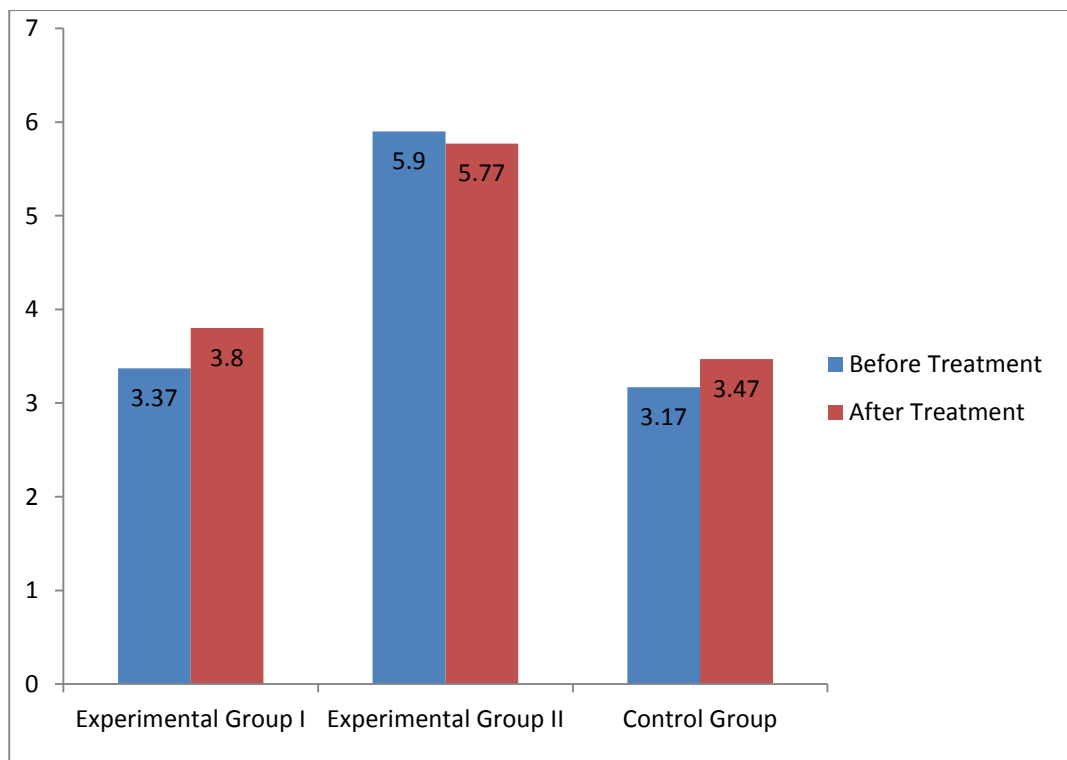


Table 4.15 and chart 4.15.1 show the mean difference in Zeppia (Likes group action) versus Coasthenia (Internally restrained) - Factor J of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 3.37, after Treatment I is 3.80 t-value is 1.08 indicating no statistically significant difference pertaining to Factor J (Zeppia versus Coasthenia).

Treatment II: The mean value of the Experimental group - II before Treatment II is 5.90, after Treatment II is 5.77 and t-value is 0.36 indicating no significant difference pertaining to Factor J (Zeppia versus Coasthenia).

Nadisudhi pranayama and Gayatri mantra together and Gayatri mantra alone might help the sample to be stable in the tendency to like group action, be zestful, like attention, sink personality into group enterprise, be vigorous, and accept common standards, circumspect individualism, and remain stable in the tendency to be reflective, act individually, internally restrained, to act individualistically guarded, wrapped in self, be fastidiously obstructive, get neurasthentially fatigued, evaluates coldly.

Control group: The mean value of the Control group in the initial assessment is 3.17, final assessment is 3.47 and t-value is 0.17 indicating no statistically significant difference in the Control group pertaining to Factor J (Zeppia versus Coasthenia).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor J” and the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor J” are rejected but the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor J” is accepted.

**TABLE 4.16: MEAN DIFFERENCE IN NAIVETE VERSUS SHREWDNESS  
(FACTOR N) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	3.67	3.70	1.03	1.51	0.12	Not Significant
Experimental group II	4.63	5.07	1.79	2.26	1.23	Not Significant
Control group	4.07	4.47	1.26	2.01	1.38	Not Significant

**CHART 4.16.1: MEAN DIFFERENCE IN NAIVETE VERSUS SHREWDNESS  
(FACTOR N) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

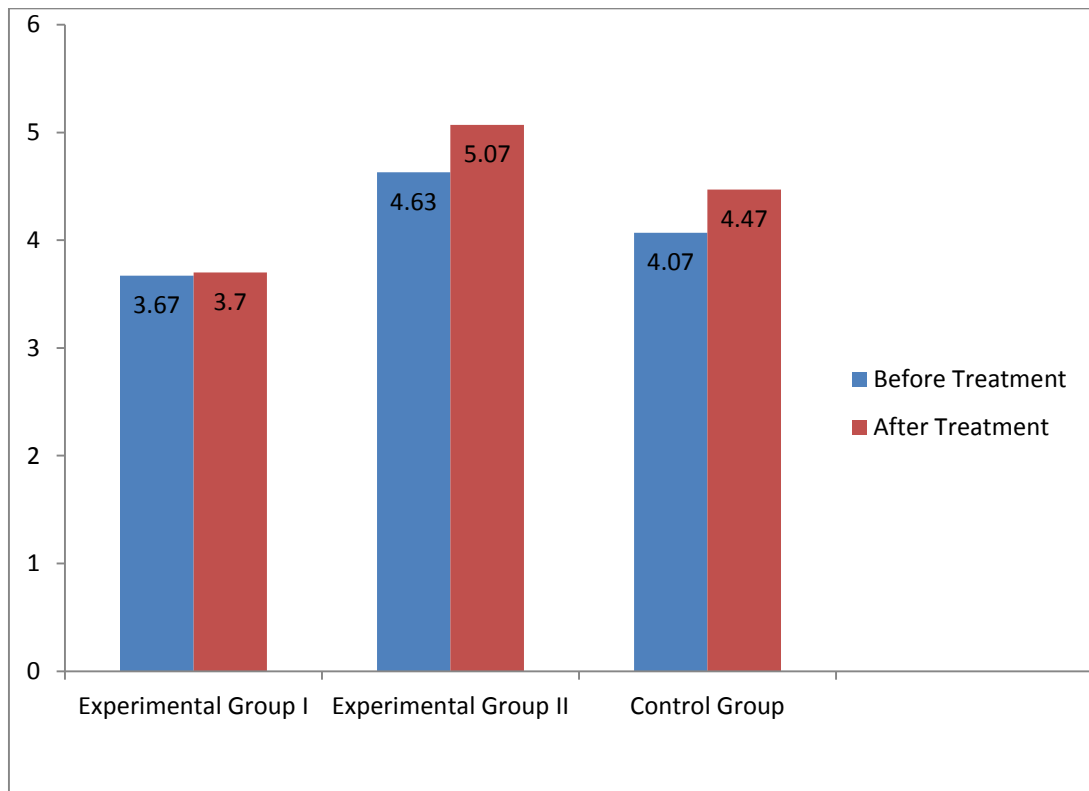


Table 4.16 and chart 4.16.1 show mean difference in Naivete (Sentimental) versus Shrewdness (Artful) - Factor N of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 3.67, after Treatment I is 3.70 and t-value is 0.12 indicating no statistically significant difference pertaining to Factor N (Naivete versus Shrewdness).

Treatment II: The mean value of the Experimental group - II before Treatment II is 4.63 and after Treatment II is 5.07 and t-value is 1.23 indicating no statistically significant difference pertaining to Factor N (Naivete versus Shrewdness).

Nadisudhi pranayama and Gayatri mantra together and Gayatri mantra alone are likely to enable the sample to balance in their tendency to be spontaneous and socially aware, gregarious and polished, natural and calculative, smart and socially clumsy, genuine and artful, blind trust of human nature and insightful regarding others.

Control group: The mean value of the Control group in the initial assessment is 4.07, final assessment is 4.47 and t-value 1.38 indicating no statistically significant difference in Control group pertaining to Factor N (Naivete versus Shrewdness).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor N” and the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor N” are rejected but the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor N” is accepted.



**TABLE 4.17: MEAN DIFFERENCE IN UNTROUBLED ADEQUACY  
VERSUS GUILT PRONENESS (FACTOR O) OF THE SAMPLE BEFORE  
AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	5.87	5.50	1.17	1.04	1.28	Not Significant
Experimental group II	6.47	5.83	1.80	1.18	1.73	Not Significant
Control group	5.77	5.43	1.55	1.48	0.90	Not Significant

**CHART 4.17.1: MEAN DIFFERENCE IN UNTROUBLED ADEQUACY  
VERSUS GUILT PRONENESS (FACTOR O) OF THE SAMPLE BEFORE  
AND AFTER TREATMENT**

(N=90)

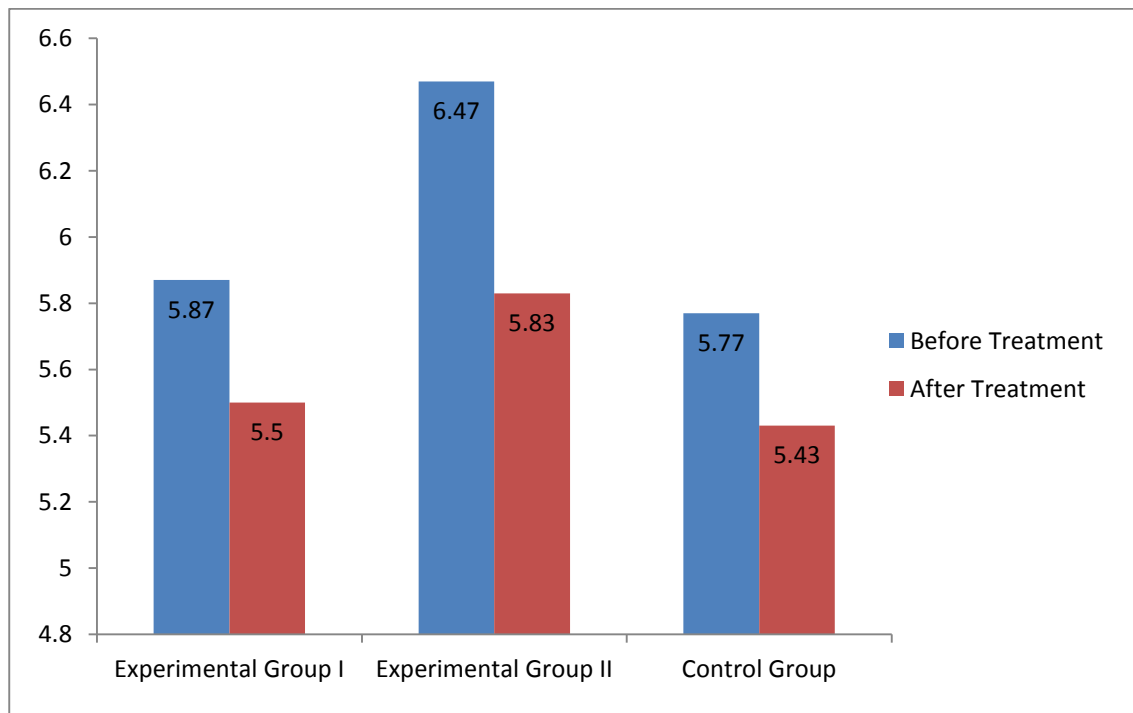


Table 4.17 and chart 4.17.1 show the mean difference in Untroubled adequacy (Self- assured) versus Guilt proneness - Factor O of the sample before and after treatment.

Treatment I: The mean value of the Experimental group I before Treatment I is 5.87, after Treatment I is 5.50 and t-value is 1.28 indicating no statistically significant difference pertaining to Factor O (Untroubled adequacy versus Guilt proneness).

Treatment II: The mean value of the Experimental group II before Treatment II is 6.47, after Treatment II is 5.83 and t-value is 1.73 indicating no statistically significant difference pertaining to Factor O (Untroubled adequacy versus Guilt proneness).

Nadisudhi pranayama and Gayatri mantra together and Gayatri mantra alone might enable the sample to mediate between the tendency to be self-confident and insecure, anxious and cheerful, serene and troubled, resilient and overcome by moods, insensitive to people's approval or disapproval and sensitive to other's approval and disapproval.

Pranayama or mantra intervention will facilitate untroubled adequacy of the self and keep away from developing guilt. This is likely only with elaboration of intervention.

Control group: The mean value of the Control group in the initial assessment is 5.77, final assessment is 5.43 and t-value is 0.90 indicating no statistically significant difference pertaining to Factor O (Untroubled adequacy versus Guilt proneness).

Hence, the Hypothesis 1: "Pre-adolescents in the Experimental group - I will differ significantly before and after Nadisuddhi pranayama and Gayatri mantra (Treatment I) with regard to Factor O" and the Hypothesis 2: "Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor O" are rejected but the Hypothesis 3: "Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor O" is accepted.

**TABLE 4.18: MEAN DIFFERENCE IN LOW SELF-SENTIMENT  
INTEGRATION VERSUS HIGH STRENGTH OF SELF- SENTIMENT  
(FACTOR Q3) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	6.60	7.30	1.45	0.92	2.25*	Significant
Experimental group II	5.30	5.13	1.97	1.68	0.43	Not Significant
Control group	6.63	5.57	1.27	1.55	4.29**	Significant

\*\*Significance at 0.01 level \*Significance at 0.05 level

**CHART 4.18.1: MEAN DIFFERENCE IN LOW SELF-SENTIMENT  
INTEGRATION VERSUS HIGH STRENGTH OF SELF- SENTIMENT  
(FACTOR Q3) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

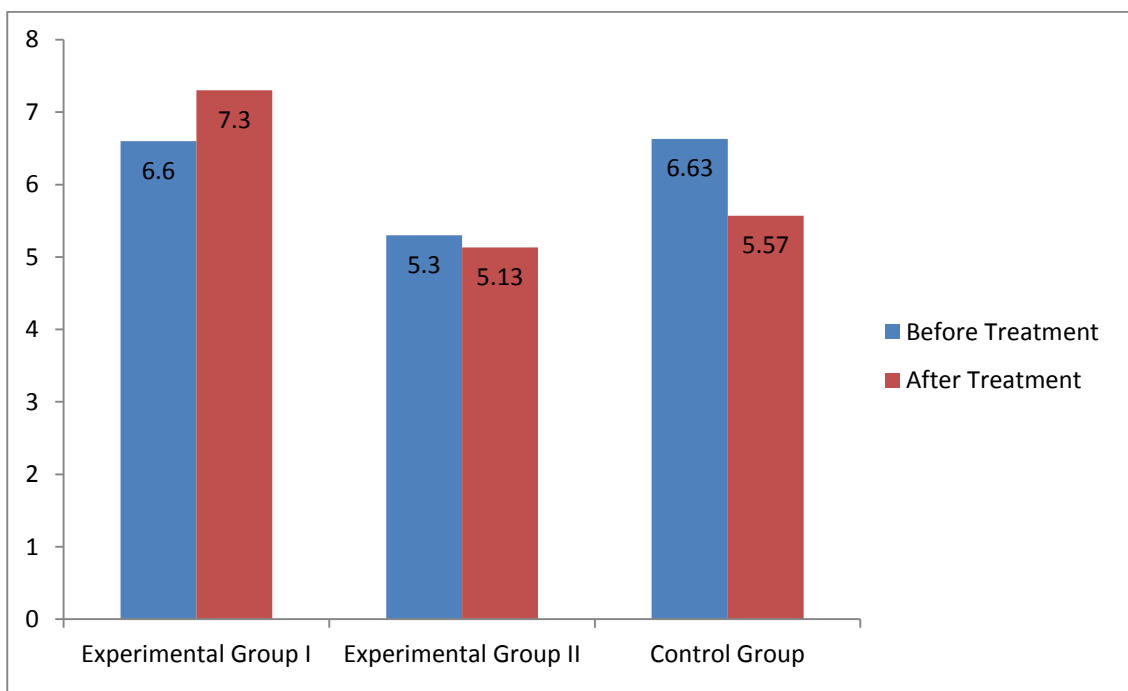


Table 4.18 and chart 4.18.1 show the mean difference in Low Self-Sentiment Integration (Self- conflict) versus High Strength of Self- Sentiment (High self-concept control) - Factor Q3 of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 6.60, after Treatment I is 7.30 and t-value is 2.25 indicating statistically significant difference at 0.05 level proving the efficacy of Treatment I (Nadisudhi pranayama and Gayatri mantra) pertaining to Factor Q3 (Low Self-Sentiment Integration versus High Strength of Self- Sentiment).

Nadisudhi pranayama and Gayatri mantra together is instrumental in helping the sample 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.

Gayatri mantra has unique sonic pattern that bring astonishing psychological and spiritual impacts. Personality is nothing more than the capacity of wielding the prana based on Indian psychology.

Participants in the Experimental group I displayed more obedience and valued rules of the family and the school. They also adhered to the road rules and realised the importance of the same. More easily they achieved expected standards of behaviour.

Treatment II: The mean value of the Experimental group - II before Treatment II is 5.30, after Treatment II is 5.13 and t-value is 0.43 indicating no statistically significant difference pertaining to Factor Q3 (Low Self-Sentiment Integration versus High Strength of Self- Sentiment).

Control group: The mean value of the Control group in the initial assessment is 6.63, final assessment is 5.57 and t-value is 4.29 indicating statistically significant difference at 0.01 level pertaining to Factor Q3 (Low Self-Sentiment Integration versus High Strength of Self- Sentiment).

In Control group, the sample tend 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 (with some reason, anxious insecurity).

The sample in the Control group disregarded the rules. If it all they followed rules it was because of the fear of punishment. They failed to achieve the expected standards of behaviour and invited trouble every now and then. These attributes posed difficulty in managing them.

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group - I will differ significantly before and after Nadiudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor Q3” is accepted ; the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor Q3” is rejected and the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor Q3” is rejected.

**Sudheer Deshpande, Nagendra H.R and Nagarathna .R (2009)** studied the effect of yoga on *Gunas* (personality) and Self-esteem in normal healthy volunteers. Of the one thousand two hundred and twenty eight persons who attended motivational lectures, two hundred and twenty six subjects aged eighteen to seventy one years, of both sexes were randomly allocated into two groups. The Yoga (Y) group practised an integrated yoga module that included *asanas*, *pranayama*, meditation, notional correction, and devotional sessions. The comparison group practised mild to moderate physical exercises (PE). Both groups had supervised practices for one hour daily, six days a week, for eight weeks. *Guna* (personality) was assessed before and after eight weeks using the self-administered questionnaires. The Gita Inventory of Personality (GIN) to assess *Sattva*, *Rajas*, and *Tamas*. Self-esteem in terms of competency (COM), global self-esteem (GSE), moral and self-esteem (MSE), social esteem (SET), family self-esteem (FSE), body and physical appearance (BPA), and the lie scale (LIS) were assessed using the self-esteem questionnaire (SEQ). The number of persons who showed improvement in *Sattva* and decrease in *Tamas* was significant in the Y but not in the PE group. The effect size for self-esteem in the Y group is greater than for the PE group in three out of seven domains.

This research review supports the present research in the effective use of yoga methods to enhance socially desirable personality traits.

**TABLE 4.19: MEAN DIFFERENCE IN LOW ERGIC TENSION VERSUS HIGH ERGIC TENSION (FACTOR Q4) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

Groups	Mean		Standard Deviation		t-value	Level of Significance
	Before Treatment	After Treatment	Before Treatment	After Treatment		
Experimental group I	2.17	2.10	1.18	1.21	0.25	Not Significant
Experimental group II	4.03	4.07	2.19	2.45	0.09	Not Significant
Control group	2.63	3.03	1.61	1.88	1.14	Not Significant

**CHART 4.19.1: MEAN DIFFERENCE IN LOW ERGIC TENSION VERSUS HIGH ERGIC TENSION (FACTOR Q4) OF THE SAMPLE BEFORE AND AFTER TREATMENT**

(N=90)

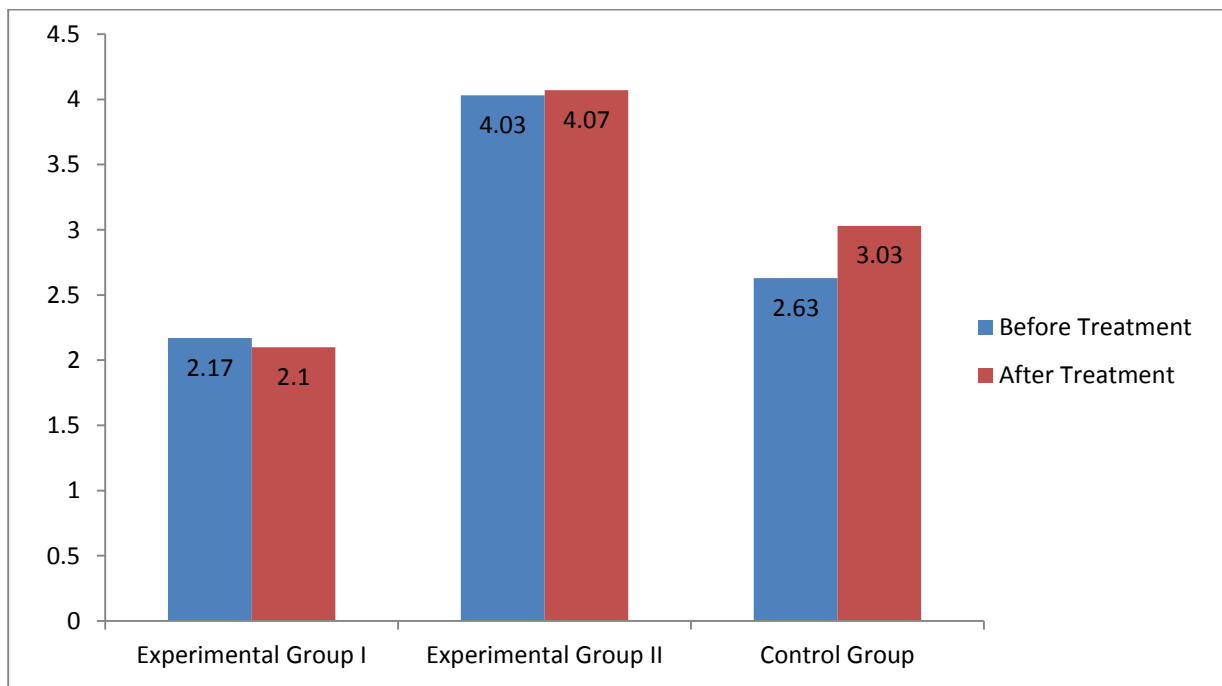


Table 4.19 and chart 4.19.1 show the mean difference in Low Ergic Tension (Relaxed) versus High Ergic Tension (Tense) - Factor Q4 of the sample before and after treatment.

Treatment I: The mean value of the Experimental group - I before Treatment I is 2.17, after Treatment I is 2.1 and t-value is 0.25 indicating no statistically significant difference pertaining to Factor Q4 (Low Ergic Tension versus High Ergic Tension).

Treatment II: The mean value of the Experimental group - II before Treatment II is 4.03, after Treatment II is 4.07 and t-value is 0.09 indicating no statistically significant difference pertaining to Factor Q4 (Low Ergic Tension versus High Ergic Tension).

Nadisudhi pranayama and Gayatri mantra together and Gayatri mantra alone might increase the tendency of sample to be relaxed, tranquil, torpid, unfrustrated, remain composed provided the intervention time is increased.

Humans generally yearn for tranquillity of mind which is possible with regulated breathing practices and mantric resonance.

Control group: The mean value of Control group in the initial assessment is 2.63, final assessment is 3.03 and t-value is 1.14 indicating no statistically significant difference in the Control group pertaining to Factor Q4 (Low Ergic Tension versus High Ergic Tension).

Hence, the Hypothesis 1: “Pre-adolescents in the Experimental group- I will differ significantly before and after Nadisudhi pranayama and Gayatri mantra (Treatment I) with regard to Factor Q4”;and the Hypothesis 2: “Pre-adolescents in the Experimental group - II will differ significantly before and after Gayatri mantra (Treatment II) with regard to Factor Q4” are rejected but the Hypothesis 3: “Pre-adolescents in the Control group will not differ significantly in the initial and final assessment with regard to Factor Q4” is accepted.

**MeenaVenkatesh (2005)** The assessed the effect of yoga on the personality development of students and the effect of yoga practices on the muscle strength, dexterity, primary mental functions, emotional and behavioral aspects and the

intellectual abilities of the students. Four hundred and three, children participated in this study. Students were randomly assigned to the 'Yoga' group and the 'Control' group. The 'yoga' groups were given yoga training for forty five minutes, five days a week for one academic year. All the groups were assessed at the beginning and at the end of the academic year by administering the Personality Inventory, the school and Home Inventories, Anxiety test and EQ quiz to assess the emotional and behavioral development, the Concentration and structure of Intellect abilities tests to assess the primary mental functions and intellectual development. Results revealed significant increases in Confidence, Self-sufficiency, Mental Health, Creativity, Concentration, Memory and Intellectual abilities of students who practiced yoga. Findings also revealed significant reduction in Neurotic Tendency, General anxiety, Physiological anxiety and sleep disturbance in the Yoga group. The results suggest that regular practice of yoga techniques had a beneficial effect on the development of personality on the physical, mental, emotional and intellectual levels of students of the present study, yoga techniques may prove to be an effective means for producing positive personality growth in adolescent students.

The research reviewed; indicates the need for more time of intervention and as of now it contradicts the findings of the present research by showing that Indian psychology interventions are effective in reducing anxiety.

In brief, both Treatment I (Nadisudhi pranayama and Gayatri mantra together) and Treatment II (Gayatri mantra alone) showed significant difference in the sample tending towards affectothymia (warm-heartedness), improved intellectual capacities and development of conscientiousness. Treatment I enables high self-concept control. In the Control group, sample are likely to be emotionally unstable, get excited or grow sober, become tough-minded and dwell in self-conflict.