CHAPTER- IV

RESULTS AND DISCUSSION

RESULTS AND DISCUSSION

A study on, 'Management of stress and enhancement of self-efficacy in adolescents through Positive Therapy' was conducted in Good Shepherd International School, Ooty, Tamilnadu. Out of the 200 students screened using Case Study Schedule, Stress Inventory and Self-efficacy Scale (Assessment I), 150 students,75 boys and 75 girls with 'Very High'/ 'High' stress and 'Low' self-efficacy were selected to serve as the sample. There were 39 boys and 34 girls from X standard and 36 boys and 41 girls from XII standard. The sample was in the age range of 15 to 20 years. Boys and girls were matched in age, family income, type of family and level of stress and self-efficacy.

The psychological intervention called, Positive Therapy (Hemalatha Natesan, 2004) was given to the entire sample thrice a week, on alternate days, for eight weeks. On the whole, 24 sessions were given all the subjects were re-assessed using the same tools twice, i.e., 4 weeks after the therapy (Assessment II) and 8 weeks after the therapy (Assessment III). The results of the study are analysed, tabulated and discussed below.

TABLE I

Causes of Stress of the Entire Sample Before and After Treatment

N=150

Cause of Stress	Before Treatment		After Treatment			
	Assessment I		Assessment II		Assessment III	
	N	%	N	%	N	%
Heavy academic work pressure	150	100	80	53	50	33
Strict rules and regulations	150	100	90	60	49	33
Poor concentration	147	98	89	59	52	35
Peer group pressure	145	97	95	63	45	30
Inadequate place for study	140	93	93	62	39	26
Sickness	128	85	87	58	31	21
Distraction	128	85	75	50	37	25
Class tests	109	73	66	44	33	22
Family problems	103	69	79	53	34	23

(Percentages are rounded off)

In the study by Govaerts and Gregoire (2004) on the role of the cognitive appraisal processes and the relationships with academic stress experienced by adolescents, a sample of 100 adolescents had reported 145 academic stressful situations.

Kouzma and Kennedy (2004), found that the main sources of stress reported by 423 Australian final-year high school students using the Academic Stress Questionnaire were school-related, as expected. The highest sources of stress were, examinations and outcomes, too much to do, worry over future, making choices about career, studying for examinations, amount to learn, need to do well imposed by others and self-imposed to do well.

In the present study, the sample had reported 25 causes of stress, out of which, those reported by more than 60% have been presented in Table I. As there was not much difference between boys and girls, with regard to the causes of stress, the entire sample has been taken together. All the students have reported that they experience stress due to heavy academic work pressure. Probably, this is due to the different curriculum that the students have to undergo, such as Indian School Certificate, Advanced International Cambridge Examination and International Baccalaureate, which are all quite difficult.

In every institution, there will be rules and regulations to maintain discipline and order but the entire sample of this study have high stress, as they perceive the rules and regulations to be too strict and difficult to follow. For instance, the dress code is the same throughout the year, irrespective of the seasons; wearing sweaters in summer causes unnecessary stress.

Poor concentration and peer group pressure are reported by most of the sample, as their classmates don't allow them to concentrate on their studies and keep disturbing them during the study hours. The sample perceives inadequate

place for study to cause stress, as they cannot move around as they please, while studying. Sicknesses such as headache, stomachache, body pain etc. were reported by many of the sample. These were somatic symptoms caused due to stress.

Distraction is one of the most important problems of adolescents. As the sample belongs to adolescence, there are various factors that can cause distraction such as attraction towards opposite sex, insecure feelings, pre-occupation with thoughts about home etc. that caused stress.

Many of the subjects has reported class tests to cause of stress, as they have too many co-curricular activities such as sports, dramatics, inter-house competitions such as recitations, arts, dance etc., which interfered with their studying for class tests. Family problems also caused stress as quite a few students came from broken homes and had single parent and some were from families with severe conflicts.

It is interesting to note that after the subjects underwent Positive Therapy for 4 weeks, there was a reduction in the percentage of subjects reporting stress due to the same causes. The percentage reduced further to a great extent, after 8 weeks of the therapy. Initially, the entire sample (100%) had reported heavy academic work pressure and strict rules and regulations as the causes of stress. Whereas only 33% had reported these factors to be causing stress after undergoing Positive Therapy for 8 weeks. Similarly, poor concentration (98%), peer group pressure (97%) inadequate place for study (93%) were reported by only 35%, 30% and 26% respectively at the end of the therapy. Other factors such as sickness

(85%), distraction (85%), class test (73%) and family problems (69%) were also reported by less than 25%. All these clearly indicate the beneficial effects of Positive Therapy. In fact, all these factors continued to remain the same but the perception of the subjects towards these factors was modified through Positive Therapy. Hence, many of them did not perceive these factors as causing stress after undergoing Positive Therapy for 8 weeks. Probably if the Therapy were given for a longer period, it would have benefited the entire sample.

FIGURE I

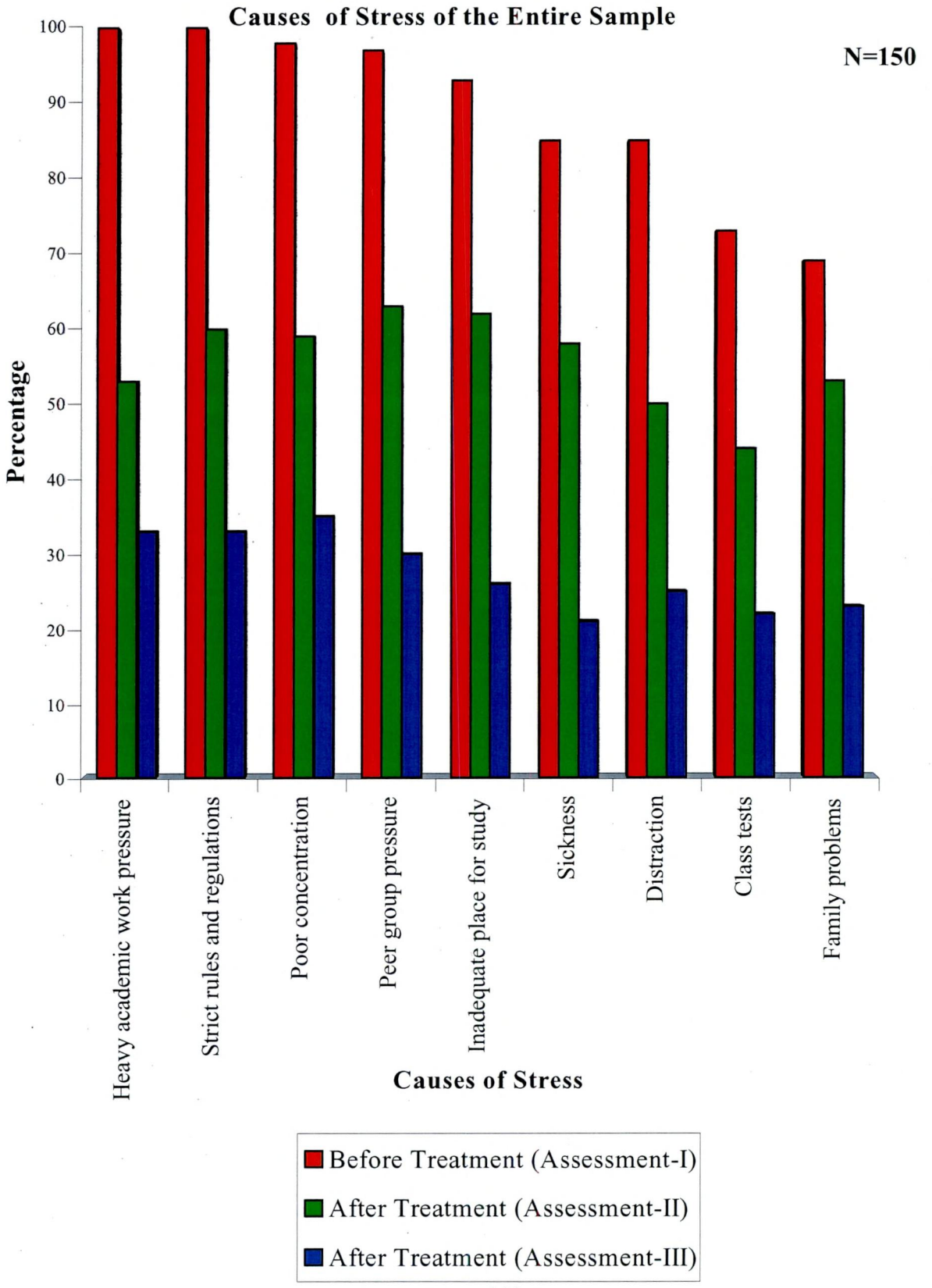

Causes of Stress of the Entire Sample
N=150
Percentage
100
90
80
70
60
50
40
30
20
10
0
Heavy academic work pressure
Strict rules and regulations
Poor concentration
Peer group pressure
Inadequate place for study
Sickness
Distraction
Class tests
Family problems
Causes of Stress
Before Treatment (Assessment-I)
After Treatment (Assessment-II)
After Treatment (Assessment-III)

TABLE II

Symptoms of the Entire Sample Before and After Treatment

N=150

Symptoms	Before Treatment		After Treatment			
	Assessment I		Assessment II		Assessment III	
	N	%	N	%	N	%
Head ache	142	95	102	68	70	47
Irritability	136	91	99	66	65	44
Worry	130	87	103	69	53	36
Indecisiveness	128	86	97	65	54	36
Preoccupation	124	83	106	71	65	44
Fatigue	123	82	92	62	41	27
Forgetfulness	121	81	94	63	51	34

(Percentages are rounded off)

Kenny et al (2005) conducted a study on, 'influence of social support by parents and peers on physical complaints in students'. On the average, female adolescents reported physical symptoms to a greater extent than did male adolescents. Confronted with school specific stressors, girls showed a greater willingness to make use of peer group support.

Table II shows the symptoms experienced by the subjects, who were adolescents. As the symptoms were almost similar in boys and girls, the entire

group has been taken together. Initially, headache, irritability, worry, indecisiveness, preoccupation, fatigue and forgetfulness were the symptoms experienced by most of the sample (Above 80%). These were probably due to the academic work pressure and the inability to cope with other co-curricular activities and competitions, which were compulsory. The innumerable rules and regulations of the residential school made them retaliate in the form of irritability.

Being in a residential school, many children were preoccupied with thoughts of home and family. Their age, as adolescents, led to interest in the opposite sex. These led to pre-occupation and forgetfulness, which caused worries about the exams and their future. As some of the students did not have intrinsic motivation to do any activity, it resulted in fatigue. Further, all of them had to begin the day very early with athletic and band practices, which caused fatigue, as these were practised with disinterest.

In this connection, it is interesting to note that Murberg and Bru (2006) who investigated the role of neuroticism and perceived school-related stress in somatic symptoms among a sample of 327 students (167 female and 160 male) in two Norwegian Junior high schools, found that both neuroticism and perceived school related stress were found to be significantly associated with somatic symptoms. They suggest that the role of neuroticism on somatic symptoms may be overestimated and that the role of stress may be underestimated if neuroticism, stress and somatic symptoms are measured at the same time.

Initially, most of the subjects (81-95%) had reported of experiencing various symptoms. But after undergoing Positive Therapy for 4 weeks, 62-71% reported the symptoms where as after 8 weeks, only 27 to 47 % continued to have the symptoms.

Autosuggestion helped to instil positive personality traits, such as, courage, confidence, cheerfulness, optimism, etc. thereby enabling them to get rid of their symptoms such as indecisiveness and worry. **Relaxation Therapy** helped to relax the whole body and brain, removing headache, fatigue and irritability in most of the sample. As the focus is on the breathing, unwanted thoughts are eliminated helping the subjects to relax and avoid preoccupation and worry. **Deep breathing practice** improve attention, concentration, thinking, reasoning and memory, thereby removing forgetfulness.

Torsheim and Wold (2001) studied school related stress, support and subjective health complaints among 1585 Norwegian Grade VIII students from 82 schools. Tests of cross level interaction showed statistically significant interaction between mean school class level of classmate support and individual level of academic stress. Findings suggest that shared school class contextual factors may have main and stress moderating effects on adolescent health complaints.

FIGURE II

Symptoms of the Entire Sample

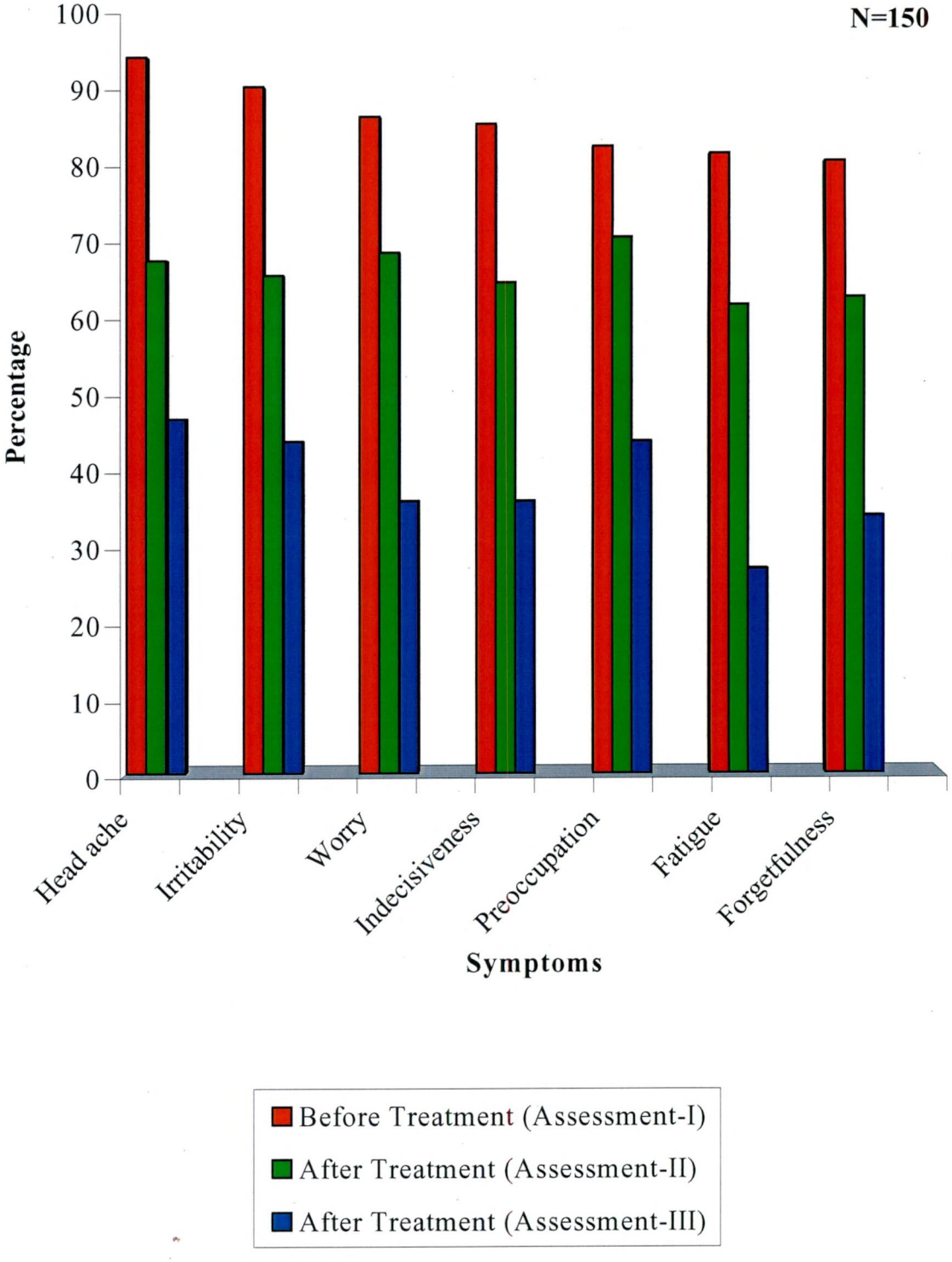


TABLE III

Level of Stress of the Entire Sample Before and After Treatment

N=150

Stress	Before Treatment		After Treatment			
	Assessment I		Assessment II		Assessment III	
	N	%	N	%	N	%
Very High	142	95	0	0	0	0
High	8	5	130	87	0	0
Moderate	0	0	20	13	0	0
Low	0	0	0	0	150	100

(Percentages are rounded off)

It is alarming to note from Table III that initially, 95% of the sample, irrespective of the gender had 'Very High' stress and the remaining 5% had 'High' stress. Hence the null hypothesis, 'The level of stress in adolescents is not high' is rejected. As discussed under Table-I, various factors had led to high or very high stress in the sample, resulting in various symptoms, as revealed in Table-II. It is amazing to find that as a result of Positive Therapy, the stress level of the of the sample had reduced from 'Very High' to 'High' in most of the subjects in Assessment II and to 'Low' in Assessment III, in all the subjects. Hence the null hypothesis, 'Positive Therapy has no effect in the management of stress in adolescents' is rejected.

According to Positive Therapy, stress is due to one's perception of the situation rather than the situation per se. Thus by helping the subjects develop a positive and realistic perception towards issues such as academic work, rules and regulations, place for study, class tests and family problems, it was possible to modify their negative perception, thereby removing their negative thoughts, beliefs, emotions and behaviour.

Fok and Wung (2006) conducted a study to enhance positive behaviour in early adolescents to help them cope with stress. A school-based project was implemented using focus group interviews, an open forum and follow up interviews and journals. The objectives were to identify the stressors encountered by the students and their ability to cope, to develop and implement an educational activity to promote positive coping. The findings support the view that an early prevention programme for promoting positive coping behaviour to adolescents is useful.

FIGURE III

Level of Stress of the Entire Sample

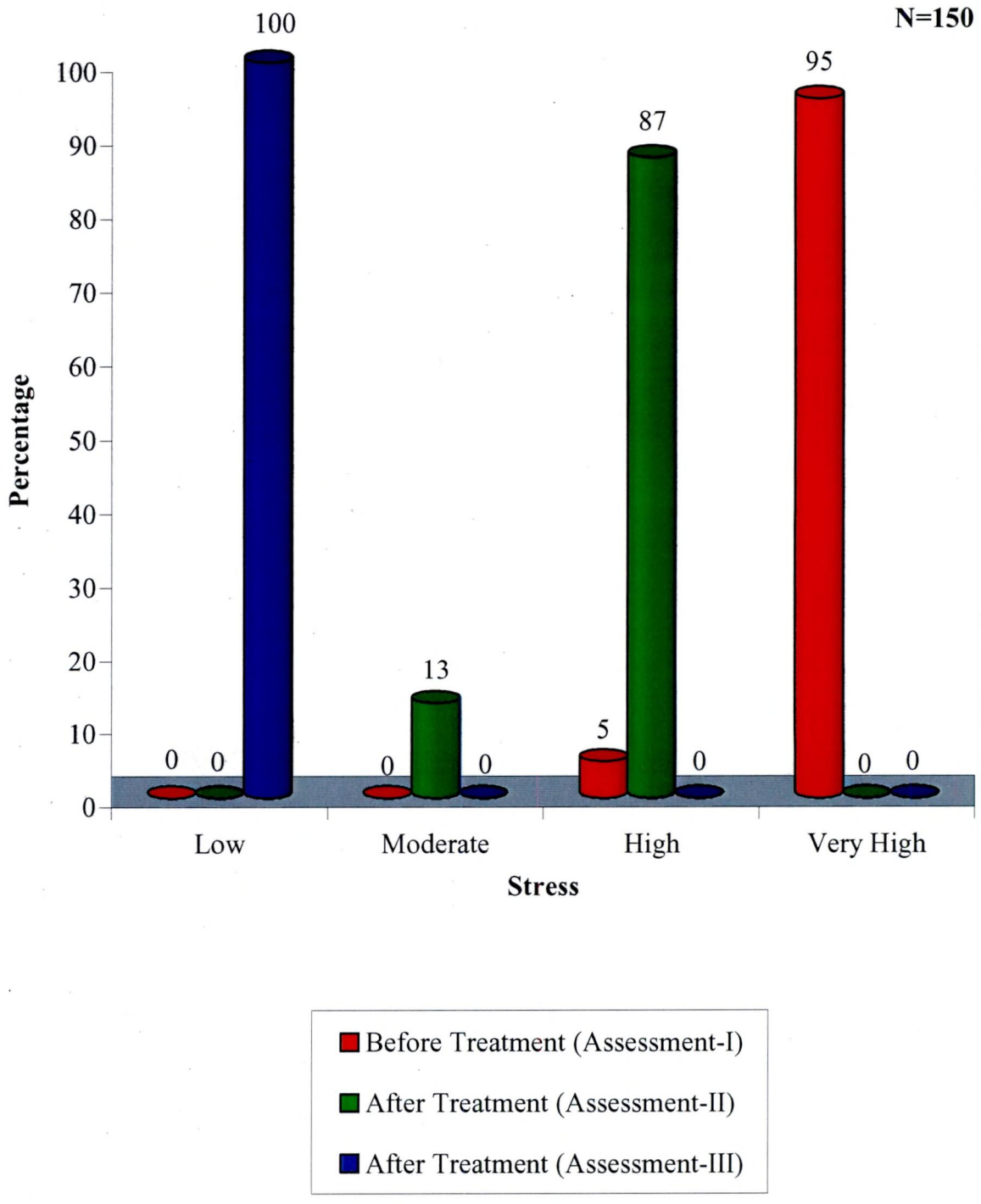


TABLE IV

Level of Self-efficacy of the Entire Sample

N=150

Self-efficacy	Before Treatment		After Treatment			
	Assessment I		Assessment II		Assessment III	
	N	%	N	%	N	%
Low	150	100	0	0	0	0
Moderate	0	0	150	100	0	0
High	0	0	0	0	150	100

(Percentages are rounded off)

The students of today are the citizens of tomorrow. To quote His Excellency, Abdul Kalam (2004), the President of India, "India is a nation of billion people; a nation's progress depends upon how its people think. It is thoughts, which are transformed into actions. India has to think as a nation of a billion people. Let the young minds blossom with thoughts of prosperity". Even the ancient Tamil Literature Thirukural, says, "If those who think can achieve have a firm and focused mind, they will realize what they thought of" .

Self-efficacy refers to people's belief that they can succeed at something they want to do (Sarafino, 2002). High self-efficacy is essential to achieve one's goal. It is unfortunate that the entire sample had low self-efficacy in Assessment I

as shown in Table IV. Hence, the null hypothesis, 'The level of self-efficacy in adolescents is not low' is rejected.

The low self-efficacy in the sample is probably due to their negative perception of themselves and due to the negative feedback they get from some of the teachers, parents, relatives and friends. Poor Academic performance and low marks scored in tests, followed by punishments, lowered their self-efficacy further. Being in a residential school, having interaction with their peer group most of the time, the students get influenced by the others. Thus, low self-efficacy in one leads to low self-efficacy in others. Hence, the entire sample had low self-efficacy, inspite of having a very strong financial background.

Some of the negative recurring thoughts of the subjects, indicative of their low self-efficacy, were as follows.

"I cannot perform well in the exams"

"I cannot do anything properly"

"I cannot remember anything"

"I am a failure"

It is interesting to note that after the administration of Positive Therapy for 4 weeks, the self-efficacy of the entire sample shifted to 'Moderate' level and to a 'High' level after 8 weeks of Positive Therapy. This is highly amazing and appreciable. Appealing to their reason using Rational Emotive Therapy and Thought stopping helped to remove their negative thoughts. Autosuggestion under relaxed state involving positive statements such as,

"I am bold and confident"

"I can achieve what I want"

"I am a successful person" helped to instil positive thoughts. Cognitive Restructuring reinforced the positive thoughts, thereby enhancing their self-efficacy.

FIGURE IV

Level of Self-efficacy of the Entire Sample

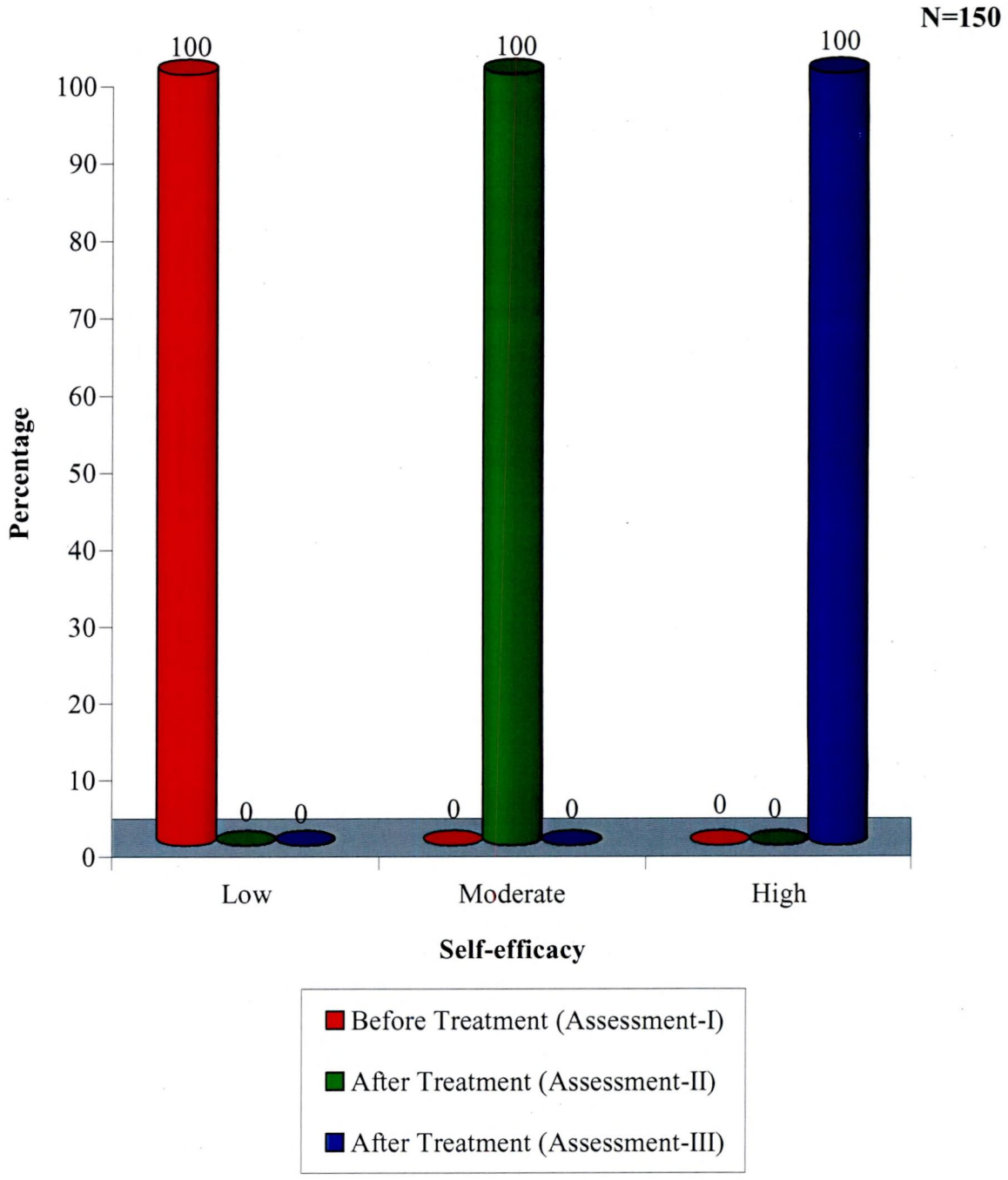


TABLE V

Academic Achievement of the Entire Sample

N=150

Marks in Percentage	Before Treatment		After Treatment			
	Assessment I		Assessment II		Assessment III	
	N	%	N	%	N	%
Less than 50	83	56	82	55	67	45
50 – 59	19	13	15	10	18	12
60 – 69	14	9	14	9	24	16
70 – 79	15	10	17	11	12	8
80 and above	19	13	22	15	29	19

(Percentages are rounded off)

The marks of the sample in Monthly Tests I, II and III were converted into percentages and were taken for Academic Achievement Assessments I, II and III respectively. It is rather surprising to find from Table V that majority of the subjects had very low academic achievement (less than 50%) and very few (13%) had high academic achievement (above 80%). Hence the null Hypothesis, 'The level of academic achievement in adolescents is not low' is rejected. The possible reasons for the poor academic achievement of the sample may be strict valuation

by the teachers to make them perform better and better; too heavy curriculum and enormous portions for every monthly test, inadequate time for study due to co-curricular and extra curricular activities, distraction due to their age as adolescents and lack of motivation to study, as most of them came from upper socio-economic group.

Anyway, there was improvement in the academic achievement of the sample after the administration of Positive Therapy. Hence the null hypothesis, 'Positive Therapy has no influence on the academic achievement of adolescents'. Kiselica et al (2002) conducted a study on the effectiveness of a preventive stress inoculation programme for adolescents that consist of a blend of progressive muscle relaxation, cognitive restructuring and assertiveness training. Trainees were compared with an empirically derived control group on measures of anxiety, stress and academic performance. Compared with controls, the training programme participants showed significantly greater improvements on self-report measures of trait anxiety and stress-related symptoms at post-test. These improvements were maintained at a 4 week follow-up assessment. Any way, there were no significant differences between the two groups in academic achievement at either post-test or follow-up. This study contradicts the findings of the present research.

FIGURE V

Level of Academic Achievement of the Entire Sample

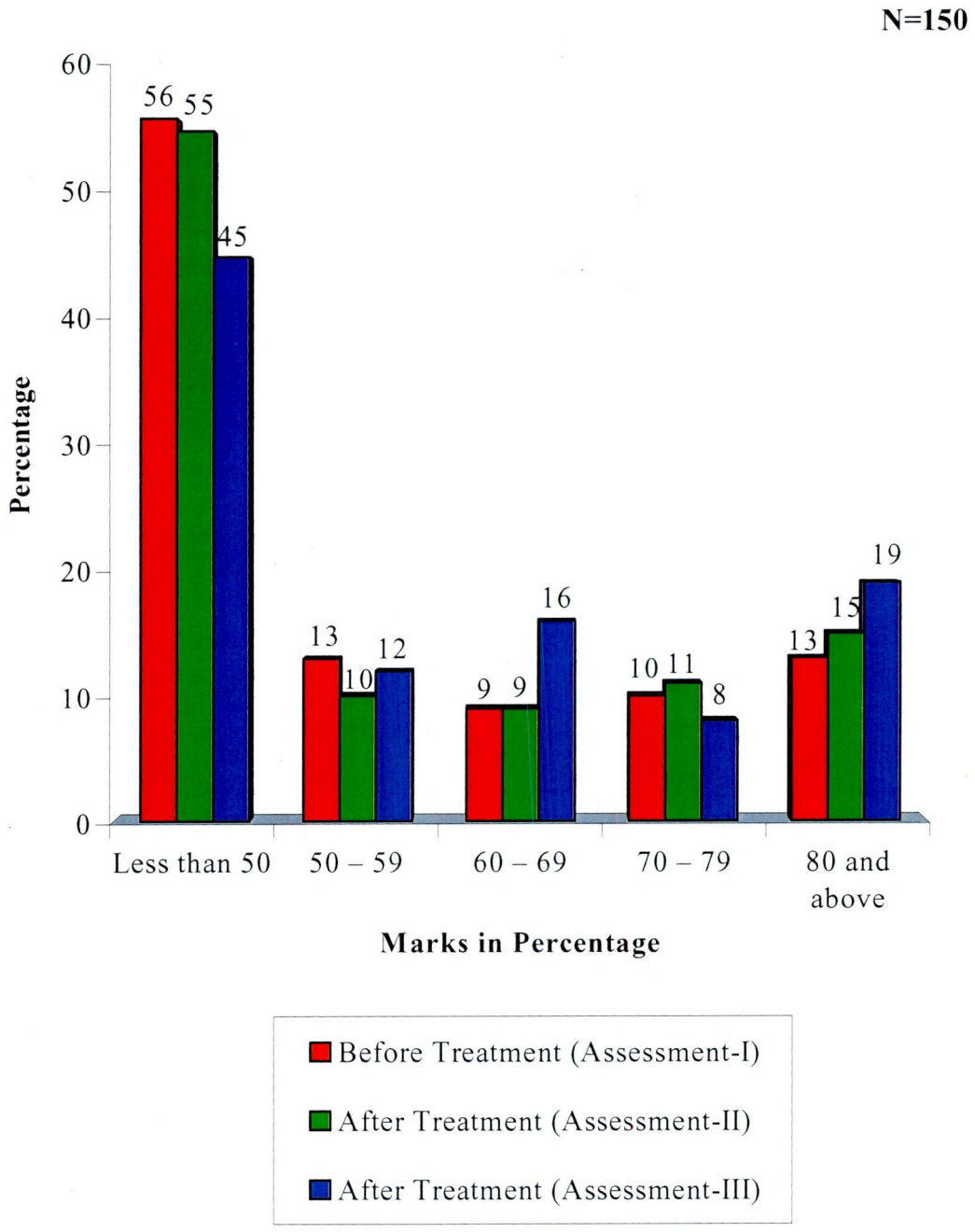


TABLE VI

Correlation between Stress, Self-efficacy and Academic Achievement

N=150

Variable	Mean	Standard Deviation	Correlation	Level of Significance
Stress	38.65	6.21	0.14	NS
Self-efficacy	14.12	2.80		
Stress	38.65	6.21	0.14	NS
Academic Achievement	48.20	23.39		
Self-efficacy	14.12	2.80	0.03	NS
Academic Achievement	48.20	23.39		

NS-Not Significant

Table VI reveals that correlation between stress and self-efficacy, stress and academic achievement and self-efficacy and academic achievement are low and not significant. Though all the subjects had high stress, they varied in their academic achievement. Similarly though all of them had low self-efficacy they did differ in their academic achievement. Probably, this is the reason for the low

correlation between variables. Hence, the following three null hypotheses, 'There is no relationship between stress and self-efficacy', 'There is no relationship between stress and academic achievement' and 'There is no relationship between self-efficacy and academic achievement' are accepted.

Catheline (2005) conducted a study on academic problems and school failure in adolescence. Success at school increases self-esteem. Any difficulty will have consequential effects on the psychological health of the subject. The conditions now prevailing in the educational system oblige the teenager to submit to teaching methods and to the school system. School can reveal the subject's personal problems such as anxiety, phobia or depression but may equally create pathology by not recognising the heterogeneity of individual development and differences in cognitive functioning. In adolescence, anything that may hinder its stability can create behavioural problems such as instability, aggressiveness, inhibition or problems of thought such as anxiety and difficulties in abstraction. This may lead to lack of motivation and school disengagement, which in turn, will lead to the breakdown of the ego.

TABLE VII

Significance of Difference between Mean Stress

Before Treatment (Assessment I) and After Treatment (Assessments II &III)

	Assessment	Mean	Standard Deviation	Mean Difference	CR
Boys (75)	I	37.55	5.97	14.25	18.77**
	II	23.29	3.94		
	II	23.29	3.94	17.68	33.47 **
	III	5.61	2.27		
	I	37.55	5.97	31.93	41.32**
	III	5.61	2.27		
Girls (75)	I	39.76	6.29	15.60	25.06**
	II	24.16	4.77		
	II	24.16	4.77	17.17	34.23**
	III	6.99	1.86		
	I	39.76	6.29	32.77	47.95**
	III	6.99	1.86		
Entire Sample (150)	I	38.65	6.21	14.92	30.31**
	II	23.72	4.38		
	II	23.72	4.38	17.42	47.92 **
	III	6.30	2.18		
	I	38.65	6.21	32.35	62.78**
	III	6.30	2.18		

** Significant at 0.1 level

It is alarming to note from Table VII that the mean stress for boys, girls and the entire sample was high before treatment (Assessment I). But after the administration of Positive Therapy, the mean stress came down to some extent in

Assessment II and to a great extent in Assessment III. The mean differences between the different assessments are statistically significant at 0.01 level for all the three groups namely boys, girls and the entire sample.

These results clearly prove the efficacy of Positive Therapy in the management of stress in the sample. Hence the null hypothesis, 'Positive Therapy has no effect in the management of stress in adolescents' is rejected. Relaxation Therapy helped the sample to relax their body from head to foot. Rational Emotive Therapy and Cognitive Restructuring helped to change their negative cognitions. Tension releasing exercise helped to remove their tension, fear, anger, anxiety and worries. Smile and Laugh Therapy facilitated a cheerful state. The entire sample enjoyed practising 'Laugh Therapy' and reported that they felt very cheerful and happy after practising it.

In this connection, Kraag et al (2006), based on their study on children and adolescents, concluded that school programmes targeting stress management or coping skills are effective in reducing stress symptoms and enhancing coping skills.

FIGURE VI

Mean Stress of the Sample Before and After Treatment

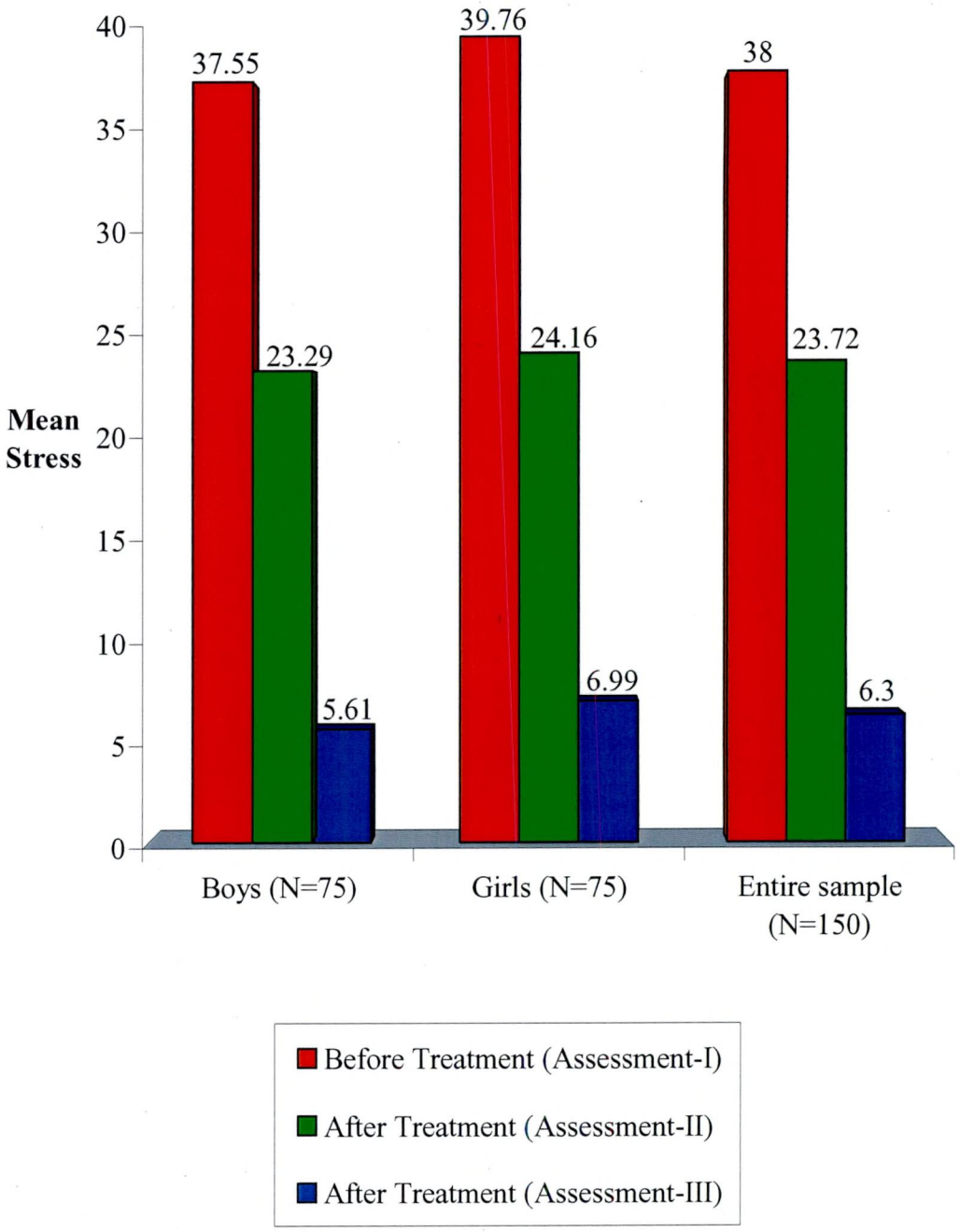


TABLE VIII

Significance of Difference between Mean Self-efficacy

Before Treatment (Assessment I) and After Treatment (Assessments II &III)

	Assessment	Mean	Standard Deviation	Mean Difference	CR
Boys (75)	I	14.57	2.65	9.83	21.39**
	II	24.40	2.97		
	II	24.40	2.97	10.33	20.63**
	III	34.73	3.16		
	I	14.57	2.65	20.16	42.33**
	III	34.73	3.16		
Girls (75)	I	13.67	2.89	10.06	21.13**
	II	23.73	2.94		
	II	23.73	2.94	13.07	30.88**
	III	36.80	2.19		
	I	13.67	2.89	23.21	55.24**
	III	36.80	2.19		
Entire Sample (150)	I	14.12	2.79	9.95	29.93**
	II	24.06	2.96		
	II	24.06	2.96	11.74	34.64**
	III	35.8	2.91		
	I	14.12	2.79	2.91	65.86**
	III	35.8	2.91		

**Significance at 0.01 level

"We are what we think,

All that we are,

Arises with our thoughts;

With our thoughts,

We make our world"- Buddha.

Earlier studies by Bandura et al (1985) had revealed that those with strong self-efficacy had less psychological and physiological strain when engaged in a stressful activity than do those with a weak sense of self-efficacy.

It is interesting to note from Table VIII that the mean self-efficacy of boys, girls and the entire sample, which was 'Low' before treatment (Assessment I) improved to a 'Moderate' level after treatment for 4 weeks (Assessment II) and to a 'High' level after treatment for 8 weeks (Assessment III). There is a significant mean difference between the different assessments. This is true for boys, girls and the entire sample. Enhancement of self-efficacy was made possible with the help of Positive Therapy. Hence the null hypothesis, 'Positive Therapy has no influence on the enhancement of self-efficacy of adolescents' is rejected.

Dishman et al (2004) conducted a study on the effect of a school-based physical activity intervention to enhance self-efficacy in adolescent girls. The intervention had direct effects on self-efficacy and the results encouraged the use of self-efficacy as a targeted, to increase physical activity among girls. this study supports the findings of the present research.

FIGURE VII

Mean Self-efficacy of the Sample Before and After Treatment

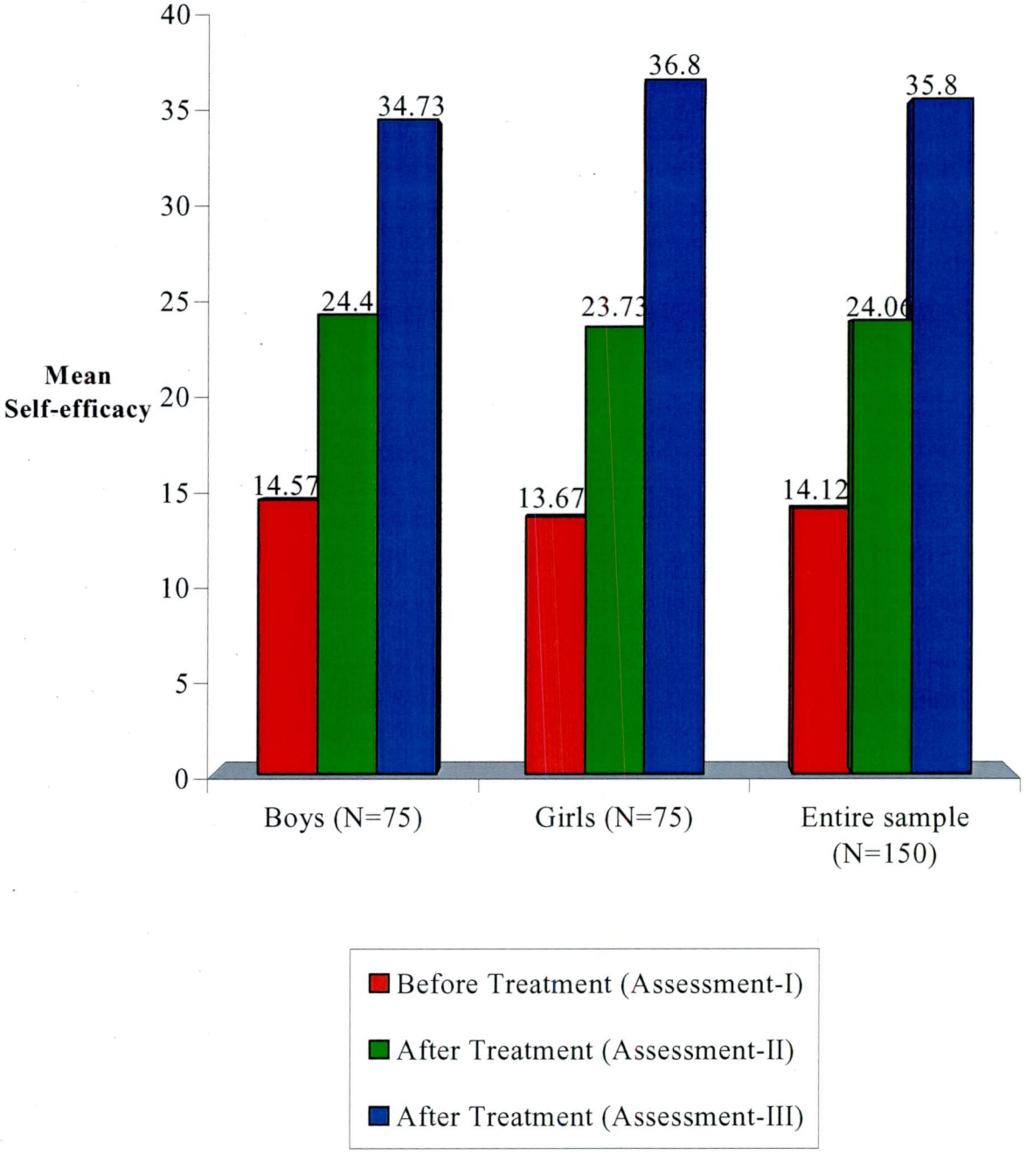


TABLE IX

Significance of Difference between Mean Academic Achievement Before Treatment (Assessment I) and After Treatment (Assessments II &III)

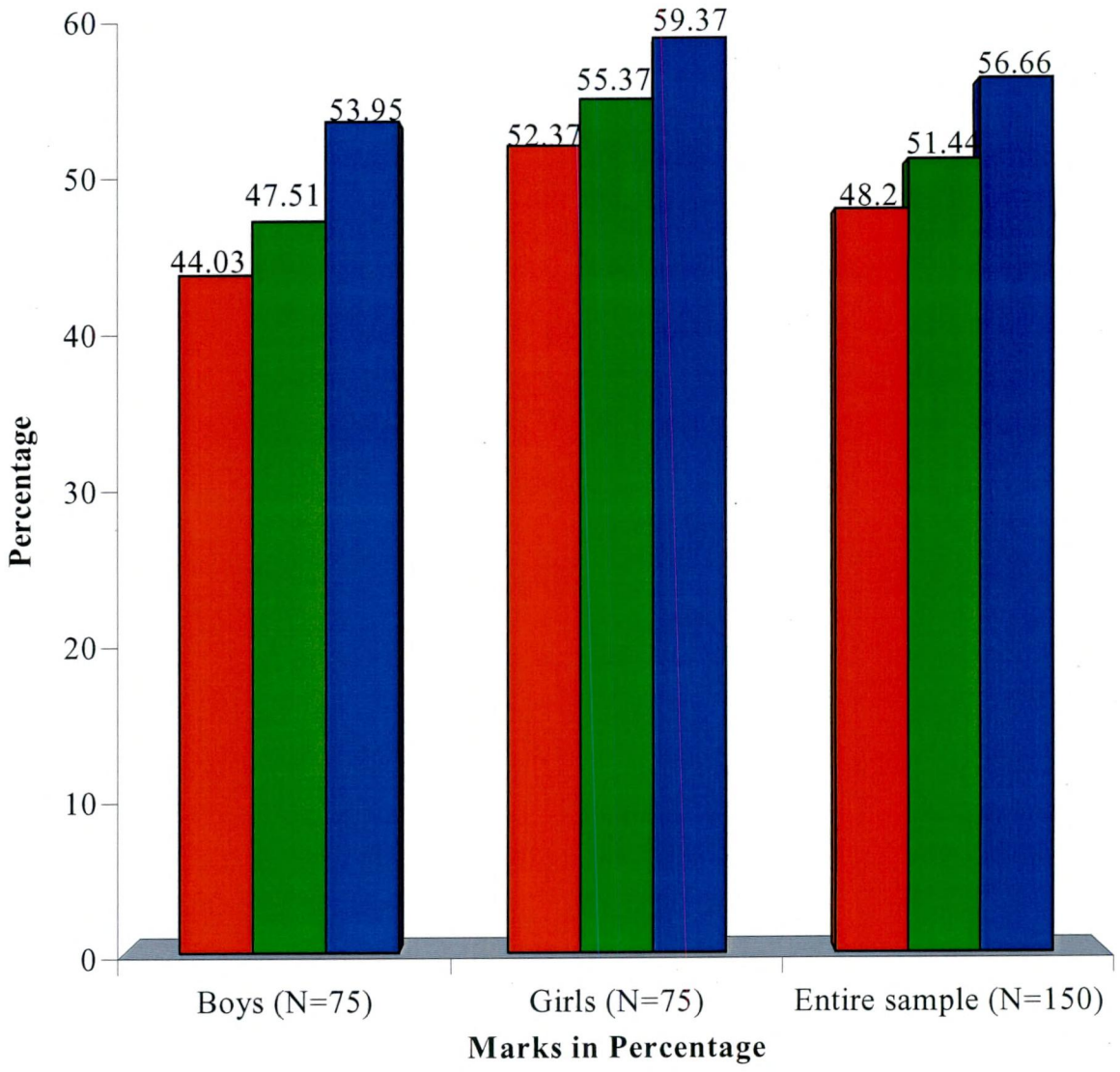
	Assessment	Mean	Standard Deviation	Mean Difference	CR
Boys (75)	I	44.03	21.11	3.48	1.03**
	II	47.51	20.24		
	II	47.51	20.24	6.44	2.03**
	III	53.95	18.67		
	I	44.03	21.11	9.92	3.05**
	III	53.95	18.67		
Girls (75)	I	52.37	24.91	3.00	0.75**
	II	55.37	24.32		
	II	55.37	24.32	4.00	1.02**
	III	59.37	23.68		
	I	52.37	24.91	7.00	1.76**
	III	59.37	23.68		
Entire Sample (150)	I	48.20	23.39	3.24	1.22**
	II	51.44	22.65		
	II	51.44	22.65	5.22	2.06**
	III	56.66	21.43		
	I	48.20	23.39	8.46	3.25**
	III	56.66	21.43		

**Significant at 0.01 level

* Significant at 0.05 level

FIGURE VIII

Mean Academic Achievement of the Sample Before and After Treatment



There has been a steady improvement in the mean academic achievement of boys, girls as well as the entire sample, after the administration of Positive Therapy as revealed by Table IX. The mean academic achievement of boys is lower than that of girls in all the three assessments. There is a statistically significant mean difference in academic achievements between the three assessments, for boys and for girls, the entire sample.

Anyway the mean difference in academic achievement between assessments I, II, and III are not statistically significant for girls. The mean difference in academic achieve between the I and II assessment are not significant in all the three groups. Anyway between the II and III assessments, the mean difference is significant at 0.05 level for boys and for the entire sample and between the I and III assessments it is significant at 0.01 level for boys and for the entire sample. For girls though the mean has increases from I assessment to the other assessments, there has been no statistical significance.

Individual counselling revealed that on the whole the subjects were not motivated to study, they lacked ambition and goal in life. Further as they were from high socio economic status and were either foreigners or NRI, they took it for granted that their parents could buy seats for them in professional courses.

Enhancement of academic achievement can be attributed to the techniques of Positive Therapy. Deep Breathing Practice helped to improve their concentration, attention and memory; Relaxation Therapy made them calm and

relaxed, which facilitated clear thinking and reasoning; Autosuggestion such as, "I am Intelligent"., "I can score high marks etc helped to instil positive thinking and boosted their ego. Thought stopping helped to remove negative thoughts and cognitive restructuring helped to strengthen positive ones. Behavioural Assignments helped to develop study skills. All these resulted in improved academic achievement, which clearly prove the influence of Positive Therapy on the academic achievement of the sample. Therefore, the null hypothesis, 'Positive Therapy has no influence on the academic achievement of adolescents' is rejected.

In the study conducted by Natesan and Easo (2004) on enhancement of self-concept and academic achievement and management of anxiety in X standard students through Positive Therapy, the sample (N=60) had low academic achievement before treatment (M=47.80) but after the administration of Positive Therapy, the mean academic achievement had increased to 60.80. On the contrary, the control group (without the treatment) showed poorer performance in the second test.

Singh and Broota (1995) in their research on, 'Effectiveness of study skills counselling in bringing down anxiety and improving academic performance of students' found that high test anxious students had poor study habits, which affected their performance and that study skill counselling reduced test anxiety and improved academic performance.

On the whole, the results of this study indicate that heavy academic work pressure and strict rules and regulations are the main causes of stress for the entire

sample. The most common symptoms of stress were headache, irritability, worries, indecisiveness, preoccupation, fatigue and forgetfulness. Initially, the entire sample had 'Very High'/ 'High' Stress but after the administration of Positive Therapy, the stress came to a 'Low' level for the entire sample. In the beginning, the Self-efficacy of the entire sample was 'Low', which improved to 'Moderate' level after 4 weeks of Positive Therapy and to 'High' level after 8 weeks of Positive Therapy. There was also statistically significant improvement in the mean Academic Achievement after the intervention. All these clearly prove the beneficial effects of Positive Therapy in the management of stress and in the enhancement of self-efficacy and academic achievement. Anyway, there was no significant correlation between the variables, stress, self-efficacy and academic achievement.