

Results and Discussion

CHAPTER IV

RESULTS AND DISCUSSION

The major objective of a research is to find answers to questions through the systematic application of scientific procedures. In a study its findings are the most important part. This chapter deals with the result and its interpretation by the researcher regarding the present study. The aim of the study is to find out the extent to which the integrated intervention can enhance the academic achievement, self-esteem and to reduce the level of academic stress and test anxiety among the SC/ST youth at School. Analysis of results refers to computation of certain of measures along with searching for patterns of relationship that exists among the groups under study. The process of analysis, or relationships or differences which is supporting or conflicting with the hypotheses should be subjected to statistical tests of significance to determine with what validity data can be used to arrive at conclusions.

The methods adopted for the analysis are independent t test, paired t test, ANOVA and test for correlation.

The major hypotheses of the present study was analyzed using paired t test, which is to find out the effectiveness of Comprehensive Integrated Intervention Program on academic achievement, academic stress, test anxiety and self-esteem. The t tests are usually used to find out the variation of variables exists among the different means scores of the sample. Independent t test is also used for analysis, so as to compare these variables based on the gender.

ANOVA is a hypotheses testing procedure that is used to evaluate the mean differences between two or more intervention procedures and populations. As with all inferential procedures, ANOVA uses sample data as the basis for drawing general conclusions about populations. The groups analyzed with ANOVA are religion and income of the family.

Pearson product moment correlation is the correlation method adopted for the present study to find out the inter-correlations between the variables such as academic achievement, academic stress, test anxiety and self-esteem. It is the most commonly used correlation method which measures the degree and direction of linear relationship between the variables

The results are presented in the following sections.

Section I Analyses Exploring the Effectiveness of Comprehensive Integrated Intervention Program among Study Variables

Section II Analysis Exploring the Relationship between Study Variables

Section III Restatement and Test of Tenability of Hypotheses

Section I: Analyses Exploring the Effectiveness of Comprehensive Integrated Intervention Program Among Study Variables

To explore the effectiveness of the Comprehensive Integrated Intervention Program among study variables paired t-test was used. The analysis explores the effectiveness of intervention on Academic achievement, academic stress, test anxiety and self-esteem.

Analysis exploring the effectiveness of intervention on Academic achievement

Academic achievement is one of the most important factors when discussing on educational settings. A high level of academic achievement is crucial for academic success. Academic achievement of a student can be the skills developed in subjects that are evaluated by the authorities of the school with the help of various tests. As Paizi et al. (2007) and Gholami et al. (2007) reported, academic achievement of student is the chief indicator in evaluating the education.

Pretest score and posttest score was compared to find out the effectiveness of Comprehensive Integrated Intervention Program on academic achievement. For this purpose paired t-test was carried out. The result of t-test is presented in the table 5.1

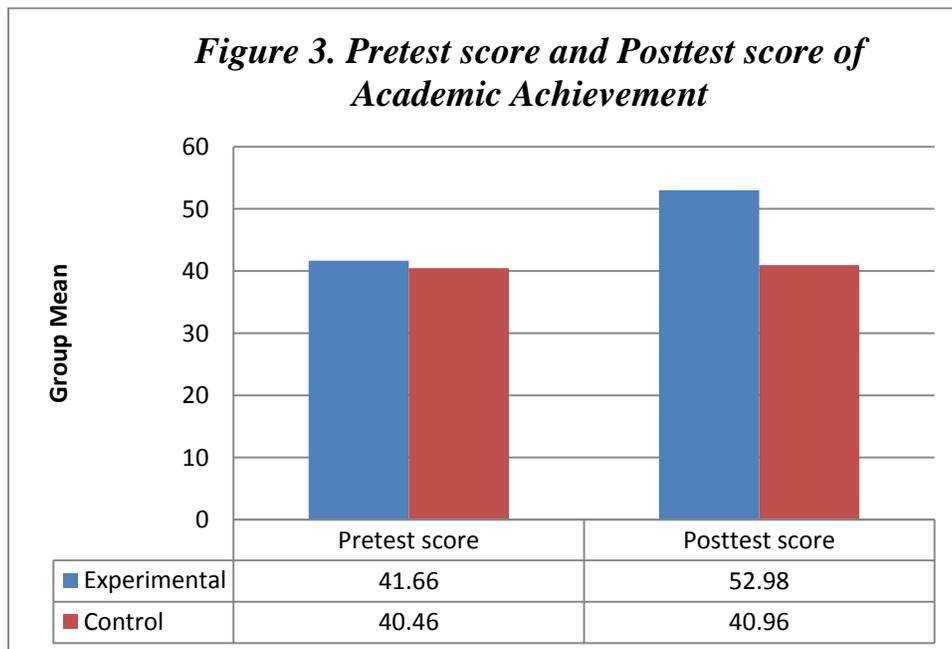
**Table 2. Comparison of pretest score and posttest score of academic achievement:
Result of paired t-test**

Variable	Group	Pretest score		Posttest score		t value
		M1	SD1	M2	SD2	
Academic achievement	Experimental	41.66	5.12	52.98	7.03	20.31**
	Control	40.46	6.67	40.96	6.73	1.8ns

**Significant at 0.01 level ns=Not significant

M1 and SD1 indicates the mean and standard deviation of the pretest scores in academic achievement among the experimental group and control group. In the same table M2 and SD2 denote the mean and standard deviation of the posttest scores in academic achievement among the experimental group and control group. The table 5.1 clearly shows significance in t value of the experimental group in pre and post scores of

academic achievement and no significant difference in pre and post scores among the control group. The significance in the t value (20.31) of academic achievement before and after the intervention at 0.01 level indicates a difference in academic achievement due to the intervention given to the experimental group. The mean of academic achievement before the intervention M1 is 41.66 and the mean of academic achievement after the intervention M2 is 52.98, which shows that there is an increase in academic achievement after the intervention provided to the experimental group. At the same time, for the control group to which the intervention was not given, there was no much change in M1 and M2. It reveals that the participants in the experimental group were benefitted by providing the Comprehensive Integrated Intervention Program given to them as a part of the research. That is, the individual skill development programs such as SQ3R, Jacobson's Original Progressive Relaxation Training and Mindfulness Meditation programs were found to be effective to increase the academic achievement among SC and ST students.



SQ3R helped the students to simplify their efforts in learning process through surveying, questioning, reading reciting, and reviewing whatever they have learned. This systematic learning procedure was expected to help them to increase their scores in the examinations and thereby increasing their academic achievement.

The relationship between the study habits and the academic achievement have been established in many studies done earlier. Few among them are quoted here.

Singh and Mahipal (2015) reported a significant relationship between academic achievement and study habits. The study by Chamundeswari et al (2014) and Premalakshmi (2012) also established a positive relationship between study habit and academic achievement of students. Hashemi and Ghaffari (2014) too supported that there is a relationship between learning strategies and academic achievement.

Elliot and Wendling (1996) from their study concluded that 75% of underachieved students were reported to be having poor study habits and examination techniques. The same has been reported by Butcofsky (1991) as the students having inadequate study habits found difficulty in colleges, and it affected their academic achievement adversely. A study carried out by Haynes in 1993 reported that improving study skills techniques can enhance academic achievement for students with poor study skills habits. Butcofsky (1971) and Rowher (1984) recommended that good students could improve their academic achievement levels by improving their study habits. Several study skills techniques that affect student learning in secondary schools were motivation, outlining/mapping, time management, test taking skills, SQ3R, PQ5R, note-taking skills, library skills, retention/memory, listening

skills, comprehension, and studying. French (1986) in his study also suggested that students should use the SQ3R formula for reading assignments, implement problem solving for writing research papers, and develop strategies for taking tests.

Academic achievement was also found to be positively affected by relaxation training. It was assumed that the relaxation training helped the participants to get rid of the anxiety they experienced regarding the academic matters as well as other daily hassles. The anxious free mind too helped them to improve the academic achievement due to the training procedures given. The mindfulness meditation may help them to have a free mind and positive mood which may enhance the overall academic achievement of the students.

Analysis comparing the pretest score and post test score of Academic stress

Academic stress increases adolescent's risk for psychological and behavioral problems, such as negative views of the self, problematic interpersonal relationships and stressful life experiences. Since a great deal of research has been conducted on this topic, many school students, rural school students face many pressures because of diverse student background, education styles, needs and desires. Rural schools all over India face a unique set of challenges, basically due to their geographic isolation. Regarding academic stress research is concerned, rural youth particularly among SC/ST students are very much neglected population. (Evans, Vermeulen, Barash, Lefkowitz, and Hutt, 2009).

In the present study five sub dimensions of academic stress are also taken to account. These are cognitive indicators, affective indicators, physical indicators, social indicators, and motivational indicators. Pretest scores and posttest scores of each sub

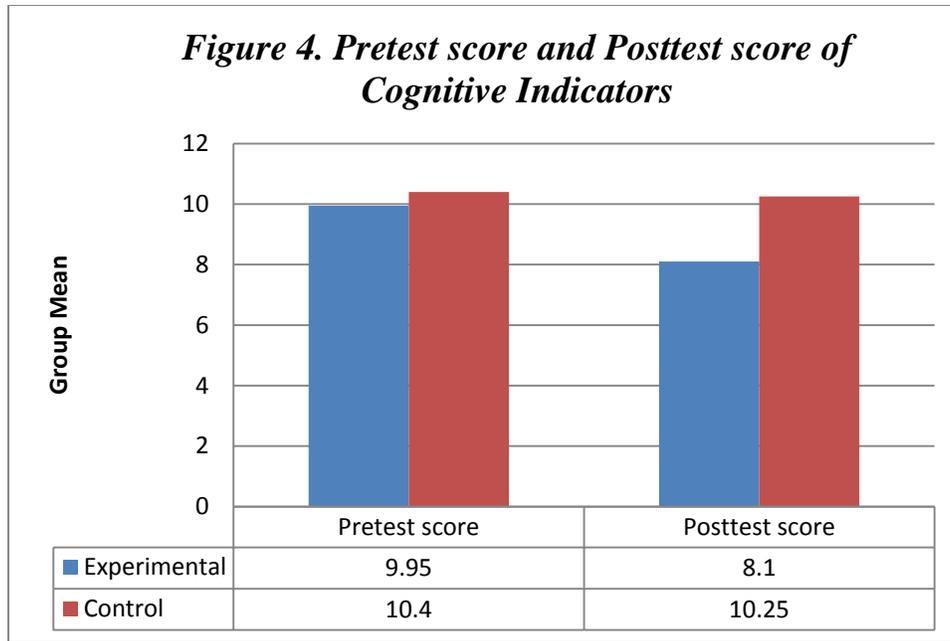
dimensions were compared to find out the effectiveness of Comprehensive Integrated Intervention Program. For this purpose paired t-test was carried out. The result of t-test is presented in the table 5.2

**Table 3. Comparison of pretest score and post test score on academic stress:
Result of t-test**

Variables	Group	Pretest score		Posttest score		t value
		M1	SD1	M2	SD2	
Cognitive indicators	Experimental	9.95	1.65	8.1	1.11	8.71**
	Control	10.4	1.84	10.25	1.65	1.53ns
Affective indicators	Experimental	8.33	1.38	6.58	1.26	7.06**
	Control	8.61	1.36	8.63	1.24	0.184ns
Physical indicators	Experimental	7.23	1.04	5.98	1.11	7.31**
	Control	7.25	1.38	7.18	1.15	0.72ns
Social indicators	Experimental	6.73	1.2	5.93	0.97	5.62**
	Control	6.71	1.27	6.76	1.25	0.83ns
Motivational indicators	Experimental	9.85	1.63	8.66	1.66	4.35**
	Control	9.78	1.86	9.9	1.83	1.54ns

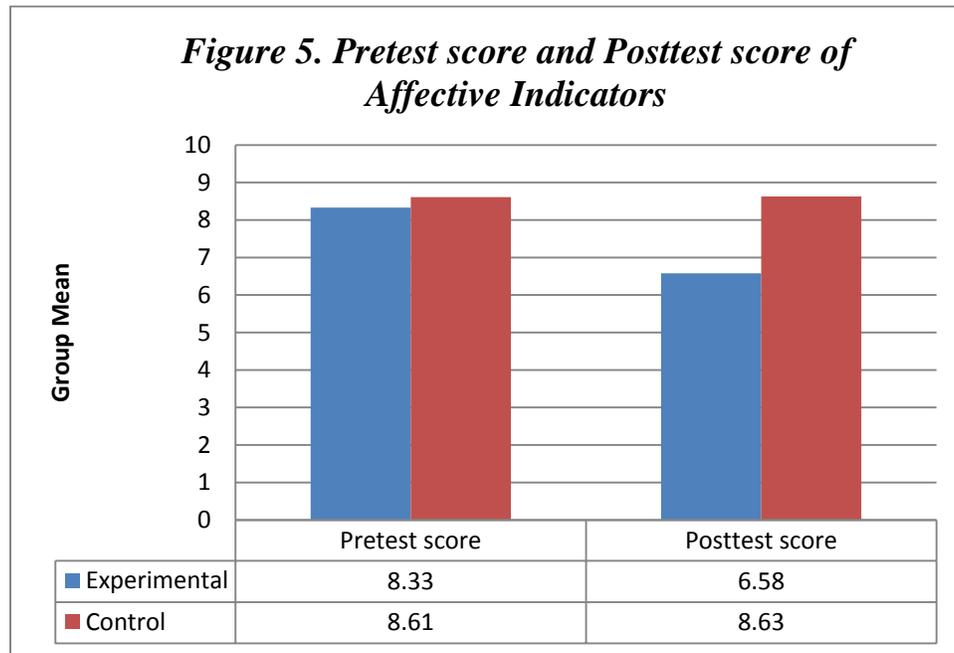
**Significant at 0.01 level ns=Not significant

The sub dimensions of academic stress includes five indicators such as cognitive indicators, affective indicators, physical indicators, social indicators, and motivational indicators. Table 5.2 shows a significant difference in all the five sub dimensions of academic stress among the experimental group after the intervention. Whereas, there were no significant difference in any of the five sub dimensions of academic stress among the control group.



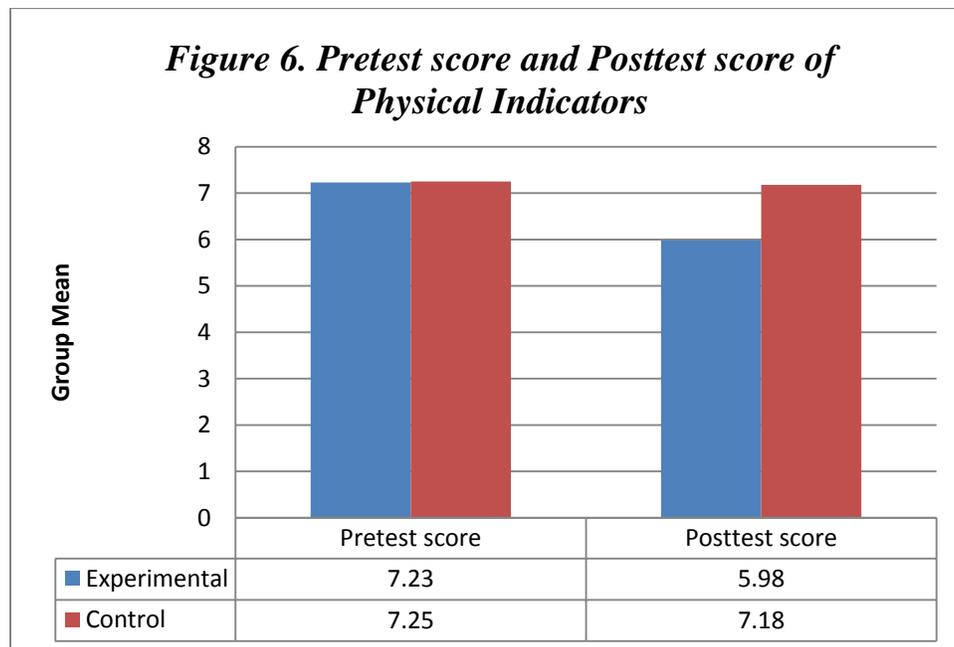
Among the experimental group, the mean (M1) and standard deviation (SD1) of Cognitive indicators before the intervention was 9.95 and 1.65 respectively and the mean (M2) and standard deviation (SD2) of Cognitive indicators after the intervention was 8.1 and 1.11 respectively. The t value of 8.71 indicates a clear difference between the pretest and posttest scores at 0.01 levels. The Cognitive indicator of academic stress was reduced from 9.95 to 8.1 due to the intervention provided to the experimental group. Among the control group, the mean (M1) and standard deviation (SD1) of Cognitive indicators before the intervention was 10.4 and 1.84 respectively and the mean (M2) and standard deviation (SD2) of Cognitive indicators after the intervention was 10.25 and 1.65 respectively. The t value of 1.53 indicates that there was no significant difference in the pretest and posttest scores of the control group. Both the t values indicate that the participants of the experimental group were helped to reduce the Cognitive indicators of academic stress after the interventions given to them. That is, the Comprehensive Integrated

Intervention Program comprising SQ3R method, Jacobson’s Original Progressive Relaxation Training and Mindfulness Meditation programs helped them to decrease the Cognitive indicators of academic stress among research participants that is SC and ST students.



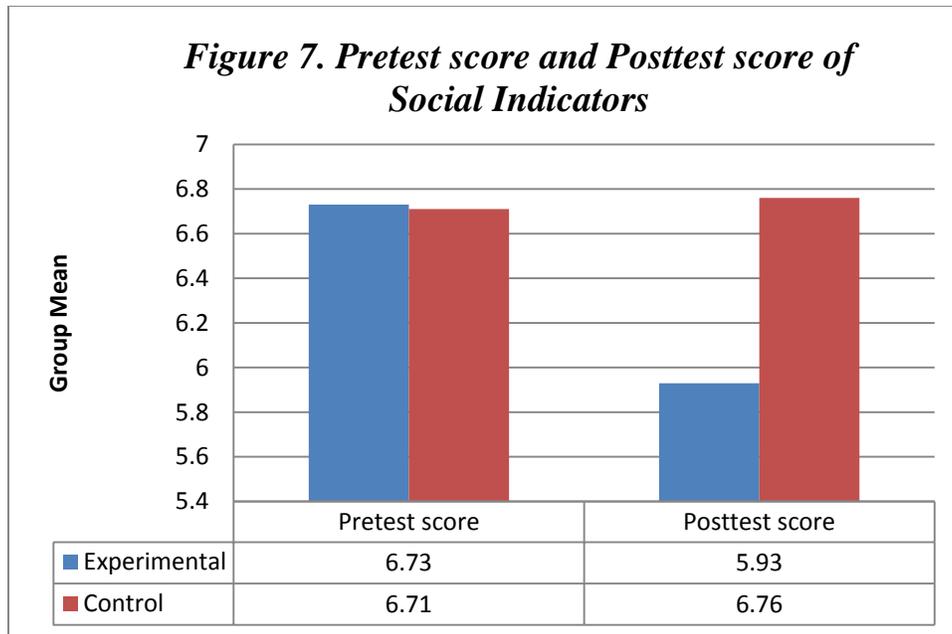
In the case of affective indicators of academic stress, the mean (M1) and standard deviation (SD1) before the intervention was 8.33 and 1.38 respectively and the mean (M2) and standard deviation (SD2) after the intervention was 6.58 and 1.26 respectively. The t value of 7.06 shows a significant difference in the pretest and posttest scores at 0.01 level. That is by comparing the mean values of the experimental group before and after the intervention, it can be seen that the affective indicator of academic stress was reduced from 8.33 to 6.58 due to the intervention. It reveals that the intervention helped the participants to get relief from the affective components of academic stress. In the same sub dimension, the mean (M1) and standard deviation (SD1) of the control group before the intervention was 8.61 and 1.36 respectively and the mean (M2) and standard deviation (SD2) after the intervention was 8.63 and 1.24 respectively. The t value (0.184) indicates

that there was no significant difference in the pretest and posttest scores of the control group. Both the t values indicate that the participants of the experimental group were helped to lower the affective dimension of academic stress after the interventions given as a part of the study. That is, the Comprehensive Integrated Intervention Program comprising SQ3R method, Jacobson’s Original Progressive Relaxation Training and Mindfulness Meditation programs helped them to decrease the emotional aspect of academic stress among SC and ST students.

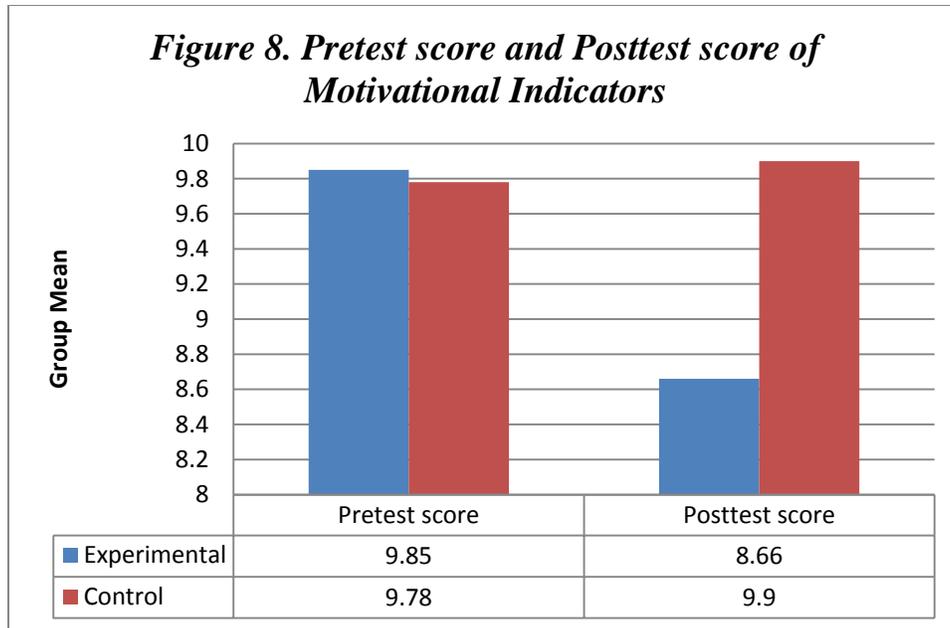


The scores of physical indicators also show the effectiveness of the intervention given for the experimental group as a part of the research. The mean of pretest (M1) and the mean of posttest (M2) of experimental group were 7.23 and 5.98 respectively. Whereas, the mean of pretest (M1) and the mean of posttest (M2) of control group were 7.25 and 7.18 respectively. The table values clearly shows that there is a decrease in physical indicators of academic stress after the intervention among the experimental group from a mean value of 7.23 to 5.98. Whereas, there were no difference in the mean values before

and after the intervention among the control group. The t value (7.31) of difference between the pre and post scores of experimental group shows that the SQ3R method, Jacobson's Original Progressive Relaxation Training and Mindfulness Meditation programs helped the participants of the experimental group to decrease the physical disturbances associated with academic stress among SC and ST students.



The fourth dimension of academic stress that is Social indicator is also effected positively by the intervention given. The intervention was found to be effective to reduce the social disturbances associated with the academic stress among the participants of the study. The mean scores and standard deviation of both the experimental group and control group before and after the intervention reveals the effectiveness of the programs on the social indicator of the academic stress. A t value of 5.62 shows a significant difference in pretest and posttest scores of social indicators of the experimental group. Whereas there were no significant difference in pretest and posttest scores of social indicators of the control group.



The table also shows the effectiveness of the comprehensive intervention programs on Motivational indicators of academic stress. The table shows that there is significant difference in the Motivational indicators of academic stress among the experimental group before and after the intervention programs. The mean (M1) and standard deviation (SD1) of the experimental group before the intervention was 9.85 and 1.63 respectively and the mean (M2) and standard deviation (SD2) after the intervention was 8.66 and 1.66 respectively. The t value (4.35) was found to be significant at 0.01 level indicating the effectiveness of the intervention programs. Among the control group the mean (M1) and standard deviation (SD1) before the intervention was 9.78 and 1.86 respectively and the mean (M2) and standard deviation (SD2) after the intervention was 9.9 and 1.83 respectively. The t value (1.54) was found to be not significant at any level. As the interventions constituted the procedures like SQ3R, relaxation training and meditation. They were assumed to have an effect on motivational aspect of academic stress among the SC and ST students.

In general it was found that academic stress is positively affected by the interventions given which includes SQ3R, relaxation training and meditation. The effectiveness of relaxation on academic stress has been studied by (Praseeda and Meera 2014). They focused on the importance and effectiveness of giving progressive muscle relaxation for students to reduce their academic stress. The result of the study revealed that Progressive Muscle Relaxation is significantly effective for reducing academic stress of students.

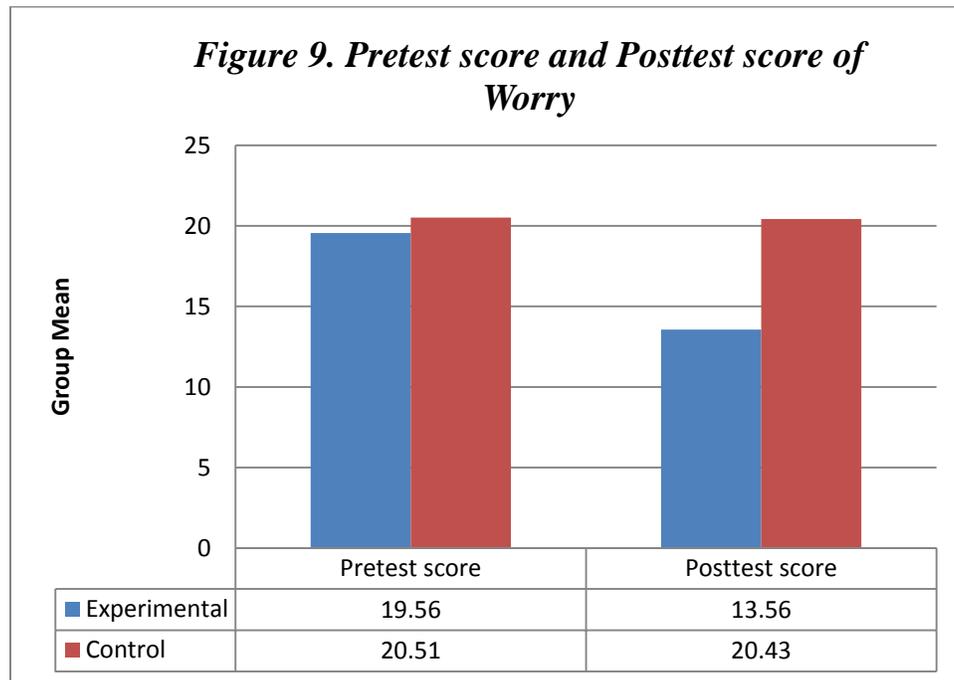
Analysis comparing the pretest score and post test score of Test anxiety

Test anxiety is considered to be a perfect vehicle to explore the roots of anxiety there by predicting the behaviour of individuals. Test Anxiety consists of interacting phenomenological, physiological, and behavioral responses that occur prior to, during, and following a test (Zeidner, 1998). Friedman and Jacob (1997) proposed three dimensions of test anxiety such as social derogation, cognitive obstruction and tenseness. Social derogation refers to the worries of being socially belittled and deprecated by significant others following failure on a test. Whereas cognitive obstruction indicates a poor concentration, failure to recall, difficulties in effective problem solving, before or during a test and tenseness reflects to the bodily and emotional discomfort. Educational experience that produces intense anxiety for most youngsters is facing Examination. As student's academic performance suffers, the anxiety level related to certain academic tasks increases (Huberty, 2009). Xiao (2013) found that there in a stronger positive relationship existed between academic stress and test anxiety.

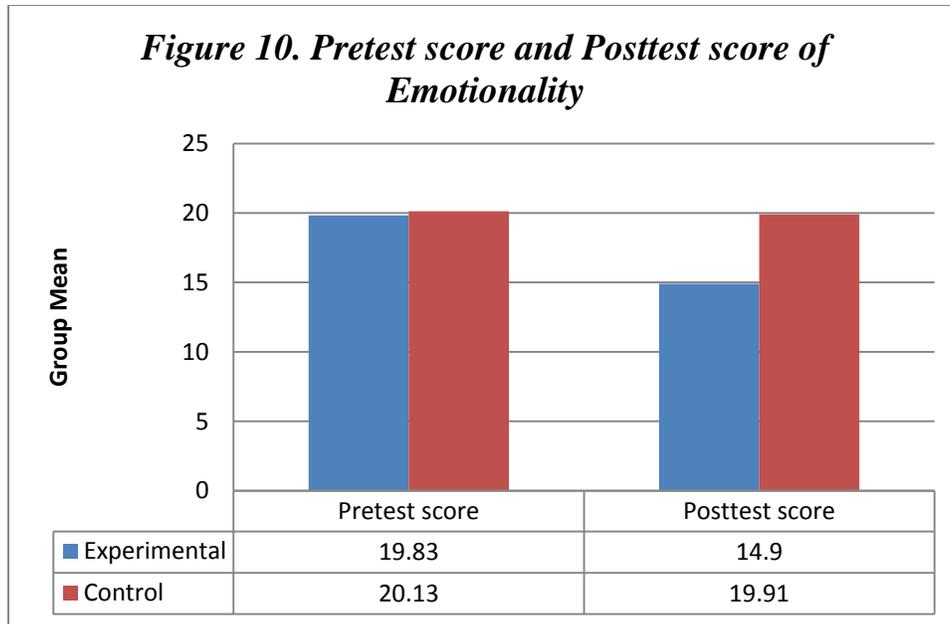
Table 4. Comparison of pretest score and posttest score of test anxiety: Result of t-test

Variable	Group	Pretest score		Posttest score		t value
		M1	SD1	M2	SD2	
Worry	Experimental	19.56	3.72	13.56	3.00	10.62**
	Control	20.51	3.41	20.43	3.57	0.39ns
Emotionality	Experimental	19.83	4.14	14.9	3.17	7.51**
	Control	20.13	4.67	19.91	4.48	1.53ns

**Significant at 0.01 level ns=Not significant



The research also assesses the effectiveness of the intervention program on test anxiety and its sub variables like worry and emotionality. Both the sub variables shows significant difference in the mean values of pre and post scores of the experimental group.



The mean score of the variable worry was reduced from 19.56 to 13.56 among the experimental group, and there was no much reduction in the mean scores of pre and post test of the control group. Also, the mean score of the variable emotionality were reduced from 19.83 to 14.9 among the experimental group, and there was no much reduction in the mean scores of pre and post-test of the control group. It reveals that the both the sub variables of test anxiety such as worry and emotionality were reduced by the intervention indicating the effectiveness of the intervention.

Shapiro, Schwartz and Bonner (1998) conducted a study to explore the effects of mindfulness based stress reduction on medical and premedical students and came out with the findings that the meditation reduced the self-reported state and trait anxiety.

Analysis comparing the pretest score and post test score of Self-esteem

Self-esteem among adolescent is how they value themselves; it is how they perceive their value to the world and how valuable they think they are to others. Self-esteem affects our trust in others, our relationships, and our work – nearly every part of

our lives. Positive self-esteem gives us the strength and flexibility to take charge of our lives and grow from our mistakes without the fear of rejection. The young person will have acquired a stable set of self-evaluations so that it becomes increasingly likely that even specific tasks (e.g. academic learning) will be enhanced or inhibited by pre-existing self-esteem. Parents, counselors, and others dealing with adolescents must be alert to the negative impact that stress appears to have on self-esteem. Adolescents who experience greater numbers of stressful life-events tend to have less self-esteem than those adolescents who experience fewer such events. High self-esteem and supportive social relationships influence academic stress through motivational and affective pathways. Low self-esteem is usually linked to negative outcomes such as poor mental health (Orth, Robins and Meier, 2009; Orth, Robins and Roberts, 2008)

Table 5. Comparison of pretest score and posttest score of self-esteem: Result of t-test

Variable	Group	Pretest score		Posttest score		t value
		M1	SD1	M2	SD2	
Self-esteem	Experimental	15.36	2.97	19.95	2.81	9.01**
	Control	15.65	1.73	15.71	1.83	1.00ns

**Significant at 0.01 level ns=Not significant

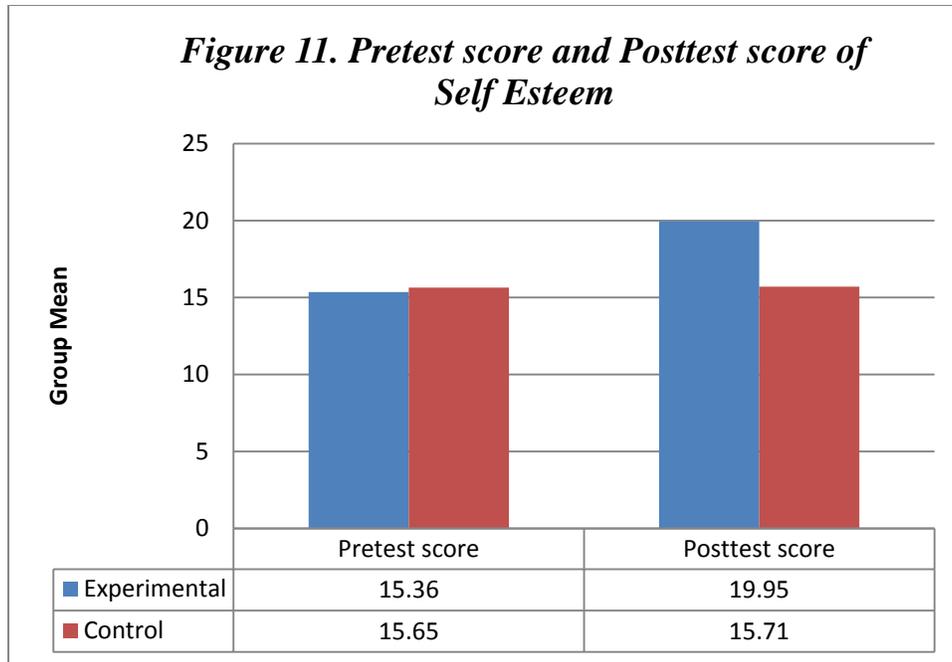


Table 5.4 gives clear idea on the effectiveness of the comprehensive intervention programs given during the intervention period. The table shows that there is significant difference in self-esteem among the experimental group before and after the intervention programs. The mean (M1) and standard deviation (SD1) of the experimental group before the intervention was 15.36 and 2.97 respectively and the mean (M2) and standard deviation (SD2) after the intervention was 19.95 and 2.81 respectively. The t value (9.01) was found to be significant at 0.01 level indicating the effectiveness of the intervention programs. Among the control group, the mean (M1) and standard deviation (SD1) before the intervention was 15.65 and 1.73 respectively and the mean (M2) and standard deviation (SD2) after the intervention was 15.71 and 1.83 respectively. The t value (1.00) was found to be not significant at any level. As the interventions constituted the procedures like SQ3R, relaxation training and meditation. They were assumed to have an effect on self-esteem among the SC and ST students.

The effects of mindfulness on self-esteem has been studied by Peppinga, O'Donavana and Davis (2013). The study demonstrated that both mindfulness and self-esteem are related to each other and mindfulness training has direct positive effects on self-esteem.

Section II: Analysis Exploring The Relationship Between Study Variables

Relationship between study variables are analyzed using Pearson product moment correlation in the present study. The correlation coefficient obtained from the correlational analysis is expected to provide an idea regarding the degree and direction of relationship between variables such as academic achievement, academic stress, test anxiety and self-esteem.

Table 6. Inter correlation between study variables: Result of correlational analyses

Sl. No.	Variables	Acad. Ach	Cog. Ind	Aff. Ind	Phy. Ind	Soc. Ind	Mot. Ind	Worry	Emotionality
1	Acad. Ach	0							
2	Cog. Ind	-.142ns	0						
3	Aff. Ind	-.175ns	.375**	()					
4	Phy. Ind	.024ns	.446**	.255**	()				
5	Soc. Ind	.056ns	.297**	.040ns	.162ns	()			
6	Mot. Ind	-.053ns	.612**	.357**	.327**	.231*	()		
7	Worry	-.052ns	.283**	.220*	.118ns	.045ns	.218*	()	
8	Emotionality	-.003ns	.360**	.266**	.211*	-.032ns	.253**	.501**	()
9	Self-esteem	-.205ns	.180*	.063ns	.202*	.036ns	.190*	.046ns	.085ns

**Significant at 0.01 level *Significant at 0.05 level ns=Not significant

Results of the correlational analysis given in the table reveals the relationship between study variables. Academic achievement shows no significant relationships with

any of the variables. Whereas self-esteem correlated positively with some of the sub dimensions of academic stress. Sub variables of test anxiety, worry and emotionality also correlates with most of the sub dimensions of academic stress.

Academic achievement was found to be having only negligible correlation with the academic stress, test anxiety and self-esteem. Low correlational coefficient between them indicates that academic achievement of the students is not related to the stress of their academics, anxiety or their self-esteem. It reveals that there will be no change in academic achievement in accordance to the changes in academic stress, test anxiety or self-esteem. The relationship between academic achievement and academic stress has been studied by many researchers and came with the contradictory findings that both are related negatively with each other. Khan, Altaf and Kausar (2013) found that depression, anxiety, and stress are negatively correlated with academic achievement. The higher the stress lowers the academic achievement. A study by Akgun and Ciarrochi (2003) revealed that academic stress was negatively associated with academic performance. Zeidner (1992) also agrees with Khan, Altaf and Kausar (2013) with their findings that the student stress and achievement factors were found to be inversely correlated. Kumari and Gartia (2012) explored on the relationship between stress and academic achievement of senior secondary school students, and came up with an entirely different finding. They found a positive correlation between stress and academic achievement. Significant difference exists in the academic achievement of students having high, moderate and less stress. Students with high and moderate stress performed better than the students having less stress.

The relationship between self-esteem and academic achievement is studied by Hisken (2011) and found that there is a positive correlation between self-esteem and

reading ability, reading level, and academic achievement. Jasmine (2015), Sheykhjan, Jabari and Rajeswari (2014) and Akinleke (2012) also reported that there is a positive relationship between self-esteem and academic performance.

Singh, Singh and Singh (2015) stated that examination anxiety and academic achievement are negatively related as the examination anxiety increases the academic achievement decreases. Roy (2013) revealed that there was a significant difference in academic achievement of high, middle and low test anxiety group. According to Ali and Mohsin (2013) test anxiety was significantly negative with total achievement scores of all the four science subjects. High test anxiety caused lower achievement scores. Findings of Mohammadyari (2012) showed that there is a negative significant relationship between test anxiety and academic achievement. Result of study by Yousefi et al. (2010) shows that there is a significant correlation between test anxiety and academic achievement among adolescents.

Worry and emotionality are the sub variables of test anxiety. The table also shows the correlation of the sub variables of test anxiety with other study variables. Worry shows positive correlation with three of the sub dimensions of academic stress. That is, with cognitive, affective and motivational indicator of academic stress. The correlation coefficient between them is 0.283, 0.220 and 0.218 respectively. The positive correlation between them indicates that the increase in worry experienced by the students is associated with the increase in certain dimensions of academic stress, and the decrease in worry experienced by the students is associated with the decrease in those indicators of academic stress. The table too shows that the variable emotionality also correlates positively with cognitive, affective, physical and motivational indicator of academic

stress. The degree of correlation between them was 0.36, 0.266, 0.211 and 0.253 respectively. The increase in emotionality experienced by the students is also associated with the increase in cognitive, affective, physical and motivational indicator of academic stress, and the decrease in emotionality experienced by the students is associated with the decrease in those indicators of academic stress.

These findings are supported by Xiao (2013) in his study entitled “Academic stress and Text anxiety among high school student”. He found out that academic stress was positively related to students’ test anxiety. Harpell and Andrews (2013) also reported from their study that academic stress predicts text anxiety among the students. Rastogi and Silver (2014) explored on the association of music with stress, test anxiety, and test grades among high school students and too found out a positive correlation between them.

The correlation coefficient between self-esteem and other variables shows that it is positively correlated with cognitive, physical and motivational indicator of academic stress and self-esteem doesn’t correlates with affective and social indicator of academic stress; academic achievement and the sub variables of test anxiety such as worry and emotionality. The correlation coefficient between self-esteem and cognitive, physical and motivational indicator of academic stress are 0.180, 0.202 and 0.19 respectively. The positive correlation between them reveals that the increase in self-esteem of the students is associated with the increase in cognitive, physical and motivational indicator of academic stress, and the decrease in self-esteem of the students is associated with the decrease in cognitive, physical and motivational indicator of academic stress.

Nikitha, Tessy and Blessy (2014) conducted a correlational study on academic stress and self-esteem among higher secondary students, and found significant but low

negative relationship is found between academic stress and self-esteem. The study concluded that majority of the adolescents experience academic stress ranging from moderate to severe and self-esteem is in normal range. It has proved that there is a significant but low negative correlation exists between academic stress and self-esteem. A study by Sarma (2014) shows the relationship between parental pressure and academic stress, both parental pressure and self-esteem significantly predicted academic stress. A study by Uma and Manikandan (2013) revealed that self-esteem and sex of the students have significant influence on academic stress. According to Rahardjo (2014), self-esteem has direct and indirect influences towards academic stress. Whereas, Jasmine (2015) reported that there was significant negative correlation between self-esteem and stress.

While present study couldn't find any relationship between self-esteem and test anxiety, there are some of the studies which claims so. Afolabi, et al., (2014) found out that those who score high on self-esteem have less psychological distress than those who score low on self-esteem; while participants with high scores on test anxiety are more psychologically unfit than low scorers on test anxiety. Maleki (2013) found significant correlations between self-esteem and test anxiety. Sideeg (2015) reported a significant negative correlation between levels of test anxiety and level of self-esteem. This indicates that the higher the level of self-esteem the lower the level of test anxiety. He also found a significant negative correlation between levels of test anxiety and level academic achievement.

Analysis of Study Variables Based on Socio-Demographic Data

Socio-demographic data refers to the data based on one's sociological and demographic characteristics such as age, gender, locality, religion etc. In the present study gender, religion and the family income of the students were taken to analyses. To find out the difference in the study variables based on gender t-test was used. One-way ANOVA was used for analyzing the study variables based on religion. Finally, relationship between family income and study variables was assessed using Pearson product moment correlation test.

Analyses of study variables based on gender

World Health Organization defines gender as socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It varies from society and can be changed. While most people are born either male or female, they are taught appropriate norms and behaviours – including how they should interact with others of the same or opposite sex within households, communities and work places (www.who.int). t-test was used to find out the difference in the study variables based on gender.

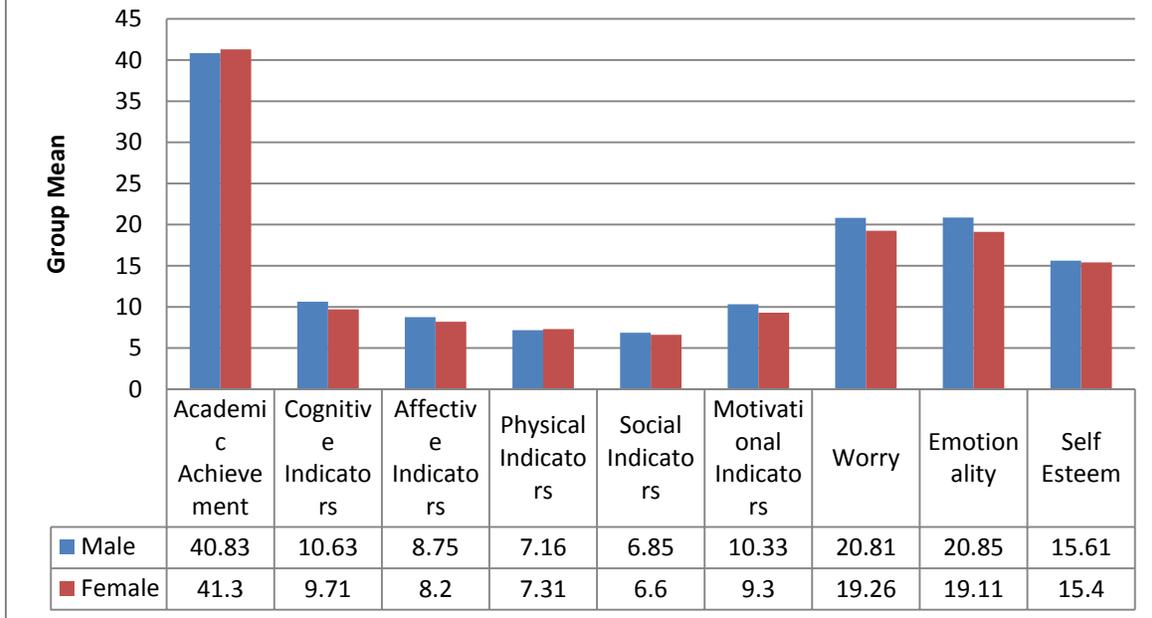
Table 7. Comparison of study variables based on gender: Results of t-test

Variable	Male		Female		t value
	M1	SD1	M2	SD2	
Academic Achievement	40.83	6.29	41.3	5.63	.428ns
Cognitive indicators	10.63	1.46	9.71	1.91	2.949**
Affective indicators	8.75	1.32	8.2	1.38	2.222*
Physical indicators	7.16	1.27	7.31	1.17	.670ns
Social indicators	6.85	1.11	6.6	1.34	1.109ns
Motivational indicators	10.33	1.76	9.3	1.58	3.375**
Worry	20.81	3.53	19.26	3.5	2.411**
Emotionality	20.85	4.6	19.11	4.04	2.190*
Self-esteem	15.61	2.52	15.4	2.34	.487ns

**Significant at 0.01 level *Significant at 0.05 level ns=Not significant

The gender based study on academic achievement, academic stress, test anxiety and self-esteem among SC and ST students reveals that there is gender difference in cognitive, affective and motivational indicator of academic stress, and the sub variables of test anxiety- worry and emotionality. There is no significant difference in academic achievement, physical and social indicator of academic stress and self-esteem on the basis of gender. The mean values given in the table shows that males scored high in cognitive, affective and motivational indicator of academic stress, and in sub variables of test anxiety- worry and emotionality.

Figure 12. Gender differences on Study Variables



The difference in academic stress based on gender is supported by Lal (2014) that there exists a significant difference in academic stress of male and female students. In present study male participants were found to be having comparatively higher academic stress than female participants, which is similar to the finding of Prabu (2015). Whereas Khan, Altaf, Kausar (2013) and Smritikana (2016) found from their study that academic stress is higher in female students as compared to male students. Contradictory finding was reported by Ramesh and Anoj (2013) that the academic stress experienced by both male and female adolescents is similar

Table also shows that there is significant difference in the sub-variables of test anxiety on the basis of gender. Test anxiety is also found to be comparatively higher among male participants than female participants. This finding is contradictory to the findings of Reena and Subhangini (2014) who found that the female high school students

scored higher in test anxiety as well as in academic achievement than the male students. Stevens (2000) in his study also found that the females consistently scored significantly higher than males on all generalized measures of anxiety.

In the case of self-esteem, table shows that there is no significant difference in self-esteem on the basis of gender, which is same as the findings by Sheykhjan, Jabari and Rajeswari (2014) that the self-esteem in boys and girls is almost the same. Whereas contradictory finding was reported by Shaheen and Jahan (2014) that there is there is significant difference in self-esteem on the basis of gender, and male students scored significantly higher on self-esteem in comparison to female students. Abhishek and Agrawal (2013) concluded from their study that the general self-esteem of females was found to be higher than males

Academic achievement was also reported in the present study as somewhat similar among males and female participants. The same finding is supported by Sinha and Imam (2016). They conducted study among 500 boys and 500 girls and found that both male and female secondary school students are equally good in their academic achievement in Magadh region of Bihar. Whereas a contradictory finding was reported by Lal (2014); Taviyad and Yasvantbhai (2014); and Yellaiah (2012). According to their study, there is significant difference between the male and female adolescents on academic achievement, which is supported by Yousefi et.al. (2010) who reported that female score higher in their academic achievement than males. Ahmad (2009) too came with the same findings that female students performed better than male students on academic achievement test.

Analyses of study variables based on religion

ANOVA was carried to find out the differences in study variables on the basis of religion. Religion is a particular system of belief followed by people in a society. People's attitudes and behaviours may change based on what religion they followed. Major religious groups followed by the participants of the study includes Hindus, Christians and Muslims.

Table 8. Comparison of study variables based on Religion: Results of ANOVA

Variable	Sum of squares		Mean squares		F Ratio
	Between	Within	Between	Within	
Academic Achievement	41.14	4176.32	20.57	35.69	.576ns
Cognitive indicators	1.78	365.54	.89	3.12	.285ns
Affective indicators	.25	225.67	.125	1.92	.06ns
Physical indicators	3.03	174.95	1.51	1.49	1.01ns
Social indicators	6.44	175.47	3.22	1.5	2.14ns
Motivational indicators	5.43	358.52	2.71	3.06	.88ns
Worry	6.95	1527.83	3.47	13.05	.26ns
Emotionality	26.29	2281.67	13.14	19.5	.67ns
Self-esteem	30.18	671.8	15.09	5.74	2.62ns

ns=Not significant

Result of one way ANOVA shows that there is no significant difference in academic achievement, academic stress, test anxiety and self-esteem on the basis of religion. It reveals that academic achievement, academic stress, test anxiety and self-esteem of the participants doesn't shows any difference based on their beliefs and values.

When reviewed the studies exploring the influence of religious beliefs on these academic achievement, academic stress, test anxiety and self-esteem, many contradictory findings were obtained. McKune (2006) identified a positive association between religiosity and academic success. Cox (2011) found no significant correlations between stress and spirituality. Lalfakzuali (2015) concluded that religiosity has significant positive correlation with Self-Esteem. Rastegar and Heidari (2013) stated that there was a significant negative relationship between intrinsic religious orientation and test anxiety, and a significant positive relationship between extrinsic religious orientation and test anxiety

Analyses of study variables based on family income

Income provides financial security to the family. Family income may influence children's academic life as well as personal life. Pearson product moment correlation test was used to analyze the relationship between family income and study variables.

Table 9. Relationship between study variables and Family income: result of Pearson Product Moment Correlation Test

Variables	Acad. Ach	Cog. Ind	Aff. Ind	Phy. Ind	Soc. Ind	Mot. Ind	Worry	Emotionality	Self-esteem
Family Income	.11ns	-.08ns	-.06ns	.05ns	-.08ns	-.009ns	-.12ns	.06ns	-.08ns

ns=Not significant

The table shows no significant correlation of the study variables with the family income. That is the academic achievement, academic stress, test anxiety and self-esteem of the participants were not related to their family income. The negligible correlation

coefficient between them indicates that their academic achievement, academic stress, test anxiety or self-esteem will not be effected even if the students are from high income family or from low income.

Contrary findings were found in the reviews of the present study. Ahmar and Anwar (2013) conducted study among high and low socio-economic status groups and found that the academic achievement was influenced by the socio-economic status and those who belonged to high socio-economic status showed better performance. Ahmad (2009) also found that parents' education and monthly income of family has positive relationship with academic achievement. According to Alkhutaba (2013), there is significant effect of socio-economic factors on student's academic Achievements. These findings was opposite to the findings of the present study. Putwain (2007) identified gender, ethnic and socio-economic background as the significant predictors of variance in test anxiety scores.

Section III: Restatement and Test of Tenability of Hypotheses

Restatement of hypotheses formulated for the study and the tenability of the test hypotheses are presented below.

Hypothesis 1

The intervention will have a positive effect on academic achievement.

Tenability of the hypothesis 1 was tested using t-test and the result shows that there was a positive effect of intervention on academic achievement.

In testing the difference in academic achievement with respect of before intervention and after intervention, the mean score of academic achievement before

intervention was 41.66 and the mean score is increased to 52.98 after intervention and the obtained t-value is 20.31 and this value was found to be significant at 0.01 levels.

Therefore, on the basis of the result, hypothesis 1 is accepted.

Hypothesis 2

The intervention will decrease academic stress.

Tenability of the hypothesis 2 was tested using t-test and the result shows that there was a decrease in academic stress after intervention.

In testing the difference in cognitive indicators with respect of before intervention and after intervention, the mean score of cognitive indicators before intervention was 9.95 and the mean score is decreased to 8.1 after intervention and the obtained t-value is 8.71 and this value was found to be significant at 0.01 levels.

In testing the difference in affective indicators with respect of before intervention and after intervention, the mean score of affective indicators before intervention was 8.33 and the mean score is decreased to 6.58 after intervention and the obtained t-value is 7.06 and this value was found to be significant at 0.01 levels.

In testing the difference in physical indicators with respect of before intervention and after intervention, the mean score of physical indicators before intervention was 7.23 and the mean score is decreased to 5.98 after intervention and the obtained t-value is 7.31 and this value was found to be significant at 0.01 levels.

In testing the difference in social indicators with respect of before intervention and after intervention, the mean score of social indicators before intervention was 6.73

and the mean score is decreased to 5.93 after intervention and the obtained t-value is 5.62 and this value was found to be significant at 0.01 levels.

In testing the difference in motivational indicators with respect of before intervention and after intervention, the mean score of motivational indicators before intervention was 9.85 and the mean score is decreased to 8.66 after intervention and the obtained t-value is 4.35 and this value was found to be significant at 0.01 levels.

Therefore, on the basis of the result, hypothesis 1 is fully accepted.

Hypothesis 3

There will be a decrease in test anxiety after the intervention

Tenability of the hypothesis 3 was tested using t-test and the result shows that there was a decrease in test anxiety after intervention.

In testing the difference in worry with respect of before intervention and after intervention, the mean score of worry before intervention is 19.56 and the mean score is decreased to 13.56 after intervention and the obtained t-value is 10.62 and this value was found to be significant at 0.01 levels.

In testing the difference in emotionality with respect of before intervention and after intervention, the mean score of emotionality before intervention was 19.83 and the mean score is decreased to 14.9 after intervention and the obtained t-value is 7.51 and this value was found to be significant at 0.01 levels.

Therefore, on the basis of the result, hypothesis 3 is fully accepted.

Hypothesis 4

The intervention will have a positive impact on self – esteem

Tenability of the hypothesis 4 was tested using t-test and the result shows that there was a positive effect of intervention on self-esteem.

In testing the difference in self-esteem with respect of before intervention and after intervention, the mean score of self-esteem before intervention is 15.36 and the mean score is increased to 19.95 after intervention and the obtained t-value is 9.01 and this value was found to be significant at 0.01 levels.

Therefore, on the basis of the result, hypothesis 4 is accepted.

Hypothesis 5

Academic achievement will have a significant negative relationship with academic stress and test anxiety

Tenability of the hypothesis 5 was tested on the basis of the following result:

Correlation analysis revealed that there is no significant inter correlations between the variables such as academic achievement, academic stress and test anxiety. Sub-dimensions of academic stress such as cognitive indicators, affective indicators, and motivational indicators have a negligible negative relationship with academic achievement. And also both the sub-dimension of test anxiety such as worry and emotionality have a negligible negative relationship with academic achievement.

Therefore, on the basis of the result, hypothesis 5 is not accepted and hence it is reworded as there is no significant relationship between academic achievement, academic stress and test anxiety among SC/ST students.

Hypothesis 6

Academic achievement will have a positive relationship with self-esteem

Tenability of the hypothesis 5 was tested on the basis of the following result:

Correlation analysis revealed that there is no significant inter correlations between the variables such as academic achievement and self-esteem. The correlation coefficient shows that there is a negligible negative correlation between academic achievement and self-esteem.

Therefore, on the basis of the result, hypothesis 6 is not accepted and hence it is reworded as there is no significant relationship between academic achievement and self-esteem among SC/ST students.

Hypothesis 7

Academic stress will have a positive relationship with test anxiety

Tenability of the hypothesis 7 was tested on the basis of the following result:

Correlation analysis revealed that sub-dimension of academic stress such as cognitive indicators, affective indicators and motivational indicators have a significant positive relationship with the sub-dimensions of test anxiety such as worry and emotionality. The physical indicator has a significant relationship with emotionality, whereas physical indicator only has a negligible positive relationship with worry. The social indicator has no significant relationship between test anxiety.

Therefore, on the basis of the result, hypothesis 7 is partially accepted. The unaccepted part of the hypothesis is reworded as there is no significant relationship between physical

indicators and social indicators with worry. There is no significant relationship between social indicators and emotionality.

Hypothesis 8

Academic stress will have a significant negative relationship with self-esteem

Tenability of the hypothesis 8 was tested on the basis of the following result:

Correlation analysis revealed that sub-dimension of academic stress such as cognitive indicators, physical indicators and motivational indicators have a significant positive relationship with self-esteem. Other sub-dimensions such as affective indicators and social indicators have no significant relationship with self-esteem.

Therefore, on the basis of the result, hypothesis 8 is partially accepted. The unaccepted part of the hypothesis is reworded as there is no significant relationship between affective indicators and social indicators with self-esteem.

Hypothesis 9

There will be a significant negative relationship between test anxiety and self-esteem.

Tenability of the hypothesis 9 was tested on the basis of the following result:

Correlation analysis revealed that there is no significant inter correlations between test anxiety and self-esteem. The correlation coefficient shows that there is a negligible positive correlation between them.

Therefore, on the basis of the result, hypothesis 9 is not accepted and hence it is reworded as there is no significant relationship between test anxiety and self-esteem among SC/ST students.

Hypothesis 10

There will be a significant gender difference in academic achievement, academic stress, test anxiety and self-esteem

Tenability of the hypothesis 10 was tested using t-test and the result shows that some of the variables have a gender wise differences and some of the variables doesn't.

In testing the difference in academic achievement with respect of gender the obtained t-value is 0.428 and this value was found to be not significant at any levels.

While testing the difference in academic stress with respect of gender, sub dimension like cognitive indicators, affective indicators and motivational indicators have significant differences based on gender. A t-value is obtained for cognitive indicator is 2.94 and this value is found to be significant at 0.01 level. A t-value value is obtained for affective indicator is 2.22 which shows a significance at 0.05 level. A t-value is obtained for motivational indicator is 3.37, which has a significance of 0.01 level.

In testing the difference in test anxiety with respect of gender, both sub variables worry and emotionality have significant differences. The sub variable worry obtained a t-value of 2.41 and this value is found to be significant at 0.01 level. A t-value of 2.19 is obtained for emotionality and this value is found to be significant at 0.05 level.

While testing the difference in self-esteem with respect of gender, a t-value is obtained as 0.48 which has no significance at any level.

Therefore, on the basis of the result, hypothesis 10 is partially accepted. The unaccepted part of the hypothesis is reworded as there is no significant difference of

academic achievement, physical indicators, social indicators and self-esteem on gender among SC/ST students.

Hypothesis 11

There will be a significant difference in academic achievement, academic stress, test anxiety and self-esteem among different religious groups

Tenability of the hypothesis 11 was tested using One-way ANOVA and the result shows that all the variables in study such as academic achievement, academic stress, test anxiety and self-esteem are not differ with respect of the religion of the students.

Therefore, on the basis of the result, hypothesis 11 is not accepted and hence it is reworded as there is no significant difference in academic achievement, academic stress, test anxiety and self-esteem among different religious groups.

Hypothesis 12

Family income significantly relates positively with academic achievement, academic stress, test anxiety and self-esteem

Tenability of the hypothesis 12 was tested on the basis of the following result:

Correlation analysis revealed that there is no significant correlation between the study variables and family income of the students.

Therefore, on the basis of the result, hypothesis 12 is not accepted and hence it is reworded as family income not significantly relates with academic achievement, academic stress, test anxiety and self-esteem among SC/ST students.