SECTION – 6

ANALYSIS & RESULTS

(Analysis and Results of all the phases)

SECTION 6 : ANALYSIS AND RESULTS

This section includes analysis of all phases of the study and the results. However, each phase has been analysed independently and the details are presented one after the other. Results of all the four phases are presented at the end of this section. Phase C being module development did not have any statistical analysis of data. Hence analysis details of Phase A, B & D are given below:

Phase A - Prevalence Study:

The data obtained from the survey of 1220 children was checked for gender wise mean and standard deviation scores.

Table 7 : Mean and Standard Deviation of Raw scores

	SA	TA	AO	AI	AC
Scoring Range	**10-30**	**10-30**	**5-15**	**5-15**	**5-15**
Girls (n=652)	14.9 (±3.7)	19.5 (±3.6)	9.1 (±2.0)	9.2 (±2.2)	11.6 (±2.3)
Boys (n=568)	15.4 (±3.8)	18.9 (±3.3)	9.2 (±2.1)	9.2 (±2.1)	11.1 ((±2.4)
Total (n=1220)	15.1 (±3.8)	19.2 (±3.5)	9.1 (±2.0)	9.2 (±2.2)	11.4 (±2.4)

SA-State Anger, TA-Trait Anger, AO-Anger Expression Out, AI-Anger Expression In, AC-Anger Control

Table 7 shows mean and standard deviation values of all five components of anger gender wise. The scoring range is also provided in the table. We can see overall higher levels of trait anger scores (19.2 with Girls 19.5 and Boys 18.9) which indicate higher levels of anger proneness. It also implies these children frequently experience intense angers without specific provocation. Not much of the difference is seen gender wise.

Moderate level of anger control (11.4) is also observed denoting the tendency to control expression of anger. Anger control scores are highly influenced by anger suppression in addition to calming down modalities.

Marginal difference is seen between genders in all subscale except anger expression-in. Clarity on these will be obtained analysing the percentile and t scores in the subsequent tables.

Table 8: Intensity of anger among boys and girls

Intensity →		Low < 25		Average 25-75		Elevated 76-89		Very High 90+	
Subscale ↓		Count	% within gender	Count	% within gender	Count	% within gender	Count	% within gender
SA	F	0	.0%	287	44.0%	313	48.0%	52	8.0%
	M	40	7.0%	346	60.9%	143	25.2%	39	6.9%
	Total	40	3.3%	633	51.9%	456	37.4%	91	7.5%
TA	F	131	20.1%	336	51.5%	122	**18.7%**	63	**9.7%**
	M	110	19.4%	366	64.4%	64	11.3%	28	4.9%
	Total	241	19.8%	702	57.5%	186	15.2%	91	7.5%
AE-O	F	242	37.1%	263	40.3%	103	15.8%	44	6.7%
	M	100	17.6%	375	66.1%	66	11.6%	27	4.6%
	Total	342	28.1%	638	52.3%	169	13.9%	70	5.7%
AE-I	F	35	5.4%	332	50.9%	186	28.5%	99	15.2%
	M	27	4.8%	292	51.4%	168	29.6%	81	14.3%
	Total	62	5.1%	624	51.1%	354	29.0%	180	14.8%
AC	F	129	19.8%	262	40.2%	132	20.2%	129	19.8%
	M	59	10.4%	283	49.8%	82	14.4%	144	25.4%
	Total	188	15.4%	545	44.7%	214	17.5%	273	22.4%

SA: State Anger; TA: Trait Anger; AE-O: Anger Expression Out; AE-I: Anger Expression In; AC: Anger Control ; M: Boys; F: Girls

Table 8 reports 37.4 % of children experiencing elevated state anger and 7.5% of children experiencing very high state anger indicating children experiencing relatively intense anger at the time of scale administration. More number of girls (48%% and 8%) than boys (25.2% and 6.9%) have shown higher levels elevated and very high state anger respectively.

Trait anger scores also show more in girls (18.7% and 9.7%) than boys (11.3% and 4.9%) in elevated and very high trait anger zone respectively. Prevalence of 23% (15.2+7.5) of children experiencing higher levels of trait anger indicate very high proneness to anger which is an alarming situation.

Relatively low anger expression-out scores indicate children having hostile attitude and exhibit aggressive tendencies with a lesser frequency. More girls (15.8% and 6.7%) than boys (11.6% and 4.6%) have shown elevated and very high anger expression out.

High anger-expression-in scores of elevated (29%) and very high level (14.8%) indicate adolescents hold-in or suppress anger when they are angry or furious.

In all 15%, 45%, 18%, 22% of children reported low, average, elevated and very high extent of anger control respectively.   This shows 60% of the children are in low and average anger control zone where they tend to control angry feelings less frequently, modulating their anger expression or hiding their feelings. 40% of children have shown elevated and very high anger control abilities. This indicates children are tolerant, understanding and or patient with others. They control their anger by relaxing, calming down and reducing the feelings.

Mixed pattern is seen in gender wise distribution across intensity levels of anger control. Low anger control (girls 20%, boys 10%), average control (girls 40%, boys 50%), elevated anger control (girls 20%, boys 15%) and very high anger control (girls 20%, boys 25%). Further analysis is needed to substantiate gender difference.

Chi-square test was carried out to examine the gender difference in all the subscale. P value of p=0.001 for all the subscales except Anger Expression in (p=0.912) indicate significant gender difference in State Anger, Trait Anger, Anger Expression Out and Anger Control.

Graphical representation of percentage scores gender wise against each anger component is given in Figure 9.

Figure 9 - graphical representation of anger scores (5 graphs)
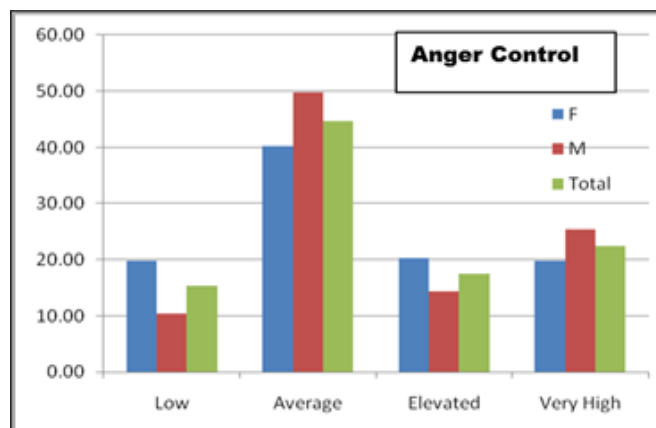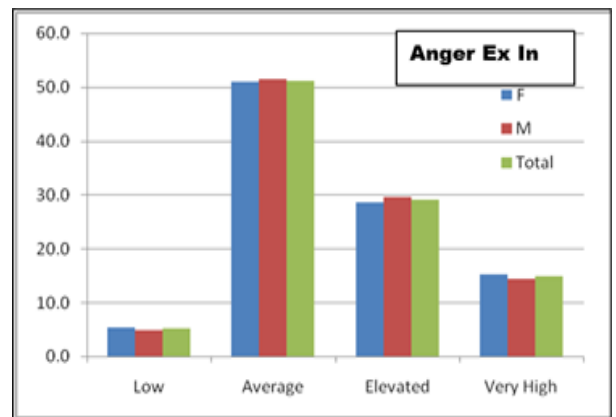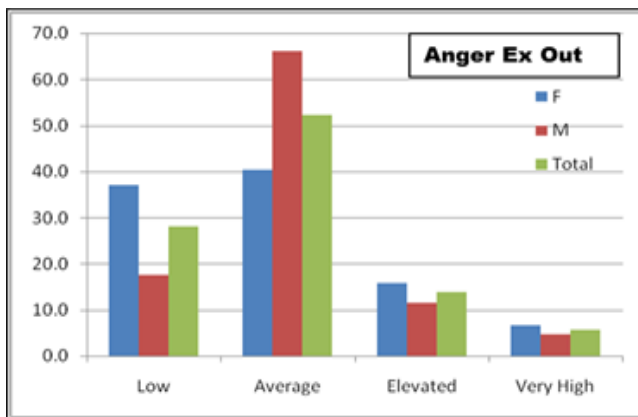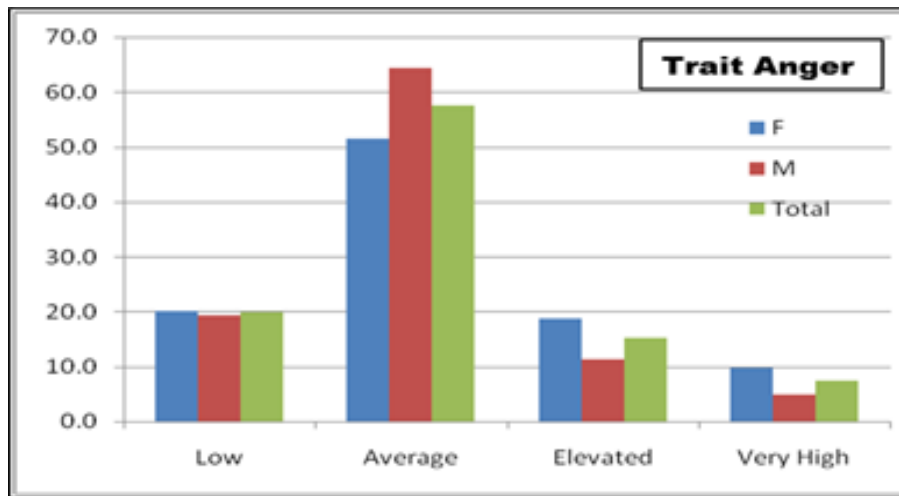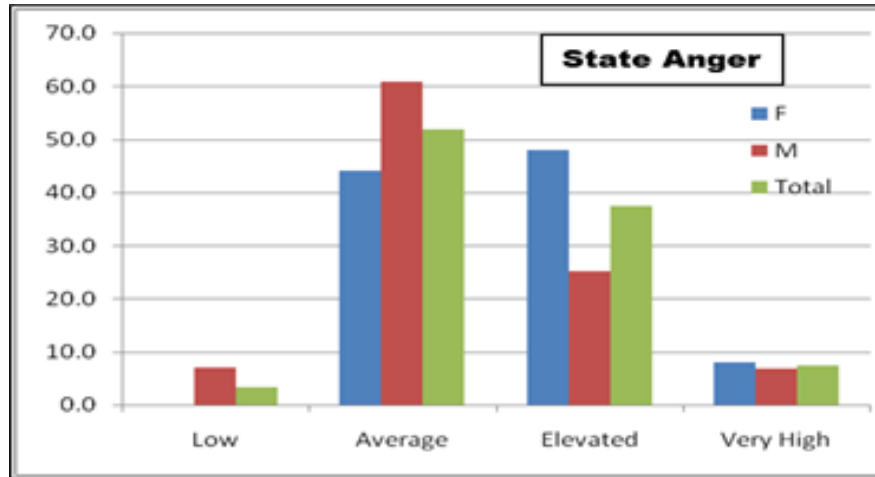
Correlation between state anger and triat anger and also state and trait anger with anger expression out, anger expression in and anger control was carried out using Pearson product correlation test. The results are shown in Table 9 below.

Table 9 : Pearson Correlation of Anger Experience, expression and control

Gender		TA	AO	AI	AC
Girls (n=652)	SA	.411**	.356**	-.076	-.110**
	TA	1	.542**	.013	-.061
Boys (n=568)	SA	.469**	.477**	.053	-.075
	TA	1	.566**	.189**	-.007
Total (n=1220)	SA	.439**	.395**	-.017	-.098**
	TA	1	.535**	.085**	-.045

SA-State Anger, TA Trait Anger, AO-Anger Expression Out, AI-Anger Expression In, AC-Anger Control

Table 9 provides gender-wise correlation coefficient values for all subscales. High positive correlation between State and Trait Anger (0.439) with 0.001 level of significance is observed. Similarly high positive correlation is seen between Anger expression out and State anger (0.395) as well as Trait anger (0.535). However, Anger expression-in and Anger control have not shown any strong correlation with either state or trait anger.

Frequency of answering various options for Q 21 (I show my anger) and Q 25 (I hide my anger) were analysed to check the authenticity of response for two contradictory questions. Both questions were answered 'never' by 85 (6.98%) children and 'often' by 35 (2.87%) children which indicates high reliability of responses.

Phase B - Scale Development study – ANALYSIS & RESULTS

The scale development had three stages. Stage 1 was explained in methodology section as it was more of conceptual and construction of the scale. The remaining two stages are analysed here below:

Stage 2 : Tests of Validity and Reliability

Field administration: The 50 items scale was administered to 278 high school children (102 boys and 176 girls). Cronbach's alpha coefficient for the 50 items scale administered to 278 children recorded as α 0.803.

The interrelations among the 50 items were examined in order to identify the underlying structure of these variables. Factor loadings on each of the item tell us how much of the variation in a variable. Higher the loading, higher is the uniqueness of the item. In order to ensure each item in the scale is different from other or it elicit a unique response pattern, factor analysis is being carried out. Factor analysis carried out using varimax rotation with three factors to assess the loading on each of the 50 component. Factor loading against each item is shown in Table 10.

Table 10 : Rotated component matrix

Item No.	Component 1	Component 2	Component 3	Item No.	Component 1	Component 2	Component 3	Item No.	Component 1	Component 2	Component 3
1	.107	.484	-.144	18	.004	.137	.430	35	.467	-.033	-.151
2	.060	.503	-.236	19	-.055	.452	.222	36	.154	-.456	.372
3	.320	.057	-.114	20	.173	.142	.179	37	-.042	-.140	.482
4	.450	.090	-.049	21	-.046	.074	.228	38	.439	.300	-.009
5	.387	.075	-.004	22	-.103	.277	.283	39	.139	.089	.295
6	.222	.115	.075	23	.547	.133	-.334	40	.177	.524	-.054
7	.046	.104	.403	24	.540	.079	.002	41	.475	.246	.150
8	.220	.268	.130	25	.273	.443	.127	42	-.111	.381	.249
9	-.095	.344	.359	26	.378	.490	.025	43	.116	.177	.375
10	.497	-.018	-.019	27	.497	-.094	-.042	44	.381	.277	.013
11	.284	-.104	.092	28	.595	-.063	-.120	45	.021	-.068	.417
12	-.091	.290	.270	29	.345	-.084	.085	46	-.170	-.075	.377
13	.249	.389	.035	30	.220	-.100	.337	47	-.033	.358	.141
14	.263	.197	.318	31	.392	.102	.102	48	.500	-.161	.080
15	-.215	.550	.250	32	.519	.025	.039	49	.056	.283	.389
16	-.222	.478	.129	33	.392	.033	.156	50	.246	.441	.039
17	.218	.400	.232	34	.344	.152	.278				

Factor loading was considered as a base for item reduction. In consultation with the guide and experts 35 items were selected. The items selected had a loading more than 0.350.

Field test1 : The 35 items, 3 point Likert scale was administered to 60 children (29 boys and 31 girls). Along with this new developed scale, existing western adolescent anger scale (STAXI 2 CA) was also administered and total scores were compared. The Cronbach's Alpha coefficient at this stage was 0.771.   The paired t test run on the total scores of new scale and that of STAXI-2CA scale provided scores as in Table 11.

Table 11: Field test - Paired Sample Statistics

Scales	Mean	Std. Deviation	Std Error Mean
New Scale (35 items)	66.18	8.154	1.053
STAXI 2 CA (35 items)	65.53	7.965	1.028

Paired sample t test results further provide strong evidence (t = 0.599 and p=0.551) that the two scales do not differ in terms of their total mean scores.

Test-retest reliability: The final scale of 23 items was administered twice with a gap of 10 days to127 children in a school to assess the test-retest reliability.   Pearson Correlation coefficient was observed at r= 0.835 which is significant at the 0.001 level (2-tailed). 't' test was carried out to ascertain gender wise mean and standard deviation scores for Test and Retest (Table 12)

Table 12 : Test-retest – total means scores gender wise

	Gender	N	Mean	Std. Deviation	Std. Error Mean
TT	F	63	47.32	5.866	.739
	M	64	46.09	6.399	.800
RTT	F	63	47.92	5.305	.668
	M	64	46.59	5.215	.652

Just to reconfirm the correlation coefficient, paired sample t test was carried out. No statistically significant difference was observed in mean scores of test and retest as shown in Table 14.

Table 14 : Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
Pair 1 TT – RTT	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
	-.551	3.389	.301	-1.146	.044	-1.833	126	.069

Stage 3 – Field Study:

The final scale with 23 items was administered to 757 children. **Cronbach's Alpha coefficient value was observed at 0.804.** Principal Component analysis value for each item is given in table 15. Table 16 below shows the 23 items and their domains.

Table 15: Item wise factor loading

Item No	Loading	Item No	Loading	Item No	Loading
Item 1	.524	Item 9	.559	Item 17	.559
Item 2	.456	Item 10	.365	Item 18	.430
Item 3	.456	Item 11	.403	Item 19	.531
Item 4	.482	Item 12	.576	Item 20	.546
Item 5	.397	Item 13	.415	Item 21	.369
Item 6	.440	Item 14	.415	Item 22	.397
Item 7	.546	Item 15	.558	Item 23	.470
Item 8	.464	Item 16	.510		

Items are listed as annexure 1

Table 16 : Items in the Scale and their predominant domain

Item No.	Items	domain
1	I get angry easily / very fast	Experience
2	Whenever I become angry, I express it off	Lie Detector(1)
3	I feel like scolding or yelling whenever I am angry	Verbal
4	I don't feel like doing anything when I am angry	Mental
5	I get angry when I am compared	Experience
6	I take out my anger on things around me	Behaviour
7	I become angry when I am mocked at or teased	Experience
8	When I am angry, I do not know what to do and what I do	Behaviour
9	I get angry when I am treated unfairly	Experience
10	Whenever I am angry, others can easily understand that I am angry by looking at my face or behaviour	Behaviour
11	When I am angry, I don't have control on what I speak	Verbal
12	I try not to show my anger	Lie detector (2)
13	I get frustrated when I don't get what I want	Experience
14	I become rough with others when I am angry	Behaviour
15	When others shout at me or tease me, I do the same with them	Verbal
16	It takes long time for me to come out of my angry state	Mental
17	I feel angry when others irritate me	Experience
18	When I am angry I do not listen to anyone (I become stubborn)	Mental
19	I become angry when I am blamed for something I did not do	Experience
20	I feel annoyed when others don't appreciate my work	Experience
21	I don't feel normal when I am angry	Mental
22	I get angry when I cannot cope with the expectations of myself /others	Experience
23	I humiliate others when I am angry	Verbal

Experience of Anger – 9 items; Expression at Kaya level (Behavioural) - 4 items; Expression at Vak level (Verbal) - 4 items; Expression at Manas level (Mental) - 4 items; Lie Detector - 2 items

Manual for Adolescent Anger Assessment Scale

This adolescent anger scale is developed by S-VYSASA Yoga University, Bengaluru with help of the financial assistance by Sri Venkateswara Vedic University, Tirupati. A detailed study of Vedic and Vedantic texts was carried out to draw the principles to derive the concept of anger. In addition, thorough study of scientific literature on adolescent anger was also carried out. Psychometric properties of the scale were obtained by adopting scale development processes throughout the process.

Introduction: Anger is the most common and most frequently occurring negative emotion and its consequences have far reaching effects. Therefore assessment of anger is essential. Because of the complexity of anger experience and expression, the problem of assessing anger to a large extent still remains unsolved. The difficulty in assessing anger is that the concept of anger is not very well defined and is in a state of flux. There are several terms that are virtually synonymous such as aggression, hostility etc.

Examination of various instruments developed to assess anger reveals that these scales have not incorporated many important components of anger.   The scales provide narrow and limited information and do not deal with all aspects of anger.

Study of ancient Indian Scriptures reveal that assessment of anger is holistic and complete when measured at physical (kaya), verbal (vak) and mental (mana) domains.   These domains are intertwined so closely that it is difficult to distinguish and assess separately. Hence predominant expression or experience at these domains is considered for assessment.

Adolescence is a transitional period with its own peculiar characteristics and problems.   It is also a period where they establish patterns of behaviour and make lifestyle choices that have long-lasting effects on future health and well-being. Adolescent anger has been associated with devastating social events besides its negative impact on academic performance. Problems associated with

inappropriate expressions of anger are the most serious concerns of parents, educators, and the mental health community Assessing anger during adolescence is hence critical and becomes a priority.

Description of this Adolescent Anger Scale: This scale provides holistic assessment of anger by considering three domains (Physical, Verbal & Mental).   The operational definitions of these three domains are :

Behavioural (Kayika): Expressions of anger using body or gestures including assaultive, hurtful, rebellious, aggressive, violent acts, self-defeating or addictive behaviours, crying etc.

Verbal (Vachika): Expressions of anger through verbal assault like abusive language, insults, contempt, disrespect, cynical humor, disgust, blaming, teasing, name calling, critical etc.

Mental (Manasika):   Expressions of anger in the form of hostility, resentment, withdrawal state, disruptive thought patterns, non-cooperation, vengeance, suspiciousness, argumentative attitude, unsympathetic feeling and mental illness such as depression, anxiety, suicidal tendency etc.

The scale comprised of 9 items related to experience of anger, 4 items each for expression of anger at behaviour, verbal and mind levels. Two opposite meaning items were included as a lie detector. It is a 3 point liker scale having 3 options for answering against each item (Never, Sometimes and Most of the times).   Responses are obtained on the test booklet itself by asking the respondent to tick mark the appropriate response.   There is no time limit but generally 10 minutes is found sufficient for responding all the items.

Target Population and setting: This self-reporting scale is developed in English language and hence could be administered in group or individually to high school children in the age group of 12

to 15 years who are conversant with English language. Class rooms could be ideal setting for administration of the scale.

Instructions for administering the Adolescent Anger Scale : Let the students be seated with proper seating arrangement with a pen / pencil in their hand. Tell them the purpose of the test and ensure that the instructions have been understood by them correctly.

Scoring method : There are options provided for response. Assign number 1, 2, 3 for never, sometimes and most of the times respectively. If the respondent puts the tick mark ($\sqrt{}$) for the first option the score is 1, for the second option the score is 2 and for the third option the score is 3. The summated score of all the 23 items provide the total anger score of an individual. A high score indicates higher levels of anger while the low score shows lower levels of anger.

Reliability and Validity: Reliability of the scale was found by test-retest method and it was found to be 0.835 for the total anger measure. The Cronbach's alpha coefficient for internal consistency reliability of this scale is 0.804. Content and Construct Validity was established by experts opinion (psychologists, yogis, parents, teachers, students). Factor loading against each domain was ascertained using factor analysis. Item reduction was done from 228 items to 23 items in consultation with experts and repeated administration of the scale.

Standardisation: The adolescent anger scale was standardised by administering it on 757 students (427 girls and 330 boys) in 12 different English medium high schools in south Bangalore. Age group of students remained between 12 to 15 years of age.

Authors: The scale is developed by S-VYASA Yoga University. This scale development is a part of the research project funded by Sri Venkateswara Vedic University, Tirupati. All rights on this scale are reserved by both the institutions.

phase D – pre-post study – ANALYSIS & RESULTS

The data obtained from two different anger assessment scales are analysed separately.

Analysis of data from newly developed Anger Assessment Scale :

The pre data was first checked for baseline match of both yoga group (n=114) and control group (n=73) using Independent 't' test.   Observed no significant difference between the mean data of both the group (p=0.152). Cronbach's Alpha coefficient for the scale was checked and found at $\alpha = 0.812$. Test of normality was conducted for pre data and post data separately. Also normality check was done for yoga group and control group pre data. Data is shown in Table 17.

Table 17 : Test of Normality for pre-data

Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Pre data	0.06	187	.200[*]	.993	187	.460
Post data	0.06	187	.087	.990	187	.198
CG	.092	73	.200[*]	.988	73	.713
Yoga	.072	114	.200[*]	.986	114	.306

Table 17 shows that the pre data, post data and also control group pre data and yoga group pre data all fall in the normal distribution.   This test of normality confirmed normal distribution of data and parametric tests can be employed for further analysis of data.

Mean and Standard Deviation of pre and post data was calculated for yoga and control group. Significant reduction in mean scores in yoga group and a slight increase in the mean scores in the control group was observed as in Table 18.

Table 18 : Mean & SD, group wise

	Pre-data		Post data	
	Mean	SD	Mean	SD
Yoga Group	46.20	6.92	42.41	7.31
Control Group	46.36	8.15	46.73	7.00

Paired t-test was carried out to see pre-post difference. The results of pre-post data of yoga group and control group is shown in Table 19.

Table 19 : Paired Samples Test

| Group | Pair | Sample Size | Paired Differences | | | 95% Confidence Interval of the Difference | | t | df | Sig. (2-tailed) |
			Mean	SD	Std. Error Mean	Lower	Upper			
Yoga Group	Pre - post	114	3.789	6.992	.655	2.49	5.09	5.79	113	.000
Control Group	Pre - post	73	-.110	6.590	.771	-1.65	1.43	-.142	72	.887

From the table 19, it is observed that the yoga group showed significant change in the pre-post scores confirming the effect of yoga intervention whereas there was no significant change observed in the control group.

Data Analysis of STAXI 2 CA Scale

Baseline match was done using independent t test for all the five subscale components for both yoga and control group.   The data tend to have excellent base line match with p value at 0.582, 0.451, 0.949, 0.260 and 0.559 for State anger, Trait Anger, Anger Expression Out, Anger Expression In and Anger Control scores respectively.

The raw scores of five subscales were analysed separately for yoga and control group. The mean and standard deviations are provided in table 20:

Table 20 : Mean & SD of pre and post data of both groups

		State	Trait	AE Out	AE In	A Control
Yoga Group	Pre data	15.39	19.73	9.23	8.98	11.02
	Post Data	14.39	18.46	8.95	9.13	11.25
	p value	0.03	0.00	0.25	0.47	0.40
Control Group	Pre data	16.04	20.00	9.88	9.36	11.26
	Post Data	17.73	20.96	9.84	9.40	11.37
	p value	0.00	0.07	0.89	0.90	0.70

There is a significant reduction in observed in state anger scores (15.39 to 14.39 with p=0.03) and trait anger scores (19.73 to 18.46 with p=0.00) of yoga group while a significant increase in mean state anger scores (16.04 to 17.73 with p=0.00) were observed in control group.   Trait anger scores

have also increased in control group (20.00 to 20.96 with p=0.07) but not significant. There is no significant change observed in anger out, anger in and anger control scores of yoga and control group. Pictorial representation of means scores of all the subgroups and both yoga and control group and for both KVM & STAXI scale are given Figure 10

Figure 10 : Overall pre post scores group wise and sub scale wise
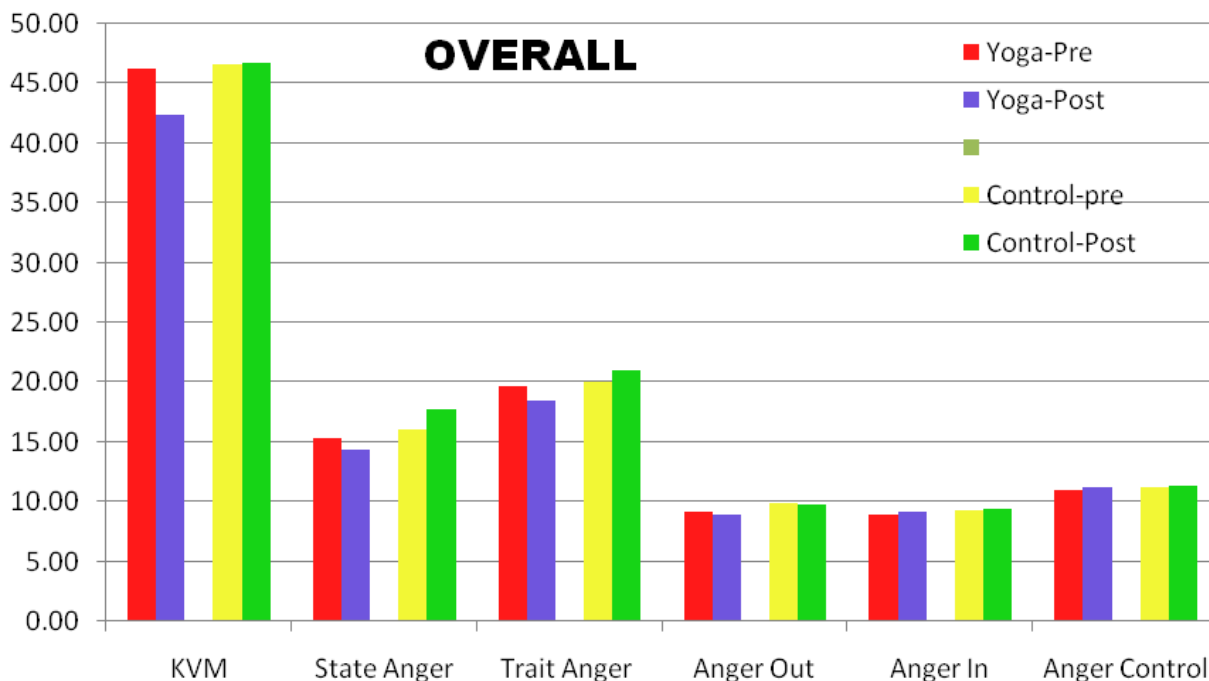
A definite pattern of change in scores is seen between yoga group and control group. Similar pattern is also seen between the two scales. Pictorial representation of school wise data is given in Figure 8 (JKV) and Figure 9 (AHS) .

Figure 11- School JKV
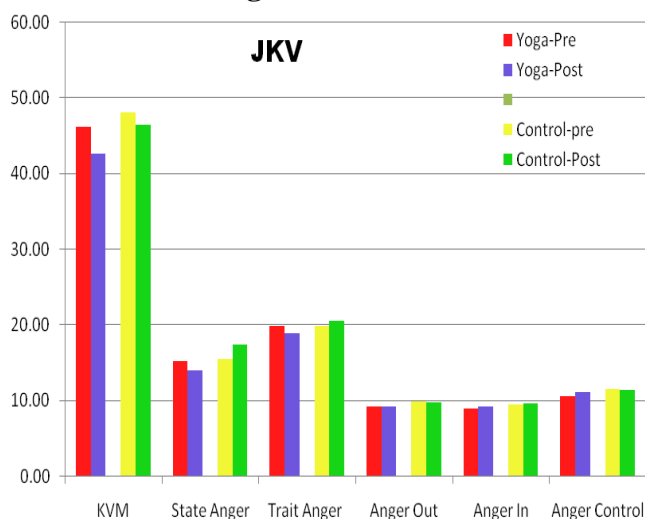
Figure 12 – School AHS
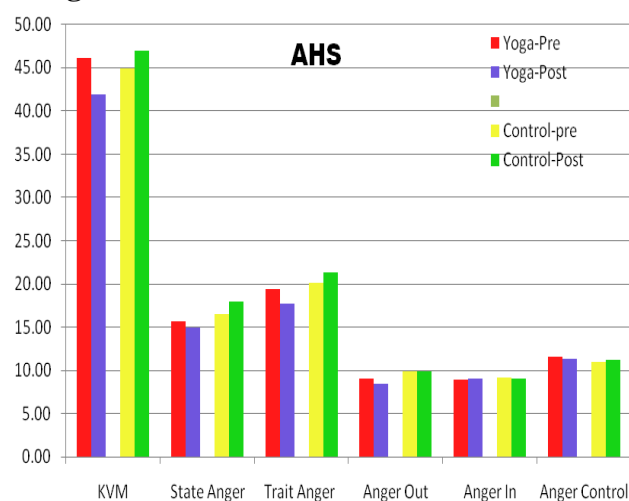
Significant difference is observed between yoga and control group in both the schools. There is a similar pattern of change in both the schools with respect to all components.

Gender wise analysis is also done for both the scales and for all the parameters. Results are provided in graphical form in Figure 10 (girls) and Figure 11 (boys).
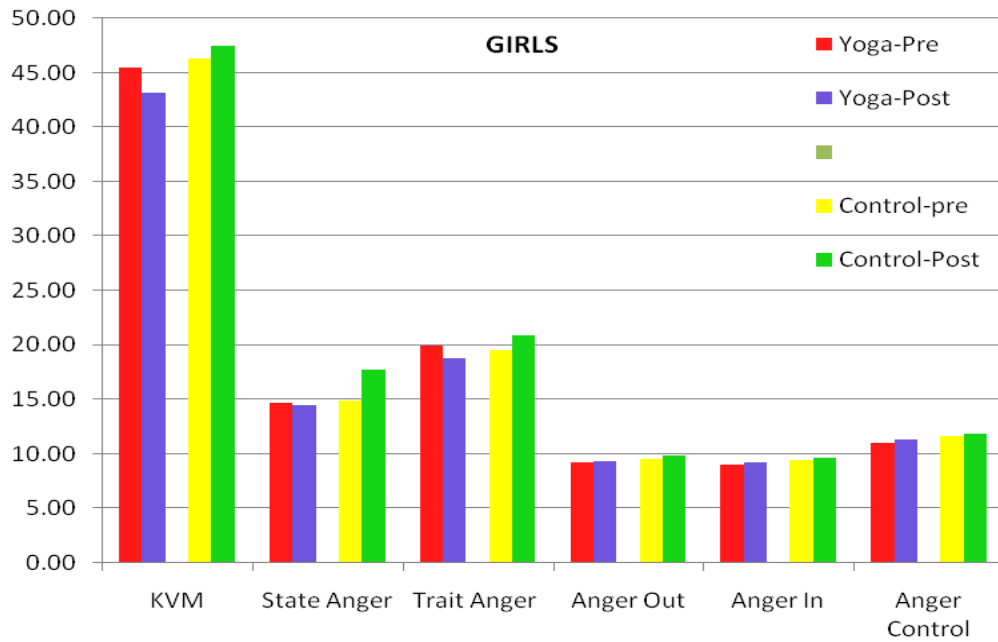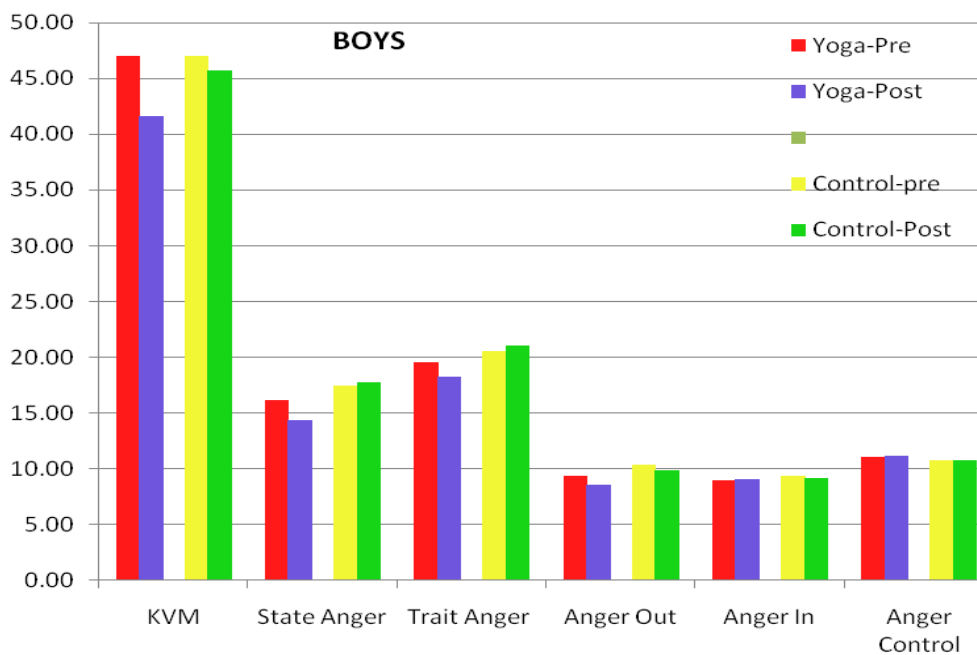
Figure 13 – Overall results - Girls

Figure 14 – Overall results - Boys

RESULTS IN BRIEF

To summarise, results of all four phases are stated below:

Results of Phase A – Prevalence Study:

About 45% of the children experienced elevated and high state anger and 23% experienced elevated & high trait anger.   Higher scores of state and trait anger were observed in girls than boys. Significant positive correlation was observed between anger expression out with both state and trait anger. Higher levels of anger experience and lower levels of anger control are observed in girls than boys.

Results of Phase B - Development of Adolescent Anger Scale:

The anger scale developed recorded a Co-efficient of Alpha values at 0.804. Test-retest reliability showed 0.835 correlation. The scale consists of 23 items assessing anger experience and expression at behaviour, speech and mental level.

Results of Phase C - Module Development :

Short guided meditations for anger management based on the scriptural evidences are developed. Yoga Module having strong justifications for each practice was validated by 10 experts (5 yogis and 5 psychologists). .35 minutes module comprises of opening and closing prayers, äsanas, breathing practices, meditations and knowledge points emphasizing Yama Niyamas.

Results of Phase D - Pre-Post Control Study :

Significant reduction in mean anger scores in yoga group as compared to control group. Pre-post results indicate strong psychometric properties of KVM scale. Subjective feedback on yoga module for anger management is encouraging

SECTION – 7

DISCUSSIONS

SECTION 7 : DISCUSSIONS

The results of this comprehensive study indicate higher prevalence of anger in High school children. The study was able to come out with an anger scale with good statistical validity and reliability scores. The scale also had shown the similar pattern in trends of anger experience and expression when compared with the most widely used western origin scale. Grounded on the principles of IAYT, the yoga module developed was able to significantly influence the intervention group to bring in reduction of anger scores. The pre-post study conducted during academic hours in the school not only provided evidence for yoga as an effective anger management program in schools but also validated the newly developed anger scale and the yoga module.

Since the study is first of its kind, corroboration with the previous studies could not be established. The study was more focused on bringing in universally accepted principles that could be adopted for development of anger scale as well as development of a yoga module for anger management. There is a lot score to work on these principles as well as methodology and other aspects of the study.

Only four studies are cited wherein anger was assessed with yoga as an intervention. Even in these studies anger was a subcomponent of some other scale such as BASC (Behaviour Assessment Survey for Children), POMS (Profile of Mood States) and BRUMS (Brunel University Mood State). Only one study has used adult version of STAXI-2 to study adolescents of mean age 17 years and found no significant reduction of anger with the yoga module they used (Noggle et al, 2012). Out of the four studies two studies report significant reduction of anger in yoga group and other two studies report no significant difference. The smaller sample sizes (n=45, n=47, n=51 and n=121) and many parameters might have influenced the results.

As regards, many studies have used STAXI 2 CA to measure all the five components of anger or partially (only anger expression or anger control etc). The studies on STAXI-2-CA have not reported assessing the data for intensity as is done in the present study. The STAXI2-CA manual provides percentile scores as well as t scores for normative sample in different age groups, gender wise. In the present study conversion of raw scores to percentile scores was done and the analysis was done to see gender wise distribution of children in different intensities of anger zone.

During the study, a lot data related to the concepts were collected but could not be analysed. For instance, dairy sheets were given to yoga group but missed to give it to control group. Feedback from the parents at the end of the program was collected from both the groups but could not be analysed. The questions were open ended and variety of responses has been received. However, qualitative analysis of this data could be done as next step.

The study selected schools of similar type. Future studies recommended to conduct the study in different adolescent population including different types of schools such corporation schools, residential schools etc.

The strength of the study is that it is a inter-disciplinary study (yoga, behaviour science and spirituality). The study was able to extract a good amount of scriptural evidences. The concept of assessing any manifestation at behaviour, verbal and mental level is Holistic. This provides a base for any holistic assessment. Strength of the study is usage of two psychometric scales. The sample size is relatively large and provides good characteristics of generalizability. Study was conducted in two schools and found same results which are also a strong strength of the study. The strength of the study also lies in prevalence identified, customised assessment and customised yoga module which gave a comprehensive approach to study.

Limitations of the study to could be attributed to passive control group, block randomisation approach giving limited scope for recruitment and selection of subjects, different sample size in yoga (114) and control group (73). Another limitation was the researcher developed the scale, developed the module and also administered the intervention program. No blinding was done at any level. Further, entire analysis of pre-post data was done using paired-t test. Advanced methods can be applied to ensure subtle aspects that influence the results may also be captured. There is ample scope for further sub group analysis and comparison between the scales.

The limitation in terms of scale development, the scale does not include anger management component leaving a wide scope for improvisation. The module validation process was not analyzed completely which need to be done as post-doctoral work. There is ample scope for improvisation of both scale and the module.