

CHAPTER 5

5.0 METHODS

5.1 PARTICIPANTS

A total of 300 adolescent students, comprising 154 males and 146 females with an average age of 13.06 ± 1.10 years, were selected for the study from grades 7, 8, and 9.

5.1.1 SAMPLE SIZE

The sample size of 300 was determined using the mean, standard deviation, and Cohen's *d* values from a previous study by (McClelland et al., 2015). G*Power software version 3.1.9.4 was used, with a significance level of 5%, power set at 95%, and an estimated effect size of 0.60. The initial required sample size was calculated to be 116 participants. To account for an estimated dropout rate of approximately 10%, the adjusted sample size was 126. A similar calculation for the Western Zone resulted in a required sample size of 174.

It is important to note that in school-based intervention programs, authorities have stipulated that students cannot be excluded from common activities for which time has been allotted. Consequently, a sample of 174 participants was selected from the West location.

5.1.2 SELECTION AND SOURCE OF PARTICIPANTS

Out of the eight schools initially approached during the fieldwork, two were selected for the study. The exclusion of six schools was due to issues such as incompatible school timings, insufficient basic infrastructure, inadequate support staff, and delays in management commitments. Consequently, the researchers finalized a rural English medium school in Haryana and a government school in Maharashtra for the study.

5.1.3 INCLUSION CRITERIA

Students without health issues that could limit their ability to perform yoga or physical activities were included in the study. Inclusion criteria also required students to have provided assent and to have obtained signed parental consent. Furthermore, students with no prior exposure to yoga and a demonstrated willingness to participate in the intervention were included.

5.1.4 EXCLUSION CRITERIA

Students unable to comprehend instructions or fully participate in yoga sessions, those requiring continuous medical supervision incompatible with the study protocol, individuals undergoing psychological counseling that may influence study outcomes, and students with known allergies or sensitivities to yoga intervention materials were excluded. Additionally, students transferred from other schools without academic records, those with recent physical injuries or surgeries, individuals diagnosed with fever or infectious diseases, and those experiencing physical debility or weakness were excluded.

5.1.5 ETHICAL CONSIDERATION

Permission to conduct the study was obtained from the school management after the Institute of Ethics Committee certificate review (RES/IEC-SVYASA/214/2021) issued by the University. Consent forms, containing project instructions and objectives, were signed by parents for approval. Minors signed their consent forms, and an orientation program about the project was conducted.

5.2 DESIGN OF THE STUDY

This study aimed to assess the impact of yoga and physical exercise on academic performance (AP) and associated factors among adolescent students from two different

schools. Following CONSORT guidelines, the study adopted a three-arm stratified randomized design with strata defined by grade, gender, and academic score. Academic scores from the previous year were stratified as follows: { $\leq 35\%$, $>35\%$ and $\leq 50\%$, $>50\%$ and $\leq 60\%$, $>60\%$ and $\leq 75\%$, $>75\%$ and $\leq 85\%$, and $>85\%$ }, details given in **Table 7**. Randomization, performed by an independent statistician, was based on these strata, with students from grades seven, eight, and nine randomly allocated to three groups in a 1:1:1 ratio. Random numbers were generated for each student using computer-based software, and students were then randomly assigned to three groups within each grade and gender. Coding procedures were carried out, assigning each student a code (e.g., VII.24.M). The first author remained blinded to the coding and random allocation, rendering the study a single-blind randomized trial.

5.2.1 STRATIFICATION FOR RANDOMIZATION

Table 7: Strata Characteristics and Details for Randomization

S. No	Characteristics	Details
1	<i>Strata</i>	Three strata: <i>Grade, Gender, Academic Score</i>
2	<i>Grade</i>	Three grades: <i>7th, 8th, and 9th standard</i>
3	<i>Gender</i>	Two genders: <i>Male and Female</i>
Sub-strata		Academic Score
1	<i>Level - I</i>	<i>Less than and equal to 35%</i>
2	<i>Level - II</i>	<i>More than 35%, less than and equal to 50%</i>
3	<i>Level - III</i>	<i>More than 50% less than and equal to 60%</i>
4	<i>Level - IV</i>	<i>More than 60% less than and equal to 75%</i>
5	<i>Level - V</i>	<i>More than 75% less than and equal to 85%</i>
6	<i>Level - VI</i>	<i>More than 85%</i>

Legend: Random numbers generated by a computer were assigned to each student and sorted. Thereafter, students were randomly allocated in sequence into three groups, within each grade and gender. The groups were defined as Hatha Yoga (group A), Hatha Yoga and Jnana Yoga (group B), and Physical Exercise (group C). The total sample size was 300, allocated in a 1:1:1 ratio, comprising 146 female and 154 male students. The sample size of each group was 100 at baseline.

5.3 MEASURES

PRIMARY VARIABLES

5.3.1 ACADEMIC PERFORMANCE

The average scores obtained by the students at the beginning of the first semester in quarterly examination and at mid-term examination were considered as pre and post academic scores respectively. The academic scores were provided by the school management for research purpose.

5.3.2 MINIMUM MUSCULAR FITNESS

The Kraus-Weber test for muscular fitness (Kraus & Hirschland, 1954) was utilized to assess the strength and fitness of various muscle groups, including abdominal, psoas, abdominal minus psoas, psoas and lower abdominal, upper back, lower back, and length of back and hamstring muscles. A scoring system was employed wherein a score of '0' was assigned for failure to perform the posture, and a score of '1' was assigned for successfully attaining the final posture without support. Starting from the third posture, examinees were required to maintain the posture for a minimum of 10 seconds. The test was conducted without prior warm-up exercises to ensure accuracy in evaluating muscular fitness levels.

5.3.3 INTELLIGENCE QUOTIENT

Raven's Progressive Matrices (RPM), developed by John Carlyle Raven, is a visual analogy test designed to measure fluid intelligence, visual perception, and analogical reasoning. Widely regarded as a gold standard test, it is applicable for individuals aged 6 to 80 years (Burke, 1958; John & Raven, 2003). The RPM consists of 60 tests divided into 5 sets (A to E). Each set comprises 12 tests, presenting a matrix with a missing part, and the examinee is tasked with identifying the missing element from the provided options. Difficulty levels

progressively increase from set A to set E, encompassing diverse themes such as continuous patterns, analogies between figures, progressive alterations of patterns, permutations, and resolution of figures.

5.3.4 WORKING MEMORY

Short-term and working memory were assessed using the Digit Span and Number Sequencing tests, subsets of the Wechsler Intelligence Scale (Wechsler & Kodama, 1949). The Digit Span test comprises two parts: Digit Span Forward (DSF) and Digit Span Backward (DSB), each consisting of eight items with two trials per item. In Digit Span Forward, examinees repeat numbers in the same sequence as read by the examiner, while in Digit Span Backward, they recite the number sequence in reverse order. The total score is the sum of the scores from both the forward and backward spans (Wahlstrom et al., 2016).

5.3.5 ACADEMIC SKILLS

Structured tests, collectively worth 50 marks, were conducted to assess language proficiency (comprehension and creative writing), numeracy skills (mathematical problems), reading skills (reading passages), and general knowledge, reasoning, and basic scientific knowledge. Question sets were designed by subject experts based on the grade level of the students. Each test and section was time-bound and weighted for scores.

5.3.6 INTERNALIZING-EXTERNALIZING BEHAVIOR

The Strength and Difficulties Questionnaire (SDQ), a self-report screening tool (Goodman et al., 1998), includes five sub-scales measuring emotional symptoms, conduct problems, hyperactivity, peer problems, and pro-social behavior. The total SDQ score is the sum of the first four sub-scales, excluding pro-social behavior, and items 28 to 32 are used to calculate the impact score. The externalizing sub-scale is the sum of the hyperactivity and conduct sub-scales, while the internalizing sub-scale is the sum of the peer and emotional sub-

scales. Cronbach's alpha values are $\alpha = .774$ for the Youth Version (30 items) at baseline, $\alpha = .791$ for the follow-up or end-line version (30 items), and $\alpha = .800$ for the Parent version (30 items).

5.3.7 ACADEMIC SELF-EFFICACY

The Academic Self-Efficacy and Efficacy for Self-Regulated Learning scale (Chemers et al., 2001) assesses self-efficacy based on constructs of perseverance, persistence, determination, motivation, and belief in one's capabilities. Adapted from the theoretical model proposed by Zimmerman et al. (1992), the scale consists of 11 items under Academic Self-Efficacy, measured on a five-point Likert scale, and eight items under Self-Regulated Learning, measured on a seven-point Likert scale. Scores from each sub-scale are summed for the final assessment, with higher scores indicating a greater level of academic self-efficacy and self-regulated learning. Cronbach's alpha values for Academic Self-Efficacy are $\alpha = .750$ pre-study and $\alpha = .834$ post-study. For the Self-Regulated Learning domain, Cronbach's alpha values are $\alpha = .690$ pre-study and $\alpha = .823$ post-study.

5.3.8 TEST ANXIETY

Test anxiety, which measures anxiety impairments before or during a performance, was assessed using the Westside Test Anxiety Scale (Driscoll, 2007). This scale consists of ten items rated on a five-point Likert scale, measuring the degree of likelihood from "never true" (1) to "always true" (5). The total score is divided by ten to obtain a score ranging from one to five, indicating levels labeled from comfortable low anxiety to extremely high anxiety. The pre- and post-study Cronbach's alpha values for the scale are $\alpha = .653$ and $\alpha = .755$, respectively.

SECONDARY VARIABLES

5.3.9 PARENTING STYLE

The Parenting Style Questionnaire (Robinson et al., 1995) was employed to assess preferred parenting styles, including authoritative, authoritarian, and permissive styles. This questionnaire consists of three sub-scales, each measuring a dimension of parenting style. The first two sub-scales, measuring authoritative and authoritarian styles, comprise 13 items each, while the third sub-scale, measuring permissive parenting style, comprises four items. Each item was evaluated on a six-point Likert scale, ranging from 'never' (1) to 'always' (6). The Cronbach's alpha values for the authoritative, authoritarian, and permissive parenting domains are $\alpha = .749$, $\alpha = .808$, and $\alpha = .746$, respectively.

5.3.10 FIDELITY CHECKLIST

A Fidelity Checklist, developed based on the Checklist Standardizing the Reporting of Interventions for Yoga (CLARIFY), was implemented to ensure adherence to the intervention module by trainers (Moonaz et al., 2021). The checklist encompasses four domains: session information, adherence to lesson plans, student engagement, and trainer preparation. Each domain includes open-ended, dichotomous, and close-ended questions, rated on various Likert scales (Feagans-Gould et al., 2016).

5.3.11 SOCIO-ECONOMIC STATUS

The Kuppuswamy socio-economic scale, widely used since 1976, was employed using the updated version for the year 2022. The population was categorized based on the profession-score 1-10, education of the head of the family-score 1-7, and monthly family income-score 1-12. The socio-economic strata are Upper (I)-score 26-29, Upper Middle (II)-score 16-25, Lower Middle (III)-score 11-15, Upper Lower (IV)-score 5-10, and Lower (V)-score less than 5. The scale has been modified by various authors based on the Consumer Price Index (CPI), an index measuring the difference in prices for goods and services that families purchase as end-users (Dalvi et al., 2020).

5.3.12 FEASIBILITY CHECKLIST

To assess the feasibility of the intervention project, a Feasibility Checklist based on eight factors; acceptability, demand, implementation, practicality, adaptation, integration, expansion, and limited-efficacy testing was developed (Bowen et al., 2009). Ratings for each domain were provided on a four-point Likert scale, with ‘not at all’ scored as zero, ‘very little’ as one, ‘somewhat’ as two, and ‘to a great extent’ as three.

5.3.13 QUALITATIVE EVALUATION OF YOGA INTERVENTION

The qualitative evaluation of the Yoga intervention program involved semi-structured interviews with 20 randomly selected students from groups A and B. The interviews, based on the Yoga evaluation questionnaire (Butzer et al., 2017), aimed to explore students’ perceptions of school-based Yoga programs, their personal experiences, and opinions regarding physical, psychological, and social outcomes. Following the interviews, all responses were transcribed for precision in representation. Subsequently, a coding framework was created based on students’ conversations regarding yoga programs to evaluate the impact of the intervention on the development of adolescents.

5.4 INTERVENTION

Trainers for both schools underwent an interview process before selection, with selection criteria based on qualifications and years of experience in training school students. A total of 18 trainers were selected: nine for the first school in Haryana and nine for the second school in Maharashtra. Among these, twelve possessed master’s degrees in Yoga, while the remaining six held degrees in physical education, each with a minimum of three years of training experience. Post-selection, the trainers participated in a 15-day training program (30 hours), tailored to the specific modules designed for each group.

The Hatha Yoga and combined Hatha and Jnana Yoga intervention protocols for Group A (**Table 8**) and Group B (**Tables 9a and 9b**) were developed by six experts with an average of 20 years of experience in self-practice and teaching Yoga. The physical exercise protocol (**Table 10**) was devised by three physical education experts, possessing over a decade of professional experience in physical exercise training. The total intervention and exposure time were 52 and 55 hours for the Haryana and Maharashtra schools, respectively, with each session lasting 50 minutes. Sessions were conducted three to six days a week for a period of 14 weeks (July 2022 to November 2022) for the first school in Haryana (North zone) and (August 2022 to January 2023) for the second school in Maharashtra (West zone).

Yoga and physical exercise sessions were conducted simultaneously for all groups within the school premises for a total of 63 days in the North and 66 days in the West locations, respectively. Boys and girls practiced together for all sessions. Each session lasted for 50 minutes, starting at 8:00 AM for the North zone and 11:00 AM for the West zone. An additional 10 minutes were allotted for students' assembly and dispersal. Participants in Group A practiced conventional Hatha Yoga, focusing on physical postures (*Asana*) and breath control (*Pranayama*). They emphasized consistent rhythmic practice synchronized with breathing patterns and gradually mastering postures. They also practiced awareness of physical, mental, and breathing patterns. Group B participants received training in traditional Hatha Yoga supplemented with Jnana Yoga concepts. Group C members participated in enhancing muscular strength, endurance, and cardio-respiratory fitness through moderate to intense physical exercises. Data with less than 80% attendance were excluded from analysis. By considering missing data, outliers, and students' unavailability, analysis was performed on 92.66% of the initial sample size.

5.5 DATA EXTRACTION

The data extraction for the present study involved systematically retrieving relevant information from participating students and parents to assess various parameters. Data were collected from two distinct schools before and after the intervention. These instruments measured objective parameters such as physical fitness, general intelligence, cognitive assessments, and evaluations of academic skills, as well as subjective measures like academic self-efficacy, emotional and behavioral problems (via the Strengths and Difficulties Questionnaire), and test anxiety.

The necessary data were collected using hardcopies of the response sheets, and the responses were manually entered into Microsoft Excel (Version 2019) against individual student codes. Separate Excel sheets were used to record pre-test and post-test data. To ensure the data were accurate and free of errors, two independent reviewers meticulously verified the data entries. The process included handling missing values through imputation and mean value replacement methods. Outliers were identified and excluded based on consensus between two reviewers.

The collected data were converted into a format suitable for analysis. Final values for each variable were computed according to the guidelines provided in the manuals of the respective assessment tools, including necessary adjustments for reverse-coded items. The cleaned and transformed data were stored in a structured format within Microsoft Excel, ensuring it was readily accessible for subsequent statistical analysis and evaluation.

5.6 DATA ANALYSIS

Data analysis was conducted within the framework of the research questions and hypotheses. Descriptive statistics were used to present the mean and standard deviation of each variable. Inferential statistics, specifically One-way ANOVA, were employed to scrutinize

group differences at baseline. This method was instrumental in examining whether the groups exhibited statistical parity at baseline. To discern which group demonstrated superior performance, One-way ANOVA with Bonferroni adjustment was performed on the differences between post- and pre-intervention values for each variable, focusing on either rejecting or failing to reject the null hypotheses.

Multiple regression analysis was then performed on pre- and post-intervention data for each group, with data transformed to standardized values and multicollinearity checked with variance inflation factor (VIF) being less than 5. Regression coefficients (β), explained variance (R^2), adjusted R^2 , and standard error of estimates (Se) assessed precision of prediction. Additionally, correlation coefficients were analyzed to understand the relationships between academic performance and different parenting styles, as well as between socio-economic status and academic performance.

Furthermore, the study employed four mediation models using multiple regression with 95% confidence intervals around estimates of indirect effects. The first two models explored intrinsic goal orientation and task value as mediators between critical thinking (independent variable) and self-efficacy for learning and performance (dependent variable). The remaining two models examined self-esteem as a mediator between mindfulness (independent variable) and total emotional and behavioral problems (dependent variable). The Sobel test assessed the significance of the indirect effects in all models, determining whether they significantly differed from zero. Both direct and indirect effect coefficients (β) and standard errors (S_e) were analyzed to understand the mediation relationships.

The entire data analysis process was executed independently by a statistician using the Statistical Package for Social Sciences (SPSS: Version 26). The ensuing results are comprehensively discussed in alignment with the study objectives in the subsequent chapter.

Table 8: Hatha Yoga Intervention Protocol for Group A

Practice Level		1	1, 2	1,2	1,3	1,3	1,3	1,3	1,3,4	1,3,4	1,3,4,5	1,3,4,5	1,3,4,5	6	6	
S. No	Week Count	W1	W2	W3	W4	W5	W6	W7	W8	W9	W11	W12	W13	W15	W16	Minutes
	No of Days	5	5	5	3(4)	3(4)	4	5	4	5	5	5(4)	5	3(5)	6	
1	Opening Prayer	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
2	Breathing Practices	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	3
3	Trikonasana	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
4	Surya Namaskaar		2(4)	4(4)	4(6)	4(9)	4(12)	6(12)	6(12)	8(12)	8(12)	10(12)	10(12)	12(12)	12(12)	7
5	QRT		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
6	Sithila Tadasana	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
7	Vrikshasana	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
8	Vajrasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
9	Ustrasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
10	Paschimuttanasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
11	Gomukhasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
12	Vakrasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
13	Bhujangasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
14	Salbhasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
15	Dhanurasana				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
16	Makarasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2

17	Pavanmuktasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
18	Setubandhasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
19	Uttanpadasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
20	DRT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	4
21	Kapalbhatti		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
22	Ujjayi			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
23	Nadishuddhi	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
24	Bhramari		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
25	Sheetali			Y	Y	Y	Y	Y	Y	N	N	N	N	N	1
26	Omkar Chanting	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
27	Closing Prayer	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1

Legend: W: Week; Y: Yes; 1: Movement, 2: Alignment Correction, 3: Breath Synchronization, 4: Awareness, 5: Relaxation, 6: Closed Eye Practice. 2(4): Two rounds till four steps. QRT: Quick Relaxation Technique. DRT: Deep Relaxation Technique: 63 and 66 days – North and West zones.

Table 9a: Hatha Yoga Intervention Protocol for Group B

Practice Level	1	1, 2	1,2	1,3	1,3	1,3	1,3	1,3,4	1,3,4	1,3,4,5	1,3,4,5	1,3,4,5	6	6		
Week Count	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	Minutes	
S. No	No of Days	5	5	5	3(4)	3(4)	4	5	4	5	5	5(4)	5	3(5)	6	
1	Opening Prayer*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
2	Breathing Practices	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
3	Trikonasana	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
4	Surya Namaskar	2(4)	2(4)	4(4)	4(4)	4(9)	4(9)	4(12)	4(12)	6(12)	6(12)	8(12)	8(12)	8(12)	8(12)	5
5	QRT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
6	Vrikshasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
7	Paschimuttanasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
8	Vajrasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
9	Ustrasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
10	Gomukhasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
11	Vakrasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
12	Bhujangasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
13	Salbhasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
14	Dhanurasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
15	Makarasana				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
16	Pavanmuktasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
17	Setubandhasana			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1

18	Uttanpadasana		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
19	Kapalbhatti		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
20	Ujjayi		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
21	Nadishuddhi	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
22	Bhramari	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
23	Gayatri Mantra	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	4
24	Yoga Nidra*	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	5
25	Academic Instructions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10
26	Closing Prayer	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1

Legend: W: Week; Y: Yes; 1: Movements; 2: Alignment Correction; 3: Breath Synchronization; 4: Awareness; 5: Relaxation; 6: Closed Eye Practice; 2(4): Two rounds till four steps; QRT: Quick Relaxation Technique; Opening Prayer* and Yoga Nidra* performed with positive affirmations (Sankalpa) – provided in Supplement A of Appendix. Number of days – 63 and 66 days for North and West zone, respectively.

Table 9b: Academic Intervention Protocol for Group B based on the Concepts of Jnana Yoga

	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
Monday	R	W	W	C	A	W	N	W	N	C	R	N	W	N
Tuesday	W	A	R	N	C	R	R	C	W	N	N	W	R	C
Wednesday	C	R	N	W	A	N	C	W	R	A	N	R	C	W
Thursday	N	A	C	R	W	C	W	N	C	R	A	C	N	N
Friday	A	C	A	W	R	A	A	R	N	C	W	N	A	R
Saturday	R	N	R	C	W	R	N	A	R	W	C	R	C	A

Legend: W1-W14: Weeks, R: Reading, W: Writing, C: Comprehension, N: Numeracy, A: Arithmetic. Academic Instructions (Activity 25, Table 8a) were given during the sessions and students completed the assignments at home and were checked once a week. The details of the instructions are provided separately in Supplement A under the Appendix section.

Table 10: Physical Exercise Protocol for Group C

Level of Practice		1	1	1	2	2	2	2	3	3	3	3	4	4	4	
Week Count		W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	
S. No	No of Days	5	5	5	3(4)	3(4)	4	5	4	5	5	5(4)	5	3(5)	6	Minutes
1	Jogging	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
2	Jumping Jacks	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
3	Spot Marching	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
4	Single Leg Stand	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
5	Arm Circle	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
6	Trunk rotation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
7	Air squats	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
8	Air Jump Rope	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
9	Jumping Jacks		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
10	Kick Boxing		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
11	Squat Jumping			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
12	Screamer Lunges			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
13	Mountain Climbers				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
14	Burpees					Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2

15	Bear Crawl			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
16	Butt Kicks		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
17	Crab Walk				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
18	Standing Oblique Crunch	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
19	Speed Skaters		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	1
20	Lying Toe Taps				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
21	Standing Alternate Toe Touches	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
22	Jumping Lunges					Y	Y	Y	Y	Y	Y	Y	Y	Y	2
23	Plank Jacks				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
24	Diagonal Jumping		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
25	Rotational Jacks					Y	Y	Y	Y	Y	Y	Y	Y	Y	2
26	Pushups	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
27	Side Planks				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	2
28	Cool Down Exercises	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	7

Legend: W: Week; Y: Yes; Time for each practice: 1 to 7 minutes; Level of practice: Minimum one round to Maximum four rounds; Total time duration: 50 minutes. Number of days 63 and 66 days for North and West zones, respectively.