

CHAPTER – III

METHODOLOGY

In this chapter selection of subjects, selection of variables, experimental design, pilot study, criterion measures and selection of tests, reliability of data, reliability of instruments, subject reliability, orientation of the subjects, administration of test items, administration of training programmes, collection of data, statistical techniques and its justification adopted for the analysis of data have been described.

3.1 SELECTION OF SUBJECTS

The purpose of the study was to find out the influence of game-specific field training, yogic practice and mental training on selected physical, physiological, psychological and performance variables among cricket players.

To achieve the purpose of the study, sixty male inter-collegiate cricket players studying in various colleges affiliated to Bharathidasan University, Tiruchirappalli, Tamilnadu State, India were randomly selected as subjects and their ages ranged from 18 to 25 years. The subjects (N=60) were randomly assigned to four equal groups of fifteen subjects each.

3.2 SELECTION OF VARIABLES

The research scholar reviewed the available scientific literature pertaining to the problem from books, journals, magazines, websites and research papers which revealed the importance of game-specific field training, yogic practice and mental training. Taking into consideration of feasibility, criteria and

availability of the instruments the following variables were selected for this study.

3.2.1 DEPENDENT VARIABLES

Physical Variables

- ✚ Speed
- ✚ Explosive Strength
- ✚ Flexibility

Physiological Variables

- ✚ Systolic Blood Pressure
- ✚ Diastolic Blood Pressure
- ✚ Vital Capacity

Psychological Variables

- ✚ Anxiety
- ✚ Aggression
- ✚ Self Confidence

Performance Variables

- ✚ Playing Ability

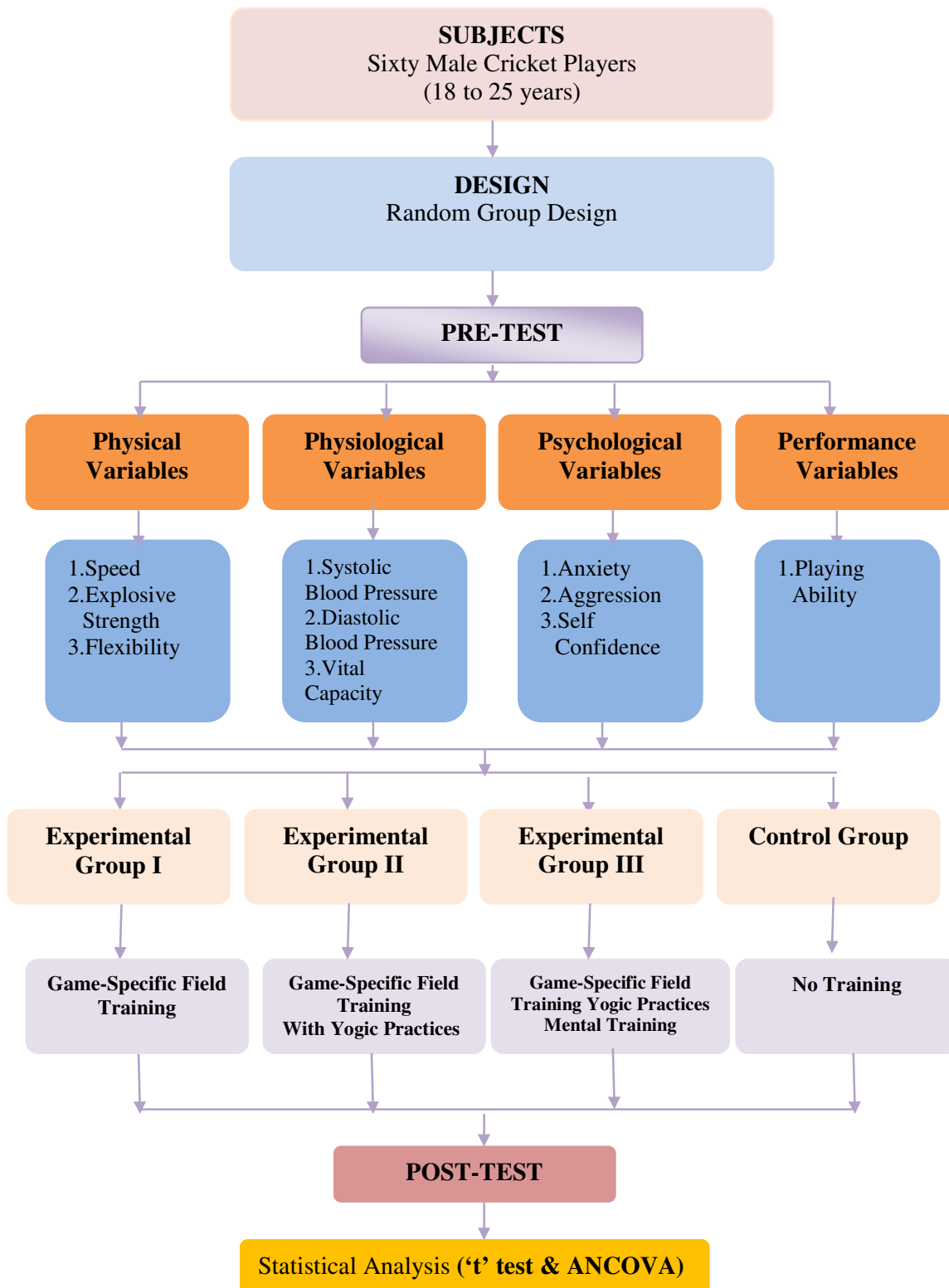
3.2.2 INDEPENDENT VARIABLES

- ✚ Group I – Game Specific Field Training
- ✚ Group II – Game Specific Field Training with Yogic Practices
- ✚ Group III – Game Specific Field Training, Yogic Practices with
Mental Training
- ✚ Group IV – Control Group

3.3 EXPERIMENTAL DESIGN

The study was formulated as a true random group design, consisting of a pre-test and post-test. Sixty male inter-collegiate cricket players studying in various colleges affiliated to Bharathidasan University, Tiruchirappalli, Tamilnadu State, India were randomly selected as subjects and their ages ranged from 18 to 25 years. The subjects (N=60) were randomly assigned to four equal groups of fifteen subjects each. Pre test was conducted for all the subjects on selected physical, physiological, psychological and performance variables. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group I, Experimental Group II, Experimental Group III and Control Group in an equivalent manner. Experimental Group I was exposed to game-specific field training, Experimental Group II was exposed to game-specific field training with yogic practices, Experimental Group III was exposed to game-specific field training with yogic practices and mental training and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks

Research Flow Chart



3.4 PILOT STUDY

A pilot study was conducted to assess the initial capacity of the subjects in order to fix the load. For this purpose ten subjects were selected randomly and underwent training packages under watchful eyes of the experts and the researcher. Based on the response of the subjects in the pilot study the training schedule were constructed, however the individual differences were considered while constructing the training programme. The basic principles of training (progression, over load and specificity) were also followed.

3.5 SELECTION OF TESTS

The following tests were administered to measure the selected physical, physiological, psychological and performance variables. The tests were administered to the subjects before and after the training programme.

TABLE – I
TEST SELECTION

S.No	Variables	Tests/Equipments	Units
1	Speed	50 Metre Dash	Seconds
2	Explosive Strength	Standing Broad Jump	Metres
3	Flexibility	Sit and Reach	Centimetres
4	Systolic Blood Pressure	Sphygmomanometer	mmhg
5	Diastolic Blood Pressure		
6	Vital Capacity	Spirometer	Litres
7	Anxiety	Spielberger Questionnaire	Scores
8	Aggression	Smith Questionnaire	
9	Self Confidence	Agnihotri's Questionnaire	
10	Playing Ability	Subjective Rating	Points

3.6 RELIABILITY OF DATA

The reliability of data was established by using test-retest method. To achieve this purpose, ten subjects were randomly selected and the test was administered twice after a day's gap. Care was taken to keep all testing conditions uniformly during testing and retesting. The scores recorded for the ten subjects during the test and retests were correlated using Intra Class Correlation for the different variables. The co-efficient of correlation is presented in Table – II.

TABLE – II
RELIABILITY CO-EFFICIENT OF CORRELATION OF
TEST-RETEST SCORES

S.No	Variables	Co-efficient of correlation 'r' (N=10)
1	Speed	0.89*
2	Explosive Strength	0.86*
3	Flexibility	0.91*
4	Systolic Blood Pressure	0.92*
5	Diastolic Blood Pressure	0.90*
6	Vital Capacity	0.89*
7	Anxiety	0.96*
8	Aggression	0.91*
9	Self Confidence	0.90*
10	Playing Ability	0.85*

* Significant at 0.05 level. (Table value required for significance at 0.05 level of confidence df 9 was 0.67)

3.7 RELIABILITY OF INSTRUMENTS

The instrument such as stop watch, sit and reach box, sphygmomanometer, spirometer, were reliable and accurate enough to carry out the test procedures successively.

3.8 TESTER'S RELIABILITY

To ensure the tester's reliability of the tests the investigator had a number of practice sessions in the teaching procedure and well versed in the technique of conducting the test. Tester reliability of test was established by test-retest process. For this purpose ten subjects were selected at random on the chosen variables, which were recorded twice under identical conditions on different occasions by the different investigator.

3.9 SUBJECTS RELIABILITY

In order to get uniform results from the same subjects, they were used under similar conditions for the same test by the same tester. The test-retest method was used to find out the subjects reliability.

3.10 ORIENTATION TO THE SUBJECTS

The investigator held a meeting with the subjects prior to the administration of tests. The purpose, the significance of this study and the requirements of the testing procedure were explained to them in detail, so that there was no ambiguity in their minds, regarding the efforts required of them. All the subjects voluntarily came forward to co-operate in the testing procedures and the training to put in their best efforts in the interest of the scientific

investigation and in order to enhance their own performance. The subjects were very enthusiastic and co-operative throughout the project.

3.11 TRAINING PROGRAMME

During the training period the experimental groups underwent their respective training programme in addition to their daily regular activities as per the schedule. Experimental groups underwent their respective experimental training on six days per week for twelve weeks. The experimental training programmes were designed based on the pilot study results and resources collected from books, periodicals, e-materials and discussions with the experts. The duration of experimental training were planned for 90 minutes. The subjects reported for experimental training between 7.00 am and 8.30 am. & 4.30 pm and 6.pm. All the subjects involved in this study were carefully monitored throughout the training programme and attained 90% of attendance.

TABLE - III
GENERAL STRUCTURE OF TRAINING PROGRAMMES

GROUPS WITH TRAINING PARTICULARS	TRAINING
Group I	Game Specific Field Training
Group II	Game Specific Field Training with Yogic Practices
Group III	Game Specific Field Training, with Yogic Practices and Mental Training
Group IV	Control Group

TABLE-IV
FIELD TRAINING PROGRAMME

Weeks	FIRST WEEK		SECOND WEEK	
Days/Session	Morning session	Evening session	Morning session	Evening session
Monday	Warming –up Basic endurance Ground fielding (defensive) Minor game Warm down	Warming-up Common nets Minor game Warm down	Warming-up Fartlek method I (endurance) Low trajectory Catches Warm down	Warming –up Hanging ball Practice Minor game Warm down
Tuesday	Warming –up Agility work outs Low trajectory Catches Minor game Warm down	Warming –up Common nets Minor game warm down	Warming-up Flexibility work- Outs Ground fielding (attaching) Warm down	Warming –up Bowling without The striker Minor game warm down
Wednesday	Warming –up Reaction ability Work outs High trajectory Catches Minor game warm down	Warming-up Common nets Minor game Warm down	Warming-up General work- outs Ground fielding (attaching) Warm down	Warm –up Hanging ball practise Minor game Warm down
Thursday	Warming-up general Strength (wt.trn. with own Body wt .) Lower body, RBW Warm down	Warming –up Common nets Minor game warm down	Warming –up Reaction ability Work outs High trajectory Catches Warm down	Warming-up Footwork drills Minor game warm down
Friday	Warming –up Acceleration Workout, retrieving, warm down	Warming-up Hanging ball Minor game Warm down	Warming –up Specific Strength (partner Exercise), Pick & throw (under arm) Warm down	Warming-up Bowling a Particular Delivery, Minor game warm down
Saturday	Warming –up Slow continuous run (endurance) Minor game Warm down	Warming –up Bowling without The striker, Minor game Warm down	Warming-up Variables pace Method, RBW Minor game Warm down	Warming –up Fielding practice Minor game Warm down
Sunday	Rest		Rest	

Weeks	THIRD WEEK		FOURTH WEEK	
Day/Session	Morning session	Evening session	Morning session	Evening session
Monday	Warming –up Fartlek method I (Endurance) Retrieving Warm down	Warming –up Stroke practice (vertical bal) easy Minor game warm down	Warming – up General Strength (sand running) Low trajectory)- Catches Warm down	Warming – up (vertical bal) Stroke (tennis Ball) Warm down
Tuesday	Warming –up Agility & active Flexibility workouts Roundarm pick & throw warm down	Warming –up Bowling a Particular delivery Minor game Warming down	Warming-up Complex reaction Aped, round Arm Pick &throw Warm down	Warming-up Bowling at one stump Minor game Warm down
Wednesday	Warming –up Specific Strength (wt.trn. with dump Bells) Cricket minor Game Warm down	Warming-up Stroke practice (vertical bat). Standard Minor game Warm down	Warming-up Endurance (competitive Method Cricket minor Game, Warm down	Warming – up Working on favorable shots (vertical bat) Warm down
Thursday	Warming-up Acceleration Speed Workouts Overall fielding Warm down	Warming –up Bowling a particular Delivery Minor game warm down	Warming – up Agility & passive Flexibility, Ground fielding Warm down	Warming – up (vertical bat) Stroke practice Warm down
Friday	Warming-up Maximum Strength (wt.trn. with bar Bells) Catches of edge Drills Warm down	Warming –up Stroke practice (vertical bat) Complex Minor game Warm down	Warming – up Explosive Strength (multi gym) Cricket minor Game Warm down	Warming-up Bowling at One stump Minor game Warm down
Sunday	Rest		rest	

Weeks	FIFTH WEEK		SIXTH WEEK	
Days/session	Morning session	Evening session	Morning session	Evening session
Monday	Warming –up General Strength (stair climbing) Under arm pick & Throw Warm down	Warming –up Bowling on target Minor game warm down	Warming –up Endurance (competitive Method) Cricket minor Game Warm down	Warming- up Bowling on Target and stump Warm down
Tuesday	Warming-up Passive flexibility Diving catches Warm down	Warming –up Bowling on target Minor game warm down	Warming –up Speed endurance high trajectory- catches warm down	Warming – up Stroke practice (horizontal bat) Complex Warm down
Wednesday	Warming –up Explosive Strength (plyometric) Cricket minor game Warm down	Warming-up Stroke practice (horizontal bat) Easy Minor game Warm down	Warming –up Specific Strength (medicine ball Exercise)under Arm pick and Throw Warm down	Warming- up Bowling on Target and stump Warm down
Thursday	Warming-up Movement Speed High and low Trajectory catches Warm down	Warming –up Bowling on target Minor game Warm down	Warming –up Speed endurance RBW Warm down	Warming up Horizontal bat Strokes (tennis ball) Warm down
Friday	Warming –up Endurance (repetition method) RBW Warm down	Warming –up Stroke practice (horizontal bat) Standard Warm down	Warming-up Two day match with double innings (overs restricted) Warm down	
Saturday	Warming-up Limited over game(50overs aside) Warm down			
Sunday	Rest		Rest	

Weeks	SEVENTH WEEK		EIGHTH WEEK	
Day/sessions	Morning session	Evening session	Morning session	Evening session
Monday	Warming-up Circuit training (Strength Endurance) Cricket minor game Warm down	Warming-up Fielding &RBW Practice Warm down	Warming – up Endurance interval trn. (Intensive) retrieving warm down	Warming-up Bowling with the Striker Warm down
Tuesday	Warming-up[Movement Speed Workouts, Diving Catches Warm down	Warming-up Bowling target & stump Warm down	Warming – up Locomotor Speed Workouts Diving catches Warm down	Warming-up Working ion Favourite shots (V.B &H.B) Warm down
Wednesday	Warming-up Interval training (Extensive) Endurance Ground fielding Warm down	Warming-up Working onn Favourite shot (H.B) Warm down	Warming – up Maximum Strength (multi gym) Catches of edge Warm down	Warming –up Bowling to lefty Striker Warm down
Thursday	Warming –up Passive flexibility & Co-ordination, Attacking fielding Warm down	Warming –up Bowling with the Striker Warm down	Warming up Three day match with double innings (overs not restricted) Warm down	
Friday	Warming –up Explosive Strength (plyometric) Cricket minor game Warm down	Warming-up Stroke practice (V.B &H,B) Warm down		
Saturday	Warming –up Limited overs game (50 overs aside) Warm down			
Sunday	Rest		Rest	

weeks	NINETH WEEK		TENTH WEEK	
Day/sessions	Morning week	Evening week	Morning week	Evening week
Monday	Warming –up Fast continuous Endurance Cricket minor game Warm down	Warming-up Bowling (tactics) Use of crease, Change of pace Warm down	Warming-up Locomotor Speed Workouts Catches Warm down	Warming –up Batting (tactics) Warm down
Tuesday	Warming –up Dynamics flexibility And co- ordination Attacking fielding Warm down	Warming up Batting in the nets (20 yards), tennis Ball Warm down	Warming up Explosive Strength (multi gym) Fielding overall Warm down	Warming up Bowling(tactics) Warm down
Wednesday	Warming up Explosive Strength (multi gym) Catches of edge Warm down	Warming up Bowling(tactics) Use of crease, Change of pace Warm down	Warming up Competition Metnod, Endurance Fielding (tactics) Warm down	Warming up Ground fielding (attacking), Warm down
Thursday	Warming up Endurance (repetition method) Bowling tactics Warm down	Warming up Fielding(tactics) Warm down	Warming up Speed endurance RBW Warm down	Warming up Bowling (tactics) Warm down
Friday	Warming up Speed endurance Cricket minor game Warm down	Warming up Working in striking Deliveries (bowling Tactics) Warm down	Warming up Dynamic Flexibility and coordination Workouts Fielding overall Warm down	Warming up Batting(tactica) Warm down
Saturday	Warming –up Limited over game (50 overs aside) With stronger than Warm down		Warming up Limited overs game (50 overs aside) With other team Warm down	
Sunday	Rest		Rest	

Weeks	Eleven week		Twelveth week	
Day/Sessions	Morning Session	Evening Sessions	Morning Session	Evening Sessions
Monday	Warming up General Strength (Stair climbing) Under arm pick& Throw Warm down	Warming up Batting with Bowling machine Warm down	Warming up Endurance (Competition method) Cricket minor game Warm downs	Warming up Batting, Bowling and Fielding Warm down
Tuesday	Warming up Specific Endurance Low trajectory Catches Warm down	Warming up Bowling & Fielding session Warm down	Warming up Passive flexibility High trajectory catches Warm down	Warming up Batting, Bowling and Fielding Warm down
Wednesday	Warming up Specific Strength(Medicine ball exercise) under arm pick & throw Cricket minor game Warm down	Warming up Batting, Bowling and Fielding in Nets Warm down	Warming up Explosive strength(Plyometric) Cricket minor game Warm down	Warming up Batting, Bowling and Fielding Warm down
Thursday	Warming up Agility & Passive, flexibility, Ground fielding Warm down	Warming up Batting, Bowling and Fielding in Nets Warm down	Warming up Acceleration speed Work outs Overall fielding Warm down	Warming up Batting, Bowling and Fielding Warm down
Friday	Warming Explosive strength (Multi Gym) Cricket minor game Warm down	Warming up Batting, Bowling and Fielding in Nets Warm down	Warming up Maximum strength (wt.trn.with bar bells) Catches of edge Drills Warm down	Warming up Batting, Bowling and Fielding Warm down
Saturday	Warming Twenty 20 over game with other team Warm down		Warming Up Twenty 20 over game with stronger team Warm down	
Sunday	Rest		Rest	

In the above table the field training programme is presented in a nutshell. To avoid duplication, Schedules are not much elaborated. The volume and intensity of the load have been indicated.

TABLE- V
YOGIC PRACTICES

<p>ASANAS</p> <p>Silent prayer</p> <p>Warming up</p> <ol style="list-style-type: none"> 1. Savasana 2. Sarvangasana 3. Pawana muktasana 4. Matsyasana 5. Makrasana 6. Bhujangasana 7. Dhanurasana 8. Pachimottasana 9. Vakrasana 10. Ustrasana 11. Bandhakonasana 12. Padhakonasana 13. Ardha chakarasana <p>Pranayama</p> <ol style="list-style-type: none"> 1. Kapalabhati 2. Nadhisudhi 3. Bhastrika 4. Bhramari <p>Meditation</p> <ol style="list-style-type: none"> 1.Om chanting <p>Training Details of Yogic Practice</p> <ol style="list-style-type: none"> i) Duration of the training - 12 weeks ii) Number of days per week - 6 Days iii) Duration of session - One session (Morning session only) per day 45 Minutes

TABLE-VI MENTAL TRAINING

PROGRESSIVE RELAXATION

P.R.[1]

Take a savasana position (i.e. Lie down on your back with feet and arms apart kept comfortable). Close your eyes . Lie like this , quietly for a while. Then take a few deep breaths . Next try to dismiss all thoughts from your mind and make it completely blank and thoughtless , as if you were sinking into oblivion, into nothingness... Fully relaxed. Peaceful and quiet.

Breathe through the nose . Inhale as much as you require and let the air come in by distending the diaphragm. Do not draw it in , rather let it come to you . Exhale slowly and try to get all the air out of your lungs . As you exhale , count “one”. Now inhale again. Then exhale , slowly to the count of “two”. And so on up to “ten”. Then repeat you may find the counting difficult as your mind will wander from it . However , keep at it, striving to bring your mind back to the process of counting.

P.R.(2)

In each step you'll first tense a muscle group and then relax it. Pay close attention to how it feels to be relaxed as opposed to tense . Each phase should take about 5 to 7 seconds. For each muscle group , perform each exercise twice before progressing to the next group . As you gain skill , you can omit the tension phase and focus just on Relaxation.

- a. Get comfortable , Loosen tight clothing and uncross your legs. Take a deep breath , let it out slowly , and relax.
- b. Raise your arms , extend them in front of you , and make a tight fist with each hand . Notice the uncomfortable tension in your hands and fingers. Hold that tension for 5
- c. seconds, then let go halfway and hold for an additional 5 seconds. Let your hands relax completely . Notice how the tension and discomfort drain from your hands , replaced by comfort and Relaxation. Focus on the contrast

between the tension you felt and the Relaxation you now feel . Concentrate on relaxing your hands completely for 10 to 15 seconds.

- d. Tense your upper arms tight for 5 seconds and focus on the tension. Let the tension out halfway and hold for an additional 5 seconds , again focusing on the tension. Now relax your upper arms completely for 10 to 15 seconds and focus on the developing Relaxation. Let your arms rest simply at your sides.
- e. Curl your toes as tight as you can . After 5 seconds relax the toes halfway and hold for an additional 5 seconds. Now relax your toes completely and focus on the spreading Relaxation. Continue relaxing your toes for 10 to 15 seconds.
- f. Point your toes away from you and tense your feet and calves. Hold the tension hard for 5 seconds, then let it out halfway for another 5 seconds . Relax your feet and calves completely for 10 to 15 seconds.

P.R.(3)

In each step you'll first tense a muscle group and then relax it . Pay close attention to how it feels to be relaxed as opposed to tense . Each phase should take about 5 to 7 seconds. For each muscle group, perform each exercise twice before progressing to the next group . As you gain skill, you can omit the tension phase and focus just on Relaxation.

- a. Extend your legs and raise them about 6 inches off the floor and tense your thigh muscles. Hold the tension for 5 seconds, let it out halfway and hold for another 5 seconds before relaxing your thighs completely. Concentrate on your feet , calves, and thighs for 30 seconds.
- b. Tense your stomach muscle tight as you can for 5 seconds, concentrating on the tension . Let the tension out halfway and hold for an additional 5 seconds before relaxing your stomach muscles are completely relaxed.
- c. To tighten your chest and shoulder muscles, press the palms of your hands together and push. Hold for 5 seconds , then let go halfway and hold for another 5 seconds. Now relax the muscles and concentrate on the Relaxation until your muscles are completely loose and relaxed. Concentrate also on the muscle groups that have been previously relaxed.

- d. Push your back to the floor as hard as you can and tense your back to the floor as hard as you can and tense your back muscles . Let the tension out halfway after 5 seconds ,hold the reduced tension and focus on it for another 5 seconds .Relax your back and shoulder muscles completely , focusing on the Relaxation spreading over the area.

P.R.(4)

In each step you'll first tense a muscle group and then relax it. Pay close attention to how it feels to be relaxed as opposed to tense. Each phase should take about 5 to 7 seconds... For each muscle group, perform each exercise twice before progressing to the next group. As you gains skill, you can omit the tension phase and focus just on Relaxation.

- a. Keeping your torso, arms and legs relaxed, tense your neck muscle by bringing your head forward until your chins digs into your chest. Hold for 5 seconds, release the tension of way and hold for another 5 seconds, and then relax your neck completely. Allow your head to hang comfortably while you focus on the Relaxation developing in your neck muscles.
- b. Clench your teeth and feel the tension in the muscles of your jaw. After 5 seconds, let the tension out halfway and hold for 5 seconds before relaxing. Let your mouth and facial muscle relax completely with your lips slightly parted. Concentrate on totally relaxing these muscles for 10 to 15 seconds.
- c. Wrinkle your forehead and scalp as tight as you can, hold for 5 seconds, and then release halfway and hold for another 5 seconds. Relax your scalp and forehead completely, focusing on the feeling of Relaxation and contrasting it with the earlier tension. Concentrate for about a minute on releasing all the muscles of the body.
- d. Cue-controlled Relaxation is the final goal of progressive Relaxation. Breathing can serve as the impetus and cue for effecting Relaxation. Take a series of short inhalations, about one per second, until your chest is filled. Hold for 5 seconds, then exhale slowly for 10 seconds while thinking to yourself the word 'relax' or 'clam'. Repeat the process at least 5 times, each time striving to deepen the state of Relaxation that you are experiencing .

IMAGERY

I.M.(1)

The subjects were instructed to sit comfortably in a chair, asked to close to their eyes, concentrate on a point in the middle of their forehead, and to relax.

Suggestions of complete Relaxation and concentrations were repeatedly given , while the instructor counted slowly from 1 to 20 . After about 5 minutes ,a switch was made from Relaxation and concentration suggestions to imagery instructions . subjects were asked to imagine themselves and the surroundings (seeing, hearing , feeling) while preparing for batting/bowling/fielding. After the general imagery instruction, the subject's attention was drawn towards game specific imagery skills.

Batting

1. Visualize your favourite stroke
2. Concentrate on your timing and placement of the ball
3. Remember the stroke which you often play
4. Imagine your greatest innings
5. Picturize your each and every stroke

Bowling

1. Visualize your favourite delivery
2. Concentrate on your line and length
3. Remember your magic delivery , in which you often get wickets.
4. Imagine your greatest spell
5. Recall your each and every delivery.

Fielding

1. Recall some of your great fielding
2. Imagine yourself ,taking catch perfectly
3. Remember your greatest ground fielding innings
4. View your diving / sliding skills
5. Visualize your throw , which is right on target

I.M.(2)

Take a savasana positions. Try to dismiss all thoughts from your mind. Take a few deep breaths. As a batsman / bowler / fielder try to visualize the skills which you are performing perfectly. Perform the skill over and over in your mind and imagine every feeling movement in your muscles.

Batting

1. Solid defence
2. Well executed
3. Perfect horizontal bat stroke
4. Excellent
5. Well timed horizontal / vertical bat combined stroke.

Bowling

1. Ideal line & length
2. Right on target
3. Variation in deliveries
4. Good length
5. Swing / cut /spin / break

Fielding

1. Eye on the ball
2. Judging / positioning
3. Catching
4. Pick & throw
5. Diving / Sliding

I.M.(3)

Imagery skills can be best practiced in a relaxed state . before entering into field of play, one has to Mentally rehearse his innings in the way one wants to play the game, because picturing the results can be inspiring . For example, a bowler should first practice at the nets by relaxing with, say deep breathing and then visualize the type of the ball he wishes to bowl . Similarly batsmen and fielders can do in

between deliveries.

Batting

1. Shot selection according to merit of the delivery
2. Bowler's ability , fielding Strength, field placement etc
3. Pitch , outfield, climatic conditions

Bowling

1. Help from pitch , climatic condition , outfields etc
2. Batsman's Strength and weakness, fielding position , captaincy ,etc
3. Variation

Fielding

1. Bowler's and batsman's Strength and weakness
2. Catching , throwing , and ground fielding
3. Diving / sliding

I.M.(4)

Recall as vividly as possible a time when you performed very well . If you can recall a finest hour in recent memory, use that. Your visualization will cover three specific areas of recall – visual auditory, and kinesthetic.

First, visually recall a picture of how you can looked when you were performing well. Notice that you look different when you're playing well compared to when you're playing poorly. You walk differently ; you can carry your head and shoulders differently. When an athlete is confident on the inside , it shows on the outside. Try to get as clear apicture as possible of what you look like when you are playing well. Review films of successful performances to help crystallize the image.

Now reproduce in your mind the sounds you hear when you are playing well, particularly the internal dialogue you have with yourself . There is often a internal silence that accompanies your best performances. Listen to it. What is your internal dialogue like ? What are you saying to yourself, and how are you saying it ? What is your internal response when faced with adversity during play? Recreate all the sounds as vividly as you can.

Finally, recreate in your mind all the kinesthetic sensations you have when playing well. How do your feet and hands feel? Do you have a feeling of quickness, Speed, or intensity,? Do your muscles feel tight or relaxed? Stay focused on the sensations associated with playing well.

Training Details of Mental Training

- i) Duration of the training - 12 weeks
- ii) Number of days per week - 6 Days
- iii) Number of session per day - One
- iv) Duration of Session - 45 Minutes (Evening session only)

3.12 ADMINISTRATION OF TEST ITEMS

3.13 PHYSICAL VARIABLES

3.13.1 Speed (50 Metres run)

Purpose:

To measure the speed of the subjects.

Equipments:

Stopwatch, whistle, score sheet, pen and lime powder.

Procedure:

The subjects take their position in the starting line. The starter used the command “Ready” and blow the whistle. The latter was accompanied by a downward sweep of the starter’s arm as a signal to the timer. On hearing the whistle sound, the subjects started running as fast as possible up to the finishing line. The torso should completely cross the finish line.

Scoring:

The score is the elapsed time to the largest one tenth of a second between the starting and the instant the subject crosses the finish line (**Barrow & McGee, 1979**).

3.13.2 Explosive Strength (Standing Broad Jump)**Purpose:**

To measure the explosive strength of the subjects.

Equipments:

Floor with take off mark and tape to measure.

Procedure:

The subjects have to stand with feet several inches apart and with the toes just behind the take off mark. They have to swing the arms and bend the knees in making the jump forward. Both feet have to leave the floor at the same time. The start of the jump must be from a static position (**Shekar, 2006**).

Scoring:

The measurement is made from the takeoff line to the nearest point where any part of the body touches the floor. Three trials are permitted and the best one is estimated to the nearest inch.

3.13.3 Flexibility (Sit and Reach)**Purpose:**

To measure the flexibility of the subjects.

Equipments:

Sit and reach apparatus, score sheet.

Procedure:

The sit-and-reach apparatus should have the 25cm mark equivalent to the point where the feet touch the box. The subject, has sit barefoot with the legs fully extended with the soles of the feet have placed flat against the horizontal cross board of the apparatus, with the inner edge of the sole have placed 2cm from the scale, keeping the knees have fully extended, arms evenly stretched and palms down. The subjects has bent and reached forward (without jerking) pushing the sliding marker along the scale with the fingertips as far forward as possible. The position of maximum flexion must be held for approximately two seconds. The test has repeated twice.

Scoring:

Record the maximum distance reached to the nearest 0.5cm.

3.14 PHYSIOLOGICAL VARIABLES**3.14.1 Blood Pressure****Purpose:**

To measure the blood pressure (systolic and diastolic pressure) of the subjects.

Equipments:

Sphygmomanometer.

Procedure:

The method has used to measure the systolic and diastolic blood pressure is relatively simple. The cuff of the sphygmomanometer has wrapped around the forearm above the elbow, with earphones of the stethoscope in the tester's ears; the bell of the stethoscope has placed on the bronchial artery just above the hollow of the elbow. The cuff has pumped up until the artery collapsed, which is no pulse beat could be heard. Pressure has been then slowly released as the tester watched the gauge or mercury column. When the first sound of the pulse has heard, the reading in millimeters of mercury at that instant has recorded as systolic blood pressure. The tester has continued, to release pressure slowly until a very dull, weak beat has noted. At that instant the pressure in millimeters of mercury has noted as diastolic pressure. The measure has recorded with the systolic blood pressure first and the diastolic blood pressure later.

Scoring:

The blood pressure was measured in millimeters of mercury (mmHg).

3.14.2 Vital Capacity**Purpose:**

The purpose was to measure the vital capacity of the subjects.

Equipments:

Spirometer.

Procedure:

The subject was made to breath through mouth piece as the instructions displayed on the screen. No air leakage was ensured by using nose clip and

asking the subjects to tighten the lips over the mouth piece. As the subject breathed through the mouth piece, instructions on the screen asked him to exhale fully and go for a maximum breath in followed by a forceful exhalation. After that the subject continued normal breathing.

Scoring:

The reading was recorded in litres calibrated by pumping a volume of 1 litre air.

3.15 PSYCHOLOGICAL VARIABLES

3.15.1 Anxiety

Anxiety was measured by the trait anxiety questionnaire. The anxiety questionnaire was designed to measure the anxiety level prior to the competition. It was developed by Spielberger. Spielbergers trait anxiety questionnaire was given to all subjects. Twenty items were adopted from Spielbergers trait anxiety questionnaire for this investigation. Spielberger's State Anxiety Inventory consists of 20 items that ask how a person feels now, and reflects situational factors that may influence anxiety levels. Scores range from 20 to 80 and the higher the score the greater the level of anxiety. The complete questionnaire scores as follows.

S.No	Response	Score of Positive Statements	Score of Negative Statements
1	Not at all	1	4
2	Some what	2	3
3	Moderately	3	2
4	Very much	4	1

POSITIVE STATEMENTS

1, 2, 5, 8, 10, 11, 15, 16, 19, 20.

NEGATIVE STATEMENTS

3, 4, 6, 7, 9, 12, 13, 14, 17, 18.

3.15.2 Aggression

Standardized smith's questionnaire for sporting aggression is used to scale the aggressiveness of the subject. The test consists of four questions with five levels of responses. The level changes from strongly disagree to strongly agree.

Scoring

The inventory is scored with the help of the scoring key given below. The range of score was from 4 to 20. The higher the scores are more aggressive players. The scoring keys are as follows.

S.No	Response	Score
1	strongly disagree	1
2	disagree	2
3	undecided	3
4	agree	4
5	strongly agree	5

3.15.3 Self Confidence

Self confidence was assessed by Agnihotri's Self Confidence Inventory (ASCI) developed by Dr. Rekha Agnihotry. Agnihotri's Self Confidence Inventory (ASCI) consists of 56 questions which includes items for the assessment of self confidence.

Scoring

The inventory can be scored by hand. A score of one is awarded for a response indicative of lack of Self-Confidence, i.e. for making cross (*X*) to wrong' response to item nos. 2,7,23,31,40,41,43,44,45,53,54,55 and for making cross (*X*) to right' response to the rest of the items. Thus each item has a maximum score of "1" and minimum of "0" and response value of which extend from 0 – 56. Hence the lower the score, the higher would be the level of Self-Confidence and vice-versa. The author has given the following classification criteria:

Raw Score Explanation		
S.NO	Criteria	Score
1	Very high Self-confidence	7and below
2	High Self-confidence	8-19
3	Average Self-confidence	20-32
4	Low Self-confidence	33-44
5	Very low Self-confidence	45 and above

3.16 PERFORMANCE VARIABLES

Purpose

To analyze the playing ability of the cricket players.

Description

Subjective rating of player performance involves a panel of three experts in the game of cricket. The three experts evaluated the player's performance in cricket for 10 points. The framed score sheet has the subjects scores of bowling, batting, fielding, game sense, knowledge of rules and commitment to game.

Scoring

The average of the three experts rating was taken as a score.

3.17 COLLECTION OF DATA

The variables used in the present study were assessed from all the subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre test on all variables and assumed as post test.

3.18 STATISTICAL TECHNIQUES AND ITS JUSTIFICATION

The following statistical techniques were adopted to treat the collected data in connection with established hypotheses and objectives of this study. To find out the difference between pre and post test of each groups, paired 't' test was used. Analysis of covariance (ANCOVA) was computed because the subjects were selected random, but the groups were not equated in relation to the factors to be examined. Hence the difference between means of the three groups in the pre-test had to be taken into account during the analysis of the post-test

differences between the means. This was achieved by the application of the analysis of covariance, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance. when ever the adjusted post-test means were found significant, the Scheffe's post-hoc test was administer to find out the paired means difference. To test the obtained results on variables, level of significance 0.05 was chosen and considered as sufficient for the study.