Chapter – III

METHODOLOGY

The various factors of methodology, namely selection of subjects, selection of variables, selection of tests, orientation to the subjects, reliability of data, reliability of equipments, tester competence and reliability of test, training programme, collection of data, administration of test, experimental design and statistical procedure have been explained in detail in this chapter. The administration of the psychological test along with skill and performance tests has been presented in figures. The photographs of test administration have also been presented as enclosures.

SELECTION OF SUBJECTS

Fifty state level cricketers from various schools in Puducherry were randomly selected as subjects for this research and their age ranged from fifteen to nineteen years. Their height ranged from one-hundred and forty to one hundred and eighty-two centimeters and their weight ranged from thirty-eight to fifty-four kilograms and their mean age,
height and weight were eighteen years, one hundred and sixty-four centimeters and forty-seven kilograms respectively. In order to qualify as a subject, each student was examined by a qualified physician and declared that they were physically and medically fit to participate in the cricket training programme. By using the matching procedure on the basis of their initial cricket test performance scores, the subjects were divided into two equal groups of twenty-five subjects each. Group I (n=25) acted as control group while Group II (n=25) acted as experimental group. Group II underwent psycho-tonic training for a period of twelve weeks. The subjects among the control group were not engaged in any psycho-tonic training other than the regular training for cricket.

**SELECTION OF VARIABLES**

**INDEPENDENT VARIABLES**

**Psycho-tonic Training**

Psycho-tonic training is a set of psychological stimuli and emotional stabilizers that can be used along with regular cricket training so that, the performance of a cricketer can be improved. It is a kind of ‘psych-up’ package that positively impacts the critical mental factors in performance, namely
motivation, focus, self-belief, visualisation and preparation. It also controls and stabilises the cognitive and somatic anxiety levels of cricket players while increasing their self-confidence. Psycho-tonic training is very significant to cricket because it is more of a mental game than physical.

Sundaram (2003), regards concentration, focus and willpower as the most essential psychological factors required for a cricketer to succeed. He adds that these skills can be acquired by proper practice.

In cricket a batsman has to have all his psychological faculties in an alert mode throughout his batting stint at the crease because even one small error can end his innings. Similarly a fielder or a wicketkeeper needs to be well prepared in anticipating the ball coming towards them. One dropped catch or a missed stumping can cost the match. Hence, a cricketer must stay focused and alert throughout a match, for which they have to be very strong psychologically. Only if they are mentally tough, they can successfully perform in matches. With the view to strengthen the mental faculties of cricket players the following psychological factors were combined and administered to the subjects as ‘Psycho-tonic’ training for twelve weeks. It was administered only to the psycho-tonic
training group for twenty minutes twice everyday before commencing the regular cricket training in the morning session and after completion of the regular cricket training in the evening session.

The following are the various techniques used for psychotonic training.

1. Relaxation

Relaxation means lack of activity and tension. It is characterised by stillness and absence of the sense of need. It can be induced by smiles, deep breathing and soothing music. It was beneficial because it reduced nervousness, jumpiness, anxiety and localised tension. It increased the awareness of self and of individual’s physical and mental resources, facilitating their most effective utilisation. It taught behavioral changes and improved performance. It made rest easier and promoted sleep. The subject’s performance was enhanced when relaxation was followed by stimulation to the level of ‘optimum arousal’.

2. Progressive Muscular Relaxation

It is a sequential tensing and relaxation of the major muscle groups in the body, inducing a sense of warm heaviness
in each group and allowing tension to drain away. While doing these exercises the muscles of the subjects’ were tensed and relaxed till the count of six for each. This factor was also used to induce relaxation so that the body can be better prepared for challenges during a performance.

3. Refocusing

This factor is important for helping batsmen to gain attention to the right point at the right time. It helped the subjects to avoid distractions and unnecessary thoughts. The subjects were able to focus better the impact on their performance was positive.

4. The Picture Process

This was used as a variation of the Refocusing strategy where the concentration ability of the subjects’ was impacted. When the concentration ability of a batsman improved it resulted in better performance.

5. Word, Wheel and Spokes

This was another variation for development of Focusing abilities. The better the subject’s concentrated on this ability he was able to improve his performance.
6. Visualisation

Focusing on positive images and desired outcomes to specific situations allows a cricketer to cope with problems and fulfill potential. It gave good mental insight to the subjects’ about the possible situations in a match or the positions of their body during a skill execution or for relaxation. It gave lot of input to the subjects on being well prepared to face any situation.

7. Overcoming Emotional On-Field Challenges Mentally

When a cricketer loses his cool due to the pressures of a match situation, he may not be able to perform to best of his ability and in cricket the fielding team may use all kinds of tactics to distract the batsman and upset him mentally. It may be very difficult for a player to cope with such situations if he not aware of prepared for it. Therefore by preparing the subjects’ to face such tough situations they could maintain their composure and perform better.

8. Psyching up for a game

A player in order to perform better has to be in the state of ‘optimum arousal’ or in ‘the zone’. There are some routines that
are followed by most of the top players in preparation for the match ahead. It helped them to prepare themselves to an ideal performance state which aided in higher performance. So, similar routines were introduced to the subjects’ so that they can also be better prepared and perform better.

9. The Spirit of Team Meeting

Cricket, being a team game collective effort and help are crucial to build up the overall confidence and team spirit. Thus, this factor was used to establish the bonding among the subjects and perform as a single unit. When trust and confidence developed in the subjects’ it resulted in improved performance.

10. Positive Imagery

It’s very important to have a positive thought process before every performance or skill execution. It gave lot of confidence to the subjects that a given task could be successfully completed even if it was a challenging one. Hence, when positive imagery was administered to the subjects it gave them lot of confidence to accomplish the task and it ultimately improved performance.
11. Mental Rehearsal “as if”

This strategy was used to give the subjects a clear picture of the task to be accomplished. When a cricketer has clear vision of what he is supposed to do during performance he would be able to direct his thought process and efforts appropriately. It also defined his position clearly in a team game like cricket so that he need not worry about things he doesn’t need to do. Therefore mental rehearsal helped the subjects’ to identify their role clearly in a performance and helped them to focus on it completely.

12. Physical Concentration

Balance is crucial in proper learning and execution of skill. It has been well established that good balance and body position allows a player to execute a skill as desired. Physical Concentration helps to create mental awareness of the body balance during a task execution. This strategy induced the subjects to physically concentrate on the muscles involved in the execution of the stroke repeatedly during training so that it became an automatised movement.
13. Self-Talk

This strategy helped the subjects to reinforce themselves mentally using cue words so that their mind did what it was supposed to do. It also helped them to overcome potential negative situations by reinforcing appropriate responses. By using self-talk they also increased their self confidence.

14. Goal Setting

The subjects were enlightened on setting ‘SMART’ goals. Long term goals, inter-mediate goals and short term goals were set. This strategy set specific milestones for the subjects to achieve and improve performance. They responded more meaningfully and their effort and determination increased significantly. They were able to evaluate their performance and could also comprehend how to improve.

15. Beliefs and Affirmations

Everybody has thoughts about how the world was and how it should be. The subjects were assigned tasks related to their beliefs and affirmations routines in their personal way so as to bring about positive impact on their performance. This enabled previously unconscious and uncontrollable factors to
be brought into focus and control. When the subjects were in control of the tasks by way of their own beliefs and affirmations, they showed improved performance and positive results.

16. Stress and Anxiety Management

Handling pressure is critical if performance needs to be improved. The subjects were encouraged to use many "buffers" to help them manage their environments. These buffers ranged from positive affirmations to lifestyle suggestions. It enhanced their confidence and technique, as well as exposing them to the real challenges. They were well prepared and that was their secret of success.

DEPENDENT VARIABLES

1. Psychological Variables

Some psychological factors associated with improvement of sports performance of serious athletes were of great use. Those factors were delimited to what occurred during a competitive performance. Psychological variables namely motivation, focus, self belief, visualisation, preparation, cognitive anxiety, somatic anxiety and self confidence were
taken as variables for the experiment. From the above factors cognitive anxiety, somatic anxiety and self confidence were taken to test the competitive anxiety of the subjects. Each variable has been substantiated by repeated independent studies which showed almost universal benefits across sports, sex, nationality, and introspect training activities. The implementation of all of these psychological skills had showed performance enhancement, even in elite athletes, in their habitual way of thinking and during sporting tasks. Improvements occurred without any extra effort or physiological cost (Brent, 1996).

The importance of each selected psychological parameter is given below.

i) Motivation

Motivation is nothing but the desire of a sportsperson to excel in a sports performance. It can be intrinsic or extrinsic. Both are essential for a sportsperson to build a long term career, but intrinsic motivation could be much better in order to become highly successful. Intrinsic motivation can be used by a sportsperson to become more successful, to overcome challenges, be competitive and win, to treat his sport as
everything in life or be willing to do unpleasant things for winning or help his team win. Extrinsic motivation could be linked to performance for any financial benefit or to please his friends, family or teachers. In Cricket, motivation plays an important role in development of a player individually and as a team member. It is the reason for a cricketer to play to the best of his ability.

ii) Focus

Focus is a state of mind in which one is able to think what he must rightly be thinking at that point of time. Cricket demands high level of concentration and focus as even small errors due to lack of focus can make a difference between winning and loosing. If the batsman is not focused on the ball when he should, he may be out for that whole match. Lack of focus can also make a difference between catch being taken or dropped. Therefore staying focused throughout a match or performance is of supreme importance for a cricketer.

iii) Self Belief

Self Belief is a process of directing self-talk to affirm both the positive ability and skill of the athlete in order to improve performance. It could be a statement which a cricketer could
use repeatedly before and during a performance so that he has only positive feelings and avoids negative thoughts. As the situation in a match keeps changing from positive to negative a player can not get carried away by both. He should remain positive in the face of tough challenges too. Hence the factor ‘self belief’ also has tremendous effect on a player’s performance.

**iv) Visualisation**

Visualisation is practicing or rehearsing in ones mind or picturing oneself in his or her minds eye: a skill or a routine. A cricketer has to improve his skill as he grows if he intends to scale greater heights. But to get a feel of what it would be like to be actually executing the technique or skill he has to visualise himself doing it in his mind so that his mind knows how the body has to work. Visualisation also helps in slowing down the movements so that it can be learnt step by step and latter performed in a sequence. Therefore to improve performance continuously for a prolonged period of time the visualisation skills are also important for a cricketer.
v) Preparation

Preparation can be said as the usual routines or steps for setting up success just before and during any performance. It could range from waking up slowly in the morning with positive thoughts, keeping time, checking gear, planning, rehearsing mentally, listening to favorite music and so on. But more importantly a cricketer needs to prepare for different situations that may arise during a match. Sometimes plans may not work the way one wants too. There may also be some surprises in-store. So it pays to be well prepared so that one is not taken off guard during a match or performance. Hence preparation is also a key factor affecting performance. The ‘feel good’ factor is very important for a cricket player on the eve of the match and also prepares one for new challenges.

vi) Cognitive Anxiety

Cognitive anxiety results from the apprehensions and concerns one has about the demands of a situation. It is characterised by feelings of worry, lack of confidence and inability to concentrate. It is typically felt by athletes well before the competition. When a cricketer is seriously affected by this factor he may not be able to perform at his best. He may be
worried about his or his competitor’s reputation. He may also be thinking of his previous negative experiences. Therefore this factor has to be controlled if the cricketer has to perform better.

**vii) Somatic Anxiety**

Somatic anxiety results from the way one interprets the psychological reactions in one's body. Acknowledging reactions such as butterflies in the stomach, muscle tension, sweaty palms and increased heart rate are all signs of somatic anxiety. Typically they are felt very close to the start of the competition and often disappear soon after performance is underway. This tends to have greater effect on other members of the team as well due to which the morale of the team could suffer. Since cricket is a team game this factor has to be controlled so that the overall performance and confidence level of the team improves.

**viii) Self Confidence**

Self confidence is the belief that one can successfully perform a desired behavior. It is imperative that a cricketer who is low on confidence can never perform to his potential. The belief that one will be successful in execution of a task or skill is of foremost importance if one intends to be successful in it.
Therefore this factor can not be ignored because only a confident player can perform better and be successful.

These psychological parameters play a decisive role in any sports performance and particularly so in cricket. Hence, the researcher selected those as criterion variables.

2. Performance variables

Performance in cricket can normally be judged by scoring ‘runs’ and taking ‘wickets’. Defense and drives are the fundamental techniques of batting in cricket. Ability to defend ones wickets, scoring as many runs as possible and scoring them as quickly as possible are the most important skills for a batter. Ability of a batter to defend helps him to stay at the wicket and handle good balls that may otherwise get him ‘out’ or that can not be ‘scored off’. ‘Drive’ is an attacking stroke played with a vertical bat. It helps a batter to score runs while minimizing the chances of him getting out. Statistics and history has shown that a vast majority of the runs scored in cricket are scored with a vertical bat than any other kind of stroke. All the four skills selected by the researcher are played with a vertical bat and they are the fundamental requirement for any batter, particularly the younger players who are
beginning their career. Therefore the researcher selected the following skills as performance variables.

  i) Front foot defense
  ii) Back foot defense
  iii) Front foot drive
  iv) Back foot drive

**SELECTION OF TESTS**

The present study was undertaken to assess the influence of psycho-tonic training on selected psychological parameters and performance among batsmen in cricket. To assess psychological variables such as motivation, focus, self belief, visualisation, preparation, cognitive anxiety, somatic anxiety and self confidence, ‘The Sports Performance Self Assessment’ questionnaire and ‘The CSAI’ (Competitive State Anxiety Inventory) from the book, “Learn Cricket with Frank Tyson” (2002) were used.

To test the performance variables, batting skill tests from the book “Learn Cricket with Frank Tyson” (2002) were used. They were used to test the front and back foot defense and driving skills of the subjects and their performance.
ORIENTATION TO THE SUBJECTS

The researcher clearly explained the purpose the training programmes to the subjects participating in this study. Before the commencement of the training programme, one week was spent to teach the psycho-tonic training schedule to the experimental group. For collection of the data, the researcher explained the procedure to be adopted for measuring the dependent variables.

RELIABILITY OF THE DATA

The reliability of the data was ensured by establishing the reliability of the equipments, tester competence and reliability of test.

RELIABILITY OF THE EQUIPMENTS

Equipments such as bats, balls, mat, gloves, pads, stumps and marker cones were used. The playing surface and nets were well maintained and were regularly being used for state level training camps and team practices. So, it was in good condition for the conduct of the tests. The equipments used were of high quality and in good condition and were purchased from a reputed company. The equipments were
tested and found to be good enough to serve the purpose of the research.

**TESTER COMPETENCE AND RELIABILITY OF TEST**

To ensure that the researcher was well versed in the techniques of conducting the tests, the testing procedure was practiced a number of times. All the measurements were done by the researcher and other competent experts who acted as assistants. They were also well acquainted with the tests and testing procedures.

Tester competence was evaluated together with the reliability of tests. Reliability of tests was established by test-retest process whereby consistency of results was obtained by intra class (univariate correlation) reliability coefficients (R). The data collected from ten subjects of Vivekananda Higher Secondary School, Puducherry in test-retest process were computed for each variable and the obtained correlations have been shown in table No. I.

Since very high correlations were obtained, it established the researcher’s competence to administer the tests as well as reliability of tests.
### TABLE-I

**INTRA CLASS RELIABILITY COEFFICIENTS (R) OF SELECTED DEPENDENT VARIABLES**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variables</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Motivation</td>
<td>0.92*</td>
</tr>
<tr>
<td>2</td>
<td>Focus</td>
<td>0.86*</td>
</tr>
<tr>
<td>3</td>
<td>Self- belief</td>
<td>0.88*</td>
</tr>
<tr>
<td>4</td>
<td>Visualization</td>
<td>0.93*</td>
</tr>
<tr>
<td>5</td>
<td>Preparation</td>
<td>0.91*</td>
</tr>
<tr>
<td>6</td>
<td>Cognitive Anxiety</td>
<td>0.89*</td>
</tr>
<tr>
<td>7</td>
<td>Somatic Anxiety</td>
<td>0.86*</td>
</tr>
<tr>
<td>8</td>
<td>Self- Confidence</td>
<td>0.90*</td>
</tr>
<tr>
<td>9</td>
<td>Front foot defense</td>
<td>0.92*</td>
</tr>
<tr>
<td>10</td>
<td>Back foot defense</td>
<td>0.91*</td>
</tr>
<tr>
<td>11</td>
<td>Front foot drive</td>
<td>0.95*</td>
</tr>
<tr>
<td>12</td>
<td>Back foot drive</td>
<td>0.89*</td>
</tr>
</tbody>
</table>

* Significant at 0.01 level of confidence. The table value required for Significance at 0.01 level of confidence is 0.77.

### TRAINING PROGRAMME

The psycho-tonic training programme was administered for twenty minutes each day before the morning training session and after the evening training session except on the rest
day for twelve weeks. Psycho-tonic training programme consisted of psych-up strategies involving relaxation, progressive muscular relaxation, refocusing, the picture process, word-wheel and spokes game, overcoming emotional challenges mentally, psyching up for the game, the spirit of team meeting, positive imagery, mental rehearsal, physical concentration, self-talk, goal setting, beliefs and affirmations and stress and anxiety management.

Control group was not engaged in any type of psycho-tonic training other than regular training for cricket and fitness. The training schedules of cricket and psycho-tonic training are presented in Appendices-I and II respectively.

The subjects were free to withdraw from the experiment in case they felt any discomfort during the period of training. But there were no dropouts in the study. The subjects underwent their respective programme under the strict supervision of the researcher. Prior to every cricket training session, both the groups had a ten minute warm-up exercises which included jogging, lead up game, stretching etcetera. After every training session the groups did warm down exercises for twenty to thirty minutes.
All the subjects involved in the training programme were questioned about their stature throughout the training period. None of them reported any injury. Attendance was calculated for the experimental group by dividing the total number of training sessions by the number of sessions present. It was 92.60% for the experimental group.

**COLLECTION OF THE DATA**

Pre-test data was collected two days before the training programme. Post-test data was collected two days after the training programme. In all the cases, the data was collected for two days. The data on psychological variables namely motivation, focus, self belief, visualisation, preparation, cognitive anxiety, somatic anxiety and self confidence were collected during the morning session of the first day. The data of the front foot defense and drive tests were collected during the morning session of the second day and the data of the back foot defense and drive tests were collected during the evening session of the second day.
ADMINISTRATION OF TESTS

Psychological Variables

Objective

To identify the general mental strength and weakness level of the subjects.

Tools Used

To test the psychological aspects two questionnaires were used namely ‘The Sports Performance Self Assessment’ test and ‘The CSAI’ (Competitive State Anxiety Inventory) from the book ‘Learn Cricket with Frank Tyson’ (2002).

The Sports Performance Self Assessment’ test was used to test the general psychological factors affecting performance. The following five important components of psychology which impacts cricket performance were tested with the sports performance self assessment test questionnaire.

1. Motivation
2. Focus
3. Self belief
4. Visualisation
5. Preparation
The ‘Sports Performance Self Assessment’ test questionnaire consisted of a number of statements about the experiences associated with motivation, focus, self belief, visualisation, and preparation. The rating was based on five point scale from ‘strongly disagree’ to ‘strongly agree’.

The Competitive State Anxiety Inventory or the CSAI was used to test the anxiety and confidence levels of the subjects. It was used to test the psychological factors that affected performance just before or during the competition. The following three aspects of psychology were tested by this inventory.

1. Cognitive Anxiety
2. Somatic Anxiety
3. Self Confidence

The CSAI (Competitive State Anxiety Inventory) had statements about experiences associated with anxiety levels of a sportsperson just before and during a competition. The rating for this inventory was based on a four point scale from ‘not at all anxious’ to ‘very much anxious’.
Procedure

A copy of both the questionnaires and a pen was given to each subject. They were asked to read each statement very carefully and then circle the appropriate number which indicated the extent to which they agreed with the statements. The subjects were asked to answer honestly to each question in relation to their own sporting experiences. Scoring in each component was arrived at by adding all the numbers which have been circled according to the respective tests. A copy of the ‘Sports Performance Self Assessment Questionnaire’ and the ‘CSAI’ are presented in Appendix – III

Scoring

For the Sports Performance Self Assessment Questionnaire, the circled numbers were added against the number of questions pertaining to each segment such as motivation, focus, self belief, visualisation and preparation. A score was arrived by dividing the number of questions in each segment and multiplying it by seven. ‘Seven’ was the ideal score. Scores between seven and fifteen were acceptable and scores above fifteen indicated concern in that specific area.
For the CSAI test the circled numbers were added against the number of questions pertaining to each segment such as cognitive anxiety, somatic anxiety and self confidence. The scores in each segment was divided by the number of questions in that segment and multiplied by eight. Lower scores indicated higher anxiety levels and vice versa.

Scoring pattern for both the psychological tests are presented in Appendix- IV.

**SKILL AND PERFORMANCE VARIABLE TESTS**

**Front Foot Defense Test**

**Objective**

To test the performance skill of the subject in front foot defense.

**Facilities and Equipments**

One set of stumps, a bat, a soft ball, chalk powder, pen and paper.

**Players, Server and Assessor**

Seven players including one wicketkeeper, one server and one assessor.
Procedure

The playing area was set as shown in the figure-II. The batting crease was fully marked and the wicketkeeper (W) took his position behind the stumps. A five meter area was marked in front of the crease as shown in the figure so that no fielder could approach closer than five meters to the batsman. Six fielders (F) were positioned as indicated in the figure-II to catch the balls coming their way. The assessor (A) and the server (S) took their positions as indicated in figure-II. A target area (T) was marked on a good length on the pitch and the batsman played front foot defense to the ball. Each batsman faced six balls thrown by the server on the target area and the batsman executed the front foot defense without being dismissed – bowled or caught by the wicketkeeper or fielders. A soft ball which bounces and which does not require a batsman to wear protective equipment was used.

Scoring

The subject received five points each time he played the correct stroke without being dismissed. He received no points if the stroke was not executed properly. The maximum points that could be awarded were thirty.
Figure - II

**Administration of Back Foot Defense Test**

- **A** - Assessor
- **B** - Batsman
- **F** - Fielder
- **S** - Server
- **W** - Wicketkeeper
- **T** - Target Area
- **V, X, Y, Z** - Cones
Figure – III
Figure – IV
Back Foot Defense Test

Objective

To test the performance skill of the subject in back foot defense.

Facilities and Equipments

One set of stumps, a bat, a soft ball, chalk powder, pen and paper.

Players, Server and Assessor

Seven players including one wicket keeper, one server and one assessor.

Procedure

The playing area was set as shown in the figure-IV. The batting crease was fully marked and the wicket keeper (W) took his position behind the stumps. A five meter area was marked in front of the crease as shown in the figure-IV so that no fielder could approach closer than five meters to the batsman. Six fielders (F) were positioned as indicated in the figure-IV to catch the balls coming their way. The assessor (A) and the server (S) took their positions as shown in the figure IV. A target area (T)
was marked on a good length on the pitch and the batsman played back foot defense to the ball. Each batsman faced six balls thrown by the server on the target area and the batsman executed the back-foot stroke without being dismissed – bowled or caught by the wicketkeeper or fielders. A soft ball which bounces and which does not require a batsman to wear protective equipment was used.

**Scoring**

The subject received five points each time he played the correct stroke without being dismissed. He received no points if the stroke was not executed properly. The maximum points that could be awarded were thirty.
Figure – V
Figure – VI
Front Foot Drive Test

Objective

To test the performance skill of the subject in front foot drive.

Facilities and Equipments

One set of stumps, a bat, a soft ball, four marker cones, chalk powder, pen and paper.

Players, Server and Assessor

Nine players including one wicket keeper, one server and one assessor.

Procedure

The playing area was marked with target area (T) and creases as shown in the figure-VI. The wicket keeper (W), Fieldsmen (F), server (S) and assessor (A) took up their positions as indicated in the figure-VI. The marker cones were placed in the ‘V area’ as shown in the figure-VI and the fielders were positioned to catch the balls coming their way. No protective equipment was needed for the batsmen as only a soft
ball was used. The batsman (B) faced six balls thrown by the server on the target area marked on the pitch. The batsman played the front foot off, straight or the on drives through the target area marked by the cones X-V, X-Y, and Y-Z. The batsman had to avoid being dismissed – bowled or caught by the wicketkeeper or fieldsmen.

**Scoring**

The subject received five points each time he played the correct stroke without being dismissed. He received no points if the stroke was not executed properly. The maximum points that could be awarded were thirty.
Figure – VII
Figure – VIII
Back Foot Drive Test

Objective

To test the performance skill of the subject in back foot drive

Facilities and Equipments

One set of stumps, a bat, a soft ball, four marker cones, chalk powder, pen and paper.

Players, Server and Assessor

Ten players including one wicket keeper, one server and one assessor.

Procedure

The playing area was marked with target area (T) and creases as shown in the figure-VIII. The wicket keeper (W), Fieldsmen (F), server (S) and assessor (A) took up their positions as indicated in the figure-VIII. The marker cones were placed in the ‘V area’ as shown in the figure-VIII and the fielders were positioned to catch the balls coming their way. No protective equipment was needed for the batsmen as only a soft ball was used. The batsman (B) faced six balls thrown by the
server on the target area marked on the pitch. The batsman played the back foot off, straight or the on drives through his target area marked by the cones X-V, X-Y, and Y-Z as shown in the figure-VIII. The batsman had to avoid being dismissed – bowled or caught by the wicketkeeper or fieldsmen.

**Scoring**

The subject received five points each time he played the correct stroke without being dismissed. He received no points if the stroke was not executed properly. The maximum points that could be awarded were thirty.

All the scores, as marked by the assessors in an appropriate scoring sheet, were collected and the data was recorded. A copy of the scoring sheet for skill and performance test is presented in Appendix -V.
Figure – IX
Figure – X
Figure – XI
Figure – XII
Figure – XIII
EXPERIMENTAL DESIGN AND STATISTICAL PROCEDURE

The experimental design used in this study was similar to an equated group design involving fifty subjects who were divided into two equal groups by using the matching procedure on the basis of their initial cricket test performance scores. Group I acted as control group while Group II acted as experimental group. Group II were exposed to psycho-tonic training on a daily basis. Psycho-tonic training was selected as an independent variable for this research.

The data was collected from the experimental and control groups two days before and after the experimental treatment. The pre-test and post-test data were statistically examined by applying the concept of analysis of covariance (ANCOVA) for each and every variable selected for the research. In all the cases 0.05 levels was fixed as the level of significance.