CHAPTER III

PROCEDURE

In this chapter selection of subjects, selection of variables, reliability of data, procedure for administration of the tests and collection of data and statistical techniques employed in this study have been described.

SELECTION OF SUBJECTS

One hundred male students of B.Sc. Physical Education of Mahananda Mission Harijan College, Ghaziabad, U.P. were selected as subjects for this study. In order to select high and low fitness group, AAHPER Youth fitness test,\(^1\) comprising of six items that is pull-ups, bent knee sit-ups, standing broad jump, shuttle run, 50 mt. dash and 600 mt. run/walk, was administered and performance in each of the test items was recorded as per procedure laid down for each test item, the details of which are given under the heading entitled Administration of tests and collection of data. The performance was further converted into the composite scores. On the basis of the composite scores, a merit list was prepared. The test scores obtained were used for the ranking. The top 20 percent subjects and the bottom 20 percent subjects were selected for this study, as high and low fitness groups respectively, that is, 20 subjects each

\(^1\) H. Harrison Clarke, Application of measurement to Health and Physical Education, P.P. 178-179
in high and low fitness group. The selection of only top 20 percent and bottom 20 percent was made to provide for greater variation and wider gap in the fitness level ($t=22.85$ against $t.01 \ df \ 38=2.0$) so that there was real difference between the high and low fitness groups. This had a further support of the work done by Heale and Wearing\(^3\), who also selected only top and bottom 20 percent of the sample population in studying the high and low fitness group on selected physiological, psychological and motor performance components.

Prior to administration of different psychological, motor components and sports skill tests a meeting of subjects belonging to high and low fitness group along with their concerned teachers of the department was organised. In the meeting the purposes of the study, requirements of the testing procedure, demonstration of various psychological, motor components, and sports skills tests were explained to them in detail to make them clear about what they are actually required to do to fulfill the basic requirements of this research study. All the subjects agreed voluntarily to co-operate in the testing procedure explained.


to them. Though no special motivational techniques were used to motivate the subjects to put in their best performance yet the subjects were found to be enthusiastic and cooperative throughout the study.

**Selection of Variables**

The research scholar gleaned through the scientific literature pertaining to the most contributing psychological factors to sports performance from different sources available at the library of Lakshmibai National College of Physical Education, Gwalior and also consulted experts in the area of sports psychology with regard to this study. The expert opinion, administrative feasibility in terms of availability of instruments, time factor from the point of view of subjects, and expertise for measuring and recording of data, were given due consideration while selecting psychological variables, motor components, and sports skills as variables for this study.

Keeping in mind the above points, the following variables were selected and they were classified into two categories: (A) independent and (B) dependent variables.

**A) Independent Variables**

**PSYCHOLOGICAL VARIABLES**

1. Attention
2. Anxiety
3. Pain Tolerance
4. Locus of Control
5. Sports Self-confidence
6. Achievement Motivation and
7. Depth Perception

(B) Dependent Variables

The dependent variables were further subdivided into two categories that is (i) Selected Motor Components and (ii) Selected Sports Skills.

(i) SELECTED MOTOR COMPONENTS
1. Speed
2. Explosive Strength
3. Endurance
4. Agility
5. Flexibility and
6. Two Hand Coordination

(ii) SELECTED SPORTS SKILLS
1. Hitting the Target
2. Shooting in Basketball
3. Serving in Volleyball and
4. Throw for Accuracy (Basketball)

To measure the above listed psychological variables, motor components and sports skills, specific technique/procedures/tests were employed. Prior to collection of data, the reliability of data was established.
Reliability of Data

The reliability of data was ensured by establishing the instrument reliability, tester reliability, reliability of tests and subjects reliability.

Instrument Reliability

To measure the attention ability of the subjects, Electrical Mirror drawing Apparatus supplied by the National Psychological Corporation, Agra was used, which is quiet reliable and is widely acceptable reliable tool in India to measure attention ability.

Depth Perception Apparatus was used to measure the depth perception ability of the subjects. The apparatus was quite reliable to measure the same, as it was supplied and manufactured by a competent firm, Biological Concern, Calcutta.

To measure the two hand coordination, the Two Hand Coordination Apparatus was used and it was supplied by the National Psychological Corporation, Agra. This apparatus also has been used by sports scientist of India and its reliability was established to $r = .89$.

The anxiety, locus of control, sports self-confidence, and achievement motivation were measured by standard questionnaires prepared by Rainer Martens, Anand Kumar and S.N. Srivastava, Robin S. Vealy, and M.L. Kamlesh
respectively and their reliability was found to be quite high.

To measure the motor components, the instruments like stop watch, steel tape, yardstick used in this study, were obtained from the standard firms which cater to the need of various research laboratories in India and abroad. Their calibration was accepted as accurate enough for the purpose of the study. All the instruments were available in the laboratory of M.M.H. College, Ghaziabad, U.P.

Testers Competency and Reliability of Test

The tester competency was evaluated together with reliability of test. To determine the reliability of AAHPER youth fitness test, the test-retest method was used. For this purpose the performance of ten randomly selected students was taken twice on these test under similar conditions and the reliability coefficients obtained by correlating the test-retest scores for all the items of AAHPER youth fitness test have been presented in Table 1.

The performance of the students on AAHPER youth fitness test provided very high reliability co-efficients which proved that the tests were highly reliable.

To determine the reliability of psychological variables, motor components and sports skills, the performance of subjects (five from each group) selected at
### TABLE 1

RELIABILITY COEFFICIENT OF TEST-RETEST SCORES ON AAHPER YOUTH FITNESS TEST ITEMS

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Items of AAHPER Test</th>
<th>Coefficient of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pull-ups</td>
<td>0.89*</td>
</tr>
<tr>
<td>2.</td>
<td>Bent knee sit-ups</td>
<td>0.90*</td>
</tr>
<tr>
<td>3.</td>
<td>Standing Broad Jump</td>
<td>0.85*</td>
</tr>
<tr>
<td>4.</td>
<td>Shuttle Run</td>
<td>0.88*</td>
</tr>
<tr>
<td>5.</td>
<td>50 mt. Dash</td>
<td>0.92*</td>
</tr>
<tr>
<td>6.</td>
<td>600 mt. Run/Walk</td>
<td>0.91*</td>
</tr>
</tbody>
</table>

* Significant at .01 level.

Random basis were recorded twice under identical conditions by the scholar. Pearson’s Product Moment Correlation was computed between the two measures of each variable and their reliability coefficient are shown in Table Numbers 2, 3 and 4.

### TABLE 2

RELIABILITY COEFFICIENT OF TEST-RETEST SCORES OF PSYCHOLOGICAL VARIABLES

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Tests</th>
<th>Coefficient of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mirror Drawing Test</td>
<td>0.88*</td>
</tr>
<tr>
<td>2.</td>
<td>Pain Tolerance Test</td>
<td>0.85*</td>
</tr>
<tr>
<td>3.</td>
<td>Depth Perception Test</td>
<td>0.89*</td>
</tr>
</tbody>
</table>

* Significant at .01 level.
## TABLE 3

**RELIABILITY COEFFICIENT OF TEST-RETEST SCORES OF MOTOR COMPONENTS**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Tests</th>
<th>Coefficient of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>50 mt. Dash</td>
<td>0.98*</td>
</tr>
<tr>
<td>2.</td>
<td>Standing Broad Jump</td>
<td>0.97*</td>
</tr>
<tr>
<td>3.</td>
<td>12 min. Run/Walk</td>
<td>0.93*</td>
</tr>
<tr>
<td>4.</td>
<td>Shuttle Run</td>
<td>0.91*</td>
</tr>
<tr>
<td>5.</td>
<td>Sit and Reach Test</td>
<td>0.99*</td>
</tr>
<tr>
<td>6.</td>
<td>Two Hand Coordination Test</td>
<td>0.94*</td>
</tr>
</tbody>
</table>

* Significant at .01 level.

## TABLE 4

**RELIABILITY COEFFICIENT OF TEST-RETEST SCORES OF SPORTS SKILL TESTS**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Tests</th>
<th>Coefficient of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Hitting the Target Test</td>
<td>0.98*</td>
</tr>
<tr>
<td>2.</td>
<td>Basketball Field-Goal Speed Test</td>
<td>0.95*</td>
</tr>
<tr>
<td>3.</td>
<td>Volleyball Serving Test</td>
<td>0.97*</td>
</tr>
<tr>
<td>4.</td>
<td>Basketball Throw for Accuracy Test</td>
<td>0.93*</td>
</tr>
</tbody>
</table>

* Significant at .01 level.

It was obvious from Table 2,3 and 4 that the tester reliability was significantly high, establishing the competency of the scholar to administer these tests.
The correlation coefficient also indicated the reliability of the tests selected, as very high correlation were obtained, when the test were repeated.

Subject's Reliability

The test-retest method established the subject's reliability, it was significant at .01 level of confidence, as the same subjects were used under similar conditions by the same tester and no motivational technique were used. In the case of psychological variables it was stressed that their response will be kept confidential and that these test have nothing to do with grading in their respective classes and that they should express their frank and open hearted responses which would thus suit best to their own psychological make up.

Administration of Tests and Collection of Data

The data pertaining to the selected psychological variables, motor components and sports skills were collected by administering the specific test and measurement procedure.

A. PROCEDURE FOR ADMINISTRATION AND COLLECTION OF DATA OF AAHPER YOUTH FITNESS TEST ITEMS

The selection of subjects for this study was based on the performance in AAHPER youth fitness test on the selected 100 male students. The test was administered to all the subjects in the following manner.
Pull-ups

Each subject performed as many pull-ups as he could possibly do, in the manner described below from a horizontal bar of appropriate height so that the feet of the tallest subject did not touch the floor when performing the test.

In taking this test, subject hung from the bar by his hands with over hand grip and chinned himself up as many times as he could. In executing the movement, he was asked to pull himself up until his chin was even with his hands, and then lower himself down until his arms were straight. The subject was not permitted to kick, jerk or use kip motion.

The number of completed pull-ups was recorded as the score on this test.

Bent Knee Sit-ups

Each subject did as many sit-ups as he could do, in one minute, in the manner described below:

The subject assumed a supine lying position knees bent at an angle of less than 90 degrees, and hands clasped behind neck. The feet were held down by a partner. To perform sit-ups, the subject brought his head and elbow upward in a curl-up motion, touching elbow forward to the knees. In returning to the supine position it was ensured that the elbow touched the floor each time.
The number of completed sit-ups in one minute was recorded as the score for this study.

**Standing Broad Jump**

A take off line was drawn near one-edge of jumping pit. The subject was asked to take his position with toes just behind the take off line, and feet slightly apart. Taking off with both the feet simultaneously, he jumped to cover the maximum possible horizontal distance, landing on both feet. While jumping, he was asked to crouch slightly and swing the arms to aid the jump. Three trials were given and the best of the three jumps was recorded as the standing broad jump performance.

The horizontal distance between the take off line and the nearest break made in landing was measured and recorded to the nearest centimeter as the score on this test item.

**Shuttle Run**

Two parallel lines were marked on the ground, ten yards apart. For this test item the starting and the finishing line were the same. Two wooden block (2"x2"x4") were placed behind the restraining line. Each subject positioned himself behind the starting line, and on the preparatory command ready "go", ran to the opposite end-line, picked up the wooden block, ran back to the starting point, kept the block down; ran back again to the opposite end line, picked up the second block, and carried it across the starting line.
The timing was clocked from the starting to the carrying of the second wooden block across the starting line to the nearest one-tenth of a second. Two trials were allowed and the better timing was recorded as the score on this test item.

50 mt. Dash

Two parallel line were marked on the ground at 50 metre distance from each other. One of these served as the starting line and another one as the finish line.

Four subjects selected at random were started at a time with a clapper and eight time keepers, two for each subject, recorded the time taken to cover the distance of 50 metre.

The slower timing of the two watches, corrected to the nearest one-tenth of a second was recorded as the score for each subject in this test item.

600 mt. Run/Walk

This test item was conducted at the 400 mt. track marked for this purpose.

Four subjects selected at random were started off with clapper with the instructions to finish the distance of 600 mt. preferably by running through out, but when running not possible resort to walking, in any case asked to complete the total distance. One time keeper per subject at the finish line took the timing of each subject. Scores of AAHPER youth fitness test have been presented in Appendix A.
B. PROCEDURE FOR ADMINISTRATION AND COLLECTION OF DATA OF PSYCHOLOGICAL VARIABLES

ATTENTION

To measure the attention ability of the subjects, the subjects were asked to sit in front of the Mirror Drawing Apparatus. The rubber pin having thin rod was given to the subject and placed it at the starting point in the star. The wooden plate was adjusted horizontally at adequate height above the band of the subject so that star task was not directly visible to the subject. The subject was asked to move the pin in such a manner that it did not touch the outer part of the smaller and bigger star and the subject was also instructed to concentrate into the mirror while performing the star task with his hand.

Three trials were given to each subject. For each trial total number of errors and total time taken to complete each trial was recorded.

ANXIETY

To measure sports competition anxiety the Rainer Martens\(^4\) questionnaire was used. The specimen copy of this questionnaire is presented in Appendix 'C'. The subjects of high and low fitness group were assembled in the sports psychology laboratory of the college concerned and they were explained the purpose of the test. The subjects were distributed the SCAT questionnaire. The directions were read
by the researcher at the dictation speed to make the subjects understand what they were exactly required to do. The inventory had no time limit but on an average it required about ten minutes for responding the fifteen questions.

The SCAT had fifteen items out of which five were spurious questions which were added to the questionnaire to diminish response bias towards the actual test items. These five questions are not scored. The subjects were instructed to respond to each item accordingly to how he generally feels in competitive sports situations. Every statement had three possible responses, namely, (a) hardly ever (b) sometimes, (c) often. The ten test items taken for the scoring purpose were 2, 3, 5, 6, 8, 9, 11, 12, 14 and 15. The remaining items, that is spurious items, not to be scored were 1, 4, 7, 10 and 13.

While the subjects were responding to the questionnaire the scholar went around verifying that they were recording answers sequentially and he explained the meaning of the words to the subjects in case of doubt.

The completed questionnaire were scrutinised by the scholar in order to ensure that the subjects had responded to every item without leaving any one of them unanswered.

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The items 2, 3, 5, 8, 9, 12, 14 and 15 were worded in such a manner that they were scored according to the following key.

<table>
<thead>
<tr>
<th>Score</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hardly ever</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes</td>
</tr>
<tr>
<td>3</td>
<td>Often</td>
</tr>
</tbody>
</table>

In the case of items 6 and 11 scoring was carried out according to the following key:

<table>
<thead>
<tr>
<th>Score</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Often</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes</td>
</tr>
<tr>
<td>3</td>
<td>Hardly ever</td>
</tr>
</tbody>
</table>

However, the spurious questions were not scored out as suggested by Rainer Martens. Scores obtained by each subject on each statement was added up which represented one's total score on sports competition anxiety.

**PAIN TOLERANCE**

The pain tolerance of the subjects was measured by the Gross Pressure Test. The subjects were asked to split the legs sideways in a V shape up to the normal position. The back of the subjects was supported by a smooth wall. Then after that the subject was asked to move further four inches in each side and the blocks were fixed on the two outer sides of the feet. Then the subject was asked to retain the
position for maximum period. Of the three chances given to each subject, the chance with maximum stretching for the longest duration was considered as the best and attained accordingly its score retained in the test.

The time taken to retain the position was recorded as pain tolerance score.

**LOCUS OF CONTROL**

The Locus of Control was measured by the Rotter’s Locus of Control Scale prepared by Kumar and Srivastava. The specimen of this questionnaire is presented in Appendix ‘D’. All the subjects were assembled in the sports psychology laboratory of the College and they were explained the purpose of the test. The subjects were distributed the questionnaire. The directions were read by the researcher at the dictation speed to make the subjects understand what they were exactly required to do. The scale had no time limit but on an average it required about 25 minutes for responding to the 29 items.

The scale had 29 items each item had two parts, that is, A and B and the subject had to tick either A or B according to his or her choice. There were six filler items, namely, 1, 8, 14, 19, 24, and 27 which were not scored.

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While the subjects were responding to the questions, the scholar went around verifying that they were recording answers sequentially, and explained the meaning of the words in case of doubt.

The completed questionnaire was scrutinized by the scholar in order to ensure that no question was left unanswered. The item numbers 1, 8, 14, 19, 24, and 27 being the filler questions were not scored. For the item numbers 2, 6, 7, 9, 16, 17, 18, 20, 21, 23, 25, and 29 one point was given to those subjects who tick 'A' part. For item Numbers 3, 4, 5, 10, 11, 13, 15, 22, 26, and 28 one point was given to those subjects who tick 'B' part. The maximum possible score on Rotters locus of control scale was 23 and minimum zero.

SPORTS SELF CONFIDENCE

The sports self confidence was measured by the sports self confidence (state and trait) inventory prepared by the Vealy. The specimen copy of this questionnaire is presented in Appendix 'E'. The inventory had two parts, that is, trait sports self-confidence and state sports self-confidence and each part had 13 questions. In front of each question points from 1 to 9 were written. The students had to read the questions and circle the appropriate number according to the degree of weightage one feels about the question.

All the students were assembled in the sports psychology laboratory of the College and they were explained
the purpose of the test. The subjects were distributed the questionnaire. The directions were read by the scholar at a dictation speed to make the subjects understand what they were required to do. The inventory had no time limit but on an average it required 20 minutes on the part of subject to complete the for inventory, that is, state and trait. While the subjects were responding to the questions the scholar went around verifying that they were recording answers properly.

Both the inventories were scrutinized by the scholar in order to ensure that no question was left unanswered. The total score of the subject was the addition of numbers circled by him. The maximum score was 117 and the minimum 13.

Achievement Motivation

The achievement motivation was measured by the Sports Achievement Motivation test constructed by M.L. Kamlesh. The specimen copy of this questionnaire is presented in Appendix ‘F’. The subjects were assembled in the sports psychology laboratory of the college and they were explained the purpose of the test. Necessary instruction required before answering the questionnaire were explained to the subjects. After making sure that subjects understood the

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6 Robin S. Vealy, "conceptualization of sport conidance and competitive orientation", Journal of sports psychology. 8(1986): 244.
instructions the questionnaires were distributed to the students. They were given enough time to answer the questionnaire. The questionnaire were taken back after it was duly completed.

The sports achievement motivation test has twenty test items response value of test extends from 0 to 40. Each item carries a maximum score of two and the minimum of zero. When the subjects ticked the high pole, he was given two points and when ticked the low pole no score was awarded.

**Depth Perception**

To measure the depth perception ability of the subjects, the subjects were asked to sit on a stool at the observational slit of the apparatus. The height of the stool could be adjusted in such a way that when sitting on it, the subject's eye should be at level with the observational slit seeing the rods against the illuminated background.

The tester had to stand at the right side of the box and move the middle rod from the illuminated end of the box towards the middle of the box. The subject was instructed to immediately indicate the movement, he could see the middle rod to be in line with those two fixed rods. The deviation form the mid zero-point was recorded from the matric scale.

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The same procedure was repeated while moving the movable rod from the slit end towards the middle of the box.

C. PROCEDURE FOR ADMINISTRATION AND COLLECTION OF DATA OF MOTOR FITNESS COMPONENTS

SPEED

50 Metre dash was used to test the speed of each subject. The subjects were allowed to warm-up before the actual performance. Two subjects ran at a time, both of them took position behind the starting line. To conduct the race starter gave the command "on your mark", "set" and then he clapped the clapper. The respective time keepers started their watches when they heard the sound of the clapper and stopped the watches when the concerned subjects crossed the finishing line.

The time was recorded to the nearest 1/10th of a second.

EXPLOSIVE STRENGTH

To measure the explosive strength of the legs, the standing broad jump was used. A take off line was drawn near one edge of the jumping pit. The subject was asked to take his position with toes just behind the take off line and feet slightly apart. Taking off from both the feet simultaneously, he jumped to cover the maximum possible horizontal distance, landing on both feet. While jumping he was asked to crouch slightly and swing the arms to aid the
jump. Three trials were given and the best of the three jumps were recorded as the standing broad jump performance.

The horizontal distance between the take off line and the nearest break made in landing was measured and recorded to the nearest centimeter as the score on this test.

**ENDURANCE**

To measure the Cardio Vascular endurance 12 minute Run/Walk test was used. The test was conducted on the 400 mt track. The 400 mt length of the track was divided into 8 equal parts of 50 mt. each. All the subjects were assembled on the starting line. They were instructed to run/walk continuously for a duration of 12 minutes. The start was given by using the proper command, a signal was given by blowing the whistle after the completion of 11 minutes, the final whistle was blown at the end of 12 minutes and all the subjects stopped running. The distance covered in 12 minutes was recorded to the nearest 50 mt.

The score of the subject was the distance covered in 12 minutes of duration.

**AGILITY**

To measure the agility 4x10 metre shuttle run test was used. First starting line was marked on the ground and another line parallel to the starting line was marked at a distance of 10 metres and the wooden blocks (2"x2"x4") were placed on this line. On the signal 'go' he ran to the block,
picked up one, returned to the starting line and placed the block behind the line, he then repeated the process with the second block. Some rest was given between the two trials.

The score was the length of time taken (to the nearest tenth of the second) to complete the course.

FLEXIBILITY

The subject took a sitting position on the floor with knees fully extended and soles of his heels placed against the box. The subject reached forward with flexed trunk, palm down, along with the scale. This final position was held for one second to facilitate the measurement.

The best of three distances reached was recorded to the nearest centimeter, as score of the subject.

TWO HAND COORDINATION

Electric two hand coordination apparatus was used to measure the two hand coordination ability. The apparatus was arranged on the table and the subject sat on a stool. The subject was instructed not to sit in a position from where he would see the base of the pointer inside the box. A practice trial was given to each subject. For testing, the subjects were instructed to trace the pattern in shortest possible time and also with minimum errors. Here, the errors meant touching the sides of the pathway by the pointer. As long as the pointer remained in contact with the side of the
pattern, the time period was recorded by the chronoscope as error time of the subject.

The subjects had to control the pointer with the help of the two handles manipulated by the co-ordination abilities of both the hands.

The time taken to complete pattern was recorded by stop watch. The time recorded by the chronoscope as error time, was added to the time recorded by the stop watch. The time in seconds was the subject’s score on two hand coordination test.

D. PROCEDURE FOR ADMINISTRATION AND COLLECTION OF DATA OF DIFFERENT SPORTS SKILL TESTS

HITTING THE TARGET TEST

The purpose of this test was to measure the accuracy ability by using Tennis ball. 10 basketballs and 10 tennis balls were needed to conduct this test. 10 basketball were placed in a line one metre apart. Another line was drawn at a distance of 10 metres and the 10 tennis balls were placed one metre apart on this line. Every subject after picking up the tennis ball hit the basketball kept opposite it at a distance of 10 metres and in all had 10 such trials (See Figure 2).

Ten trials were given to the subjects. One point was awarded for each successful hit. The total number of successful hits were recorded as performance of the subjects.
Fig. 2 Hitting the target test
BASKETBALL FIELD-GOAL SPEED TEST

This test was to measure the shooting ability of the subjects. A basketball, a basketball board and a stop watch were required for conducting this test. The subject could shoot the ball in the basket in any fashion from any distance, starting close under the basket.

The score was the number of basket made in 30 seconds. Out of three trials the best was taken for analysis.\(^8\)

VOLLEYBALL SERVING TEST

The purpose of this test was to evaluate the serving ability in Volleyball. A volleyball, a volleyball net and standard court marked as indicated in Figure 3 were required for this test. Server stood opposite the marked court in the service area in proper serving position, he used any legal service in hitting the ball over the net into the opposite court. Ten trials were given to the server. When the ball hit the net, it was counted as a trial but no point was iven.

The score was total number of points made, determined by where the ball landed in the opposite court. For all the balls that landed on the line, the higher score of the area was awarded.\(^9\)

\(^8\) H. Harrison Clark Application of Measurement to Health and Physical Education, P. 264.

\(^9\) Ibid, P.290.
Fig. 3 Diagram of Zones for Volleyball Serving Test.
BASKETBALL THROW FOR ACCURACY TEST

The purpose of this test was to measure the accuracy with Basketball. The Basketball, wall or board and chart were required for conducting this test. The target as shown in Figure 4, was a series of rectangles of various size arranged one inside the other. The target was marked on the wall with the length of the rectangle in a horizontal position, the bottom was 14" above the floor. The subject was given ten trials from a distance of 40 feet, using either the baseball or hook pass.

3 points for inner rectangle, 2 points for middle and one point for outer rectangle were awarded on the basis of the position of the ball finally touching the target.10

The raw data pertaining to psychological variables, motor fitness components and sports skill is presented in appendix 'B'.

STATISTICAL TECHNIQUES EMPLOYED

The relationship of selected psychological variables to selected motor components and sports skills of high and low fitness groups was established by computing Pearson's Product Moment Correlation Method. To compare the performance of the subjects on high and low fitness groups 't' ratio was applied. To test the hypothesis, the level of significance was set at .05.

10 Ibid, P.264.
Fig. 4 Basketball Accuracy Target.