

CHAPTER – II

REVIEW OF RELATED LITERATURE

“A study of relevant literature is an essential step to get a full picture of what has been done with regard to the problem under study. Such a review also brings about a deep and clear perspective of the overall field”. (*Thirumalaisamy, 1985*).

The investigator has made an honest and sincere attempt to locate the similar studies made by various scholars, through Internet, text books, magazines and journals, such as Research Quarterly and Dissertation Abstracts. Such collected references have been presented in logical order of importance and sequence of merit in this chapter.

2.1 LITERATURE ON VOLLEYBALL SKILL TEST

French Cooper (1959) developed a test to assess the ability of the repeated underhand passes of the players and discussed it elaborately.

Purpose:

To test the Volleyball players ability in the underhand pass.

Marking:

45” line for 10’ long should be marked on the wall at a height of 7 1/2’ from the floor which is equivalent to the net height .A Line with 5” thickness should be drawn on the floor opposite to the wall for 10’ long and 3’ from the base of the wall.

Equipment:

Well inflated Volleyballs, unobstructed wall space of 10 feet long and 15 feet high and a stopwatch.

Procedure:

The player was asked to stand behind the three foot line drawn on the floor and tosses the ball to the wall with underhand movement. When the ball bounces back, he should volley it repeatedly against the wall above the ten foot line drawn at a height of the net line for a period of 15 seconds. The ball may be volleyed by underhand as many times as designed within the testing period. It may be caught and restarted again from behind the three foot line. This procedure should be repeated until ten trials have been completed each for fifteen seconds in length.

Scoring

The score for one trial is the number of times that the ball is clearly batted from behind the three foot line on the floor to the wall above or on the net line. The score for the test is the sum of the five best of trials out of ten trials. **Ebenezer., (2009)** has conducted a new skill test on construction of skill test and compilation of norms for college men volleyball players between 18 and 25 years of age of Tamilnadu state In India, most of the beginners play volleyball without learning its fundamental skills such as service and underarm pass thoroughly.

Reliability:

$Y=0.78$ correlated by the odd- even method. It was not correlated by the Spearman-Brown formula since only five of the trials are used in the final score. Reliability computed days should yield on equally high perhaps higher coefficient for this test. Forty seven senior high school girls were selected from the University High School IOWA cited for this test .

IOWA $Y=0.82$ was computed by the odd- even method for the first four trials by 234 University of IOWA Women.

Margret J. Safrit discussed the Brumbach Volleyball service test in her book.

Test Objective:

To measure the ability to serve the volleyball low and deep into the opponents court.

Description of the test:

The subject stands behind the baseline and serves the ball attempting to hit it between the net and the rope and deep into the back court of the opposite side. The test consists of twelve trials in two sets of six in numbers each.

Test area:

Regulation size volleyball court.

Equipment:

Well inflated volleyball, standard extensions, rope, floor tape, or chalk powder, measuring tape, scoring cards.

Scoring:

A ball hit between the net and the tied rope lands in the target area which already marked, receives the highest of the two scores assigned to that area. A ball passing over the rope and landing in the target area shall be given the lowest of the two scores. The total test scores is the sum of the ten best trials. The foot faults, ball hitting the net and lands outside the target area shall be given zero score.

Validity and Reliability:

No validity and reliability have been reported for this specific test.

Barry and others (1982) referred AAHPER Volleyball Skill Test:

This test contains four test items. They are Volleying, Passing, Serving and attack. These E-tests are designed to cover the fundamental skills of volleyball. In this test the server was given ten trials. the score was the total points made according to the value of the zone in which the serve lands. for children below twelve years of age, the serving lines should be twenty feet from the net instead of thirty feet.

Anisetty Krishanveni (2008) has constructed a new skill test in service and underarm pass in volleyball and established the reliability, validity and constructed the norms for the college woman volleyball players. Further to establish the validity, reliability and norms 100,300 and 1000 volleyball college woman players were selected respectively. Further to establish validity, reliability and norms, Pearson product moment correlation, two-way inter class correlation and hull scale statistical techniques were employed. In the study the service placement test and underarm pass test! Were selected as most appropriate test items .The reliability co-efficient on most appropriate test items 'r' value ranged from 0.9994 and it was found that validity between criterion test and newly constructed test 'r' ranged form 0.9932 to 0.9980.

Milder and May Hew (1991) conducted a study on the selection and classification of high school volleyball players from performance tests. The purpose of this study was to determine the accuracy of general and specific tests for identifying the players like freshmen (FR), Junior varsity (JV), and varsity teams (VR), and the precision of to differentiate between starters and non-starters at each level of play.50 high school volleyball players were tested during the first week of practice for six general and four specific motor performance tests. The specific tests include the overhead volley, forearm Pass. Wall spike and self bump/set test. The general test includes height. weight. Present body fat. agility run, vertical jump and two flexibility exercises. (VR) players were significantly better in vertical jump. agility and all specific forearm pass, overhead volley, vertical jump and weight and shoulder flexibility allowed correct classified 68 percentage of players to their team level. The combination of bump set, height, weight and shoulder flexibility allowed correct classification of 78 percentage of the starters and non-starters. general and specific tests can successfully select and can classify the high school volleyball players.

Bovard and others (1950) conducted the skill test in volleyball at university of Wisconsin. they conducted extensive studies on the validity and reliability of various types of skill tests in volleyball .they finally suggested two tests, a serving test to measure the force of a serve ,the other was the placement of serve and the ability to get the ball crossing and receiving and accuracy of placements. a composite rating by three judges were used as a validating criterion. a coefficient of 0.79 for serving

test and 0.51 for the volleying test were reported. Reliability coefficients of 0.84 and 0.89 were found for the serving test respectively.

Cunnighan and Harrison (1968) had conducted a study to measure the volleyball playing ability of college women and tried to obtain a valid and reliable test for measuring the ability. For this purpose, he had chosen the Liba and stauff passing test to administer as a criterion test, since the reliability and validity of the test had been established already. He had selected one hundred and eleven fresh women and sophomore university women students for this purpose the Liba and stauff volleyball passing test and the newly constructed high wall volley test with a target of three feet wide and ten feet from the floor without any restraining line. the newly constructed test was found reliable and valid and valid when the better of two second trials were used. the validity of the new test to measure the volleyball playing ability was significantly greater than that for liba and stauff passing test. the judges were inter correlated with 0.89,0.83 , and totaled to serve as the validity criterion. The new test correlated 0.72 with the criterion and has a reliability of coefficient of 0.87 correlating and was found so significantly higher than the passing test.

John (1980) conducted a study on an evaluation of objective skill test in volleyball. the purpose of the study was to evaluate objective skill in the game. he took two tests for evaluation purpose. one was Brady volleyball test and the second AAPHER Volleyball test. He selected 40 volleyball players from different colleges affiliated to Jiwaji University as test subjects for this study and for computation of norms for bachelor of physical education students. A total of 72 students, who had undergone general course in volleyball were taken for this study. For computing reliability coefficient ,15 subjects were selected at random and tests were repeated on two days in between. The reliability of coefficient obtained in both the tests significant at 0.01 level of confidence. The tests were validated by correlating performance in tests to the rating of three experts, the validity coefficient obtained were found to be significant at 0.01 level of confidence.

Balakumara Raja (1990) constructed a test of forearm pass wall volley in volleyball for high and higher secondary school girls in Tamilnadu for his study.He has selected thousand female students as sample. He had established a validity of

0.80 and reliability $y=0.896$. This shows the new constructed test was better than the criterion test which was already in use.

Thirumurugan (1991) had conducted a study on the construction of service test in volleyball for the higher secondary and high school girls in Tamilnadu. One thousand girls students in the age group of 12 to 18 years were selected as subjects for his study. The criterion test score in two forms namely the average of trials and the best of trials (ACT and BCT) were correlated with equivalent form of new test (ANT and BNT). By using the Pearson product moment correlation, the average and best in each group achieved a coefficient ranging from 0.748 to 0.956. He obtained a coefficient reliability for the total sample as 0.96 and the coefficient of validity for the total sample was 0.911.

Baskaran (2001) conducted a research on construction of volleyball skill test and computation of norms for school girls of different age groups in Andhra Pradesh State. For this purpose, 4515 girls were selected ranging for the age group of 13, 14 and 15 years. It was hypothesized that the newly constructed test might not be reliable and valid.

For establishing reliability and validity of the newly constructed test the scores of the constructed test were correlated with the scores of the existing valid and reliable test that measured the same trait. The criterion test and Esther French's service placement test. The test scores were correlated by applying the Pearson product movement correlation and intra-class correlation method. He has obtained a reliability coefficient of different age group ranging from 0.75 to 0.99 which were highly significant and validity co-efficient ranging from 0.90 to 0.95 which shows a high validity. He had also constructed a norm by using hull scale.

Johnson (1968) had developed a six trials over-head volley test, which was administered to hundred school girls. A reliability coefficient of 0.93 was obtained and was validated against two criteria, one was judges rating and the other was French cooper wall volley test. When correlated with a criterion of subjective ratings, the validity coefficient of Johnson overhead volley test was found to be 0.74 when correlated with French – cooper test.

2.2 LITERATURE ON ATHLETIC AGILITY SKILL TEST

Pandian Nagarajan (2003) has conducted a research on construction of norms for the physical efficiency test. In this study rope climbing, long jump, 100 meters run, 1500 meters run, shot put, cricket ball throw performances were selected as the tests. For this purpose ten thousand men subject and ten thousand women subjects were selected. Hull scale was computed and the norms were compiled separately for men and women, and qualitative grading was made.

Jackson and others (1992) intended to investigate the reliability and validity of one mile walk as field test for aerobic capacity and to develop norms for that test. For establishing reliability and validity the samples included 41 males (n=21) and female (n=20) in the age group of 19-32 years. The subjects performed the treadmill stress test to determine the peak O₂ consumption and 3 trials of a maximum one mile walk on an indoor track. The mean trial performance was used for statistical analysis. The alpha reliability estimate was 0.96 but a significant trend was present between trial 3rd and peak o₂ consumption was 0.57. When the rock port prediction function using age, weight, weight, gender, one mile walk and ending heart rate was used to predict peak o₂ they improved to 0.66. The normative samples included males (n=400) and females (n=426) with an age range of 18-30 years. They performed a practice trial of the one mile walk followed by a performance trial then the percentile norm was constructed.

2.3 LITERATURE ON BADMINTON SKILL TESTS

Kotha Savithri (2003) conducted a research on construction of skill test and compilation of norms for Badminton. The aim of this study was to construct new skills tests for service and fore hand clear in badminton and then to construct norms for the above skills to assess the talent of the college men badminton players of Andhra Pradesh State. In this study she computed norms and provided an opportunity to identify the right type of individuals to be trained as badminton players. Hull scale statistical technique was employed to analyse the results. The test showing higher coefficient correlation were selected for the final analysis. The hull scale norms were compiled and presented as the final test battery for most appropriate tests

Johnson (1927) has constructed Badminton skill test utilizing the Johnson Badminton set-up Machine to measure the ability of the smash skill. This is meant for boys and girls of junior high school through college. Reliability is r of 0.77 was reported by Bill Parker, 1973 and an objectivity r of 0.94 was obtained between the scoring of an experienced tester and an inexperienced tester. Face validity was accepted for this test. A Johnson Badminton set-up Machine (motor or manual) is needed along with a tightly strung badminton racket and several birdies. Lines and points that should be marked with chalk or tape on the court and the machine should be placed 13 feet from the net, with the arm rotating belt parallel to the net. The Subject will stand below the dropping point of the machine and facing the net. After seven practice trials, the student is to smash the bird into the scoring areas along either side line. Trials taken without reasonable speed and force are incorrect and must be repeated for scoring purposes. Ten trials are allowed for score and the maximum score possible is ten points. The additional pointers were (a) the student should be informed immediately when an incorrect stroke is to be repeated. (b) If a repeated trial is also incorrect, the trial is scored as zero. (c) The shuttle should be placed skirt down in the cuts of the machine so as to allow the bird a quick rotation to the tip down position for the smash shot.

Pooles (1972) constructed badminton skill test to measure the ability to serve high and deep to the rear of the court. This test may be used with high School and college students of both sexes. The validity of the test correlated were 0.51 with the results of tournament play. The reliability of test-retest coefficient was 0.81. The court is marked; four lines have to be drawn which are indicated by the dotted lines. One line is drawn 2 inches behind and parallel to the back boundary line. A Second line is drawn parallel to and 16 inches closer to the net than the first drawn line. This places the second drawn line 14 inches from the back boundary line and 16 inches in back of the doubles long service line. The third line is drawn 16 inches closer than the 5-point zone extends 2 inches beyond the back boundary line. A 15-by-15-inch square is drawn 11 feet from the net in the middle of the service court (o). Two rackets and preferably twelve shuttles, in good condition, are needed for the test. The subject stands anywhere in the right service court (x) and serves twelve shuttles. The server attempts to serve over the extended racket of a student who stands in the square (o) in the target court. This student acts as the "opponent" and

assists in the scoring by yelling "low" for shuttle which does not go over his racket. The scorer stands at point Z. Each serve is scored according to the zone in which the shuttle hits. The best ten out of twelve serves are totaled. A perfect score would be fifty. Shuttles hitting on the line are given the higher point values. One point is deducted for any shuttle that fails to clear the upheld racket of the player at O.

The following are the additional pointers: Only legal serves are scored, Height of the player 'O' who extends the racket over his head is of little consequence. Naturally, extremes should be avoided. Poole believed that this represented a more game like situation than the use of a rope and that it sacrificed very little objectivity. In addition if the tester wishes to use a rope, Poole recommends that it be 9 feet high and place 11 feet from the net. The 2 inch zone because it was believed that an opponent would ordinarily play any shot that close to the base line. In test could be shortened to the best six out of eight trials. It was found that this scoring method correlated 0.95 with the ten out of twelve scoring system.

Poole (1972) has constructed badminton skill test to measure the player's ability to hit a backhand clear from his back court high and deep into the opponent's court. The Validity of the test correlated was 0.78. The court with scoring zones is marked. One line is drawn parallel to and halfway (6 ½ feet) between the short service line and the doubles long service line. Another line is marked 6 inches beyond the back boundary line. A 15-by-15 inch square drawn at the Intersection of the double long service line and center line. Two rackets and preferably twelve shuttles in good condition are needed.

The subject stands with his right foot in the X square (assuming he is right handed) holding his racket face up. The shuttle is placed feathers down on the forehand side of the racket. He then tosses the shuttle into the air and hits an over head forehand clear of his opponent's racket and deep into the opponent's court. His right foot should stay in contact with the X square until the shuttle has been struck. A player stands at point O with his racket extended overhead .He calls out "low" if any shuttle does not go over his the X square. He places the shuttle on the forehand side of the racket, tosses it into the air, and then executes a backhand clear shot deep into the opponent's court. Twelve trials are given. The point value of the zone in

which the shuttle hits is recorded on the score sheet for each attempt. The best ten out of twelve shots are totaled. A Perfect score would be forty. Shuttles hitting on the line are given the higher point values. One point is deducted for any shuttle which fails to clear the racket of the player o.

The following are additional pointers: Same as for the forehand clear test. The tossing skill needs practice. It was found that placing it on the forehand side of the racket was easier to perform for the backhand clear than placing it on the backhand side of the racket. If desired, the test can be shortened to the best six out of eight trials. This correlated 0.94 with best ten out of twelve score.

Scott and Fox (1972) have constructed badminton skill test to measure ability to serve high and deep to the rear of the court. Test is mean for college men and women and also to the high school boys and girls. The Validity of the test correlated 0.54 with subjective ratings by judges on forty-five university women. The reliability coefficients of 0.68 and 0.77 were obtained by Scott and Fox using the odd even trials method and the spearman Brown prophecy Formula.

Extra standard are needed from a rope can be stretched across the court at a height of 8 feet and at a distance of 14 feet from the net. A tightly strung racket and at least five shuttles in good condition are needed for the test .with chalk or washable paint, arcs are draw outward from the intersection of the left singles side line and the long service. The arcs are drawn at distances of 22, 30,38 and 46 inches from the midpoint. Each distance includes the width of the 2-inch lines. The subject (a) stand in the service court diagonally opposite the target and attempts to serve over the rope into the cornet of the court containing the target zones that were the point values. Twenty shuttles are served. Any shuttle falling on a line is given the higher point value. The score for the entire test is the total of the twenty trials. Fouls are repeated. The scorer should stand soothe he can determine whether or not the shuttle passed over the rope as well as to see where the shuttles hit, scores are called out to a recorder.

French (1972) has constructed badminton skill test to measure the ability of the clear shot in badminton. This is only meant for college women. The validity coefficient was reported to be 0.60 when correlated with tournament rankings.

Reliability may be the odd –even method stepped up by the spearman-Brown prophecy Formula and resulted in a correlation of 0.96.

A clothesline rope is stretched across the court at a height of 8 feet, at a distance of 14 feet from the net. At least five shuttlecocks; a tightly strung racket, and floor markings with lines 1 ½ inches wide drawn on the floor. The subject stands behind the short service line on the court opposite the target. Small marks are drawn in each service court 11 feet from the net and 3 feet from the center line. An experienced player service to the subject, who attempts to return each shuttle with a clear shot that goes over the rope and, preferably, lands near the end line .The twenty shuttles may be given consecutively or in groups of ten. A serve to the subject should fall between the two marks. if it does not go that far , r falls outside the marks, the subject is not supposed to return it. Thus, the subject does not have to play a poorly placed shuttle; only those shuttles played by the subject count as trials. The subject repeats any trial in which a foul is committed, such as when a stroke is carried or slung, or in the event that the shuttle hits the rope. The instructed demonstrates, and two practice trials are then gibe. The Target extends from side to side ,thus the subject does not have to confine his shots to half the court. The point values are given.

2.4 LITERATURE ON BASKETBALL SKILL TEST

Chandran (2005) has conducted a study on construction of basketball skill test and compilation of norms for college Men players in Tamilnadu state The purpose of the study was to construct a new skill test battery for college men Basketball players in Tamilnadu and also to construct the norms for the college men Basket ball players. In this study, one thousand basketball players were taken in to consideration to construct the norms for the final test battery. The selected arbitrary Test items were passing and receiving (Accurate chest pass, over head pass and speed pass) shooting test items (alternate layup shot ,set short indifferent sport and three point shot) Dribbling Test items (Speed control dribble and alternate dribble) And rebounding Test (Rebound ability).Using the ‘r’ value of 0.90 and above on arbitrary test items (ATI), the items such as speed pass, accurate chest pass, alternates layup shot , alternate dribble were selected as most appropriate test (MAT) items form the result of the step-wise regression analysis ,it was found that

the test items such as speed pack, alternate dribble and alternate layup shot were in the final module. It was concluded the percentile norms evolved in the present study for the final test battery was more appropriate in the contemporary settings.

Shanmugam Vairamani (1996) constructed an agility test for boys of age ranging from 11 years to 15 years belonging to Kendriya Vidyalayas of Madras region in the state of Tamilnadu. For this purpose four thousand eight hundred and eight boys were selected from all Kendriya vidyalaya school of Tamilnadu state. It was hypothesized that the new agility test might not be reliable and valid.

For establishing reliability and validity of the newly constructed test the scores of the constructed test were correlated with the scores of the existing valid and reliable test that measured the same trait. The two criterion test selected were one Boomerang (Right) 1946 and the second the zig zag run test (The Texasran 1973). The test score were correlated by applying the Pearson product moment correlation and inter class correlation method. He has obtained a reliability coefficient of different group and total population ranging from 0.75 to 0.99 which were highly significant and a validity coefficient ranged from 0.85 to 0.93 which shows a high validity. He had constructed a norm scale by using Hull scale.

Latchway (1986) cited by Safrit, introduced the test to measure the ability of fourth, fifth and sixth grade students. For this purpose the basketball wall pass test was used. The student's stand behind the restraining line, on signal the ball is thrown against the wall. As it bounces off the wall, the student attempts to hit the ball repeatedly against the target. Any type of hit may be used. Allow one 10 second practice trial and four 15 second test trials. The test score is the number of correct hits the 15 second period. The test score is the best of four trials. The initial throw against the wall is not score, only balls that are hit count. If a student throws or carries the ball, it is not counted as score. If the control of the ball is lost, it is the responsibility of the student to recover it. Then the ball must again be put into play with a throw against the target. Face Validity Reliability of boys $r_{xx}=0.89$ IV grade 0.89 V grade 0.85 V grade 0.89 VI grade, 0.79 VI grade was obtained respectively.

Palaniswamy (2001) conducted a research on construction of Basketball skills test for college men in the age group of 20 to 25 years. The study was conducted in 3 phases, namely selection of arbitrary test items, extracting the most appropriate test and establishing the final battery items. In phase 1, 20Arbitrary tests in various skills were selected and the most appropriate test was selected by using two- way ANOVA with repeated measures design used. Then in the phase 2, the criterion test was compared with the most appropriate test items by using product moment correlation. The reliability, objectivity and subjectivity was established for the newly constructed test items such as moving pass and speed pass (passing &receiving), long shot zigzag lay up & alternate lay up shot (shooting), alternate dribble & pace dribble (dribbling) restricted area, star defense movement, stop &pivot and shuffling (footwork & rebounding).

The findings of the study showed that the test namely long shot, star defense moment, alternate lay up shot, alternate dribble and moving pass were evolved as the final battery to find out the playing ability of the Inter collegiate Basketball players in fundamental skill. It was concluded that the norms evolved in the present study for the final test battery was more appropriate.

2.5 LITERATURE ON SOCCER SKILL TEST

Nagarjan (2006) conducted a study on construction of soccer skill test and Compilation of norms for college men soccer players of Tamilnadu state. In this study Shooting, Dribbling and passing skills were selected. For establishing validity, reliability and norms for the newly constructed tests Pearson's product moment correlation two way intra-class correlation and Hull scale statistical techniques were employed. For the construction of the norms, the test scores of the newly constructed skill test scores on shooting passing and dribbling skills were subjected to the statistical analysis for computing the mean, standard deviation and Hull scale values. Thus the norms were constructed for the assessment of shooting, passing and Dribbling skills in soccer.

Varghese (2000) conducted a study on construction of norms for the predicated skills, physical and anthropometrical variables for college men soccer players in kerala. One hundred College men soccer players were selected for this

study. The data were collected for the chosen nine variables viz, dribbling, ball control, Kicking, speed, endurance, height, leg length and thigh girth. For the predication, Wherry - little method of variables selection was employed. From the nine chosen variables, ball control, power, dribbling and endurance were predicated in the order of importance. Further data were collected for 2000 subjects, to construct norms by using Hull scale statistical techniques.

Alex (1990) conducted a study on computation of norms for the ability among college football players. He had computed the norms for kicking skill test based on the Hull scale for 150 players. It was found that 43 players were below average and 107 players were above average level. Thus it was proved that performance of the Warner 'soccer kicking skill test for college players was good.

Baumgartner and Jackson (1987) discussed the Yeagley Soccer battery test. The main objective of this test is to measure the basic soccer skills of the beginners. The validity of each of the four test items was examined with three different criteria.

The ratings of four judges on the soccer judging skill and, the composite standard score of the four tests, and the concurrent validity co-efficient were as follows: For dribbling the correlation values for wall volley, juggling and heading are 0.80, 0.81, 0.74 and respectively.

A multiple correlation of 0.76 was reported between the criterion (the judges' ratings) dribbling and juggling tests. The addition of the wall volley and heading tests increased the multiple correlations to only 0.78. Thus they recommended that dribble and juggling be used if a short form is wanted. With a sample of male physical education major, who were soccer players, the following internal consistency coefficients for dribbling, wall volley, juggling and heading were reported as 0.91, 0.91, 0.95 and 0.64 respectively.

Bhattacharya (1984) constructed an objective skill test battery in soccer for professional students of physical education. The subjects were 130 men students of bachelor of Physical education. The test battery consisted of four items namely kicking for distance, kicking for accuracy, heading for distance and dribbling the ball.

The reliability of 0.96, 0.92 were obtained for the above test items respectively. The validity coefficient obtained was 0.94.

Kovac's (1978) Bounce Drill soccer test measures general soccer ability. He constructed this test as a highly specific skill test, as these can measure the player's overall soccer ability. He used both the Mac Donald kicking skill test and the judges rating as criteria. He has chosen 38 soccer players comprised of members of Freshmen soccer team, varsity team and the professional players.

The validity coefficient for Mac Donald kicking skill test were rangers from 0.62 to 0.71 for total group, for varsity group 0.42 to 0.43, for freshmen group 0.77 to 0.80. Where as the validity coefficient for judges rating rangers from 0.33 to 0.37 for varsity group and 0.87 to 0.79 for freshman group.

The reliability figured on the split halves method was 0.97 for the total group. 0.94 for the varsity group and 0.95 for the fisherman group. The test is more valid for the freshman level players than the varsity players. The reliability is also high for both groups.

Mac Donald (1951) studied the use of volleying a soccer ball against a background as a test of general soccer ability. With college men as subjects, he obtained the following correlations between scores on the test and ratings of playing ability by their coaches, 0.94 for varsity players, 0.63 for junior varsity players, and 0.76 for freshmen varsity players and 0.85 for the combined groups.

Mitchell modified the Mac Donald (1951) volleying soccer test for upper elementary school boys. Rank Different correlation of 0.84 was obtained between Soccer on this test and teacher coach rating. The test retest coefficients reported an 0.89 for the above group.

Johnson (1951) also developed a wall - volleying Soccer test for college men. The reliability coefficient for the Johnson test was 0.92 for consecutive trials validity was determined by rank - difference correlation between scores on the test and investigator ranking of soccer ability at various performance levels. These correlations were 0.98 for men in required physical education soccer classes 0.94 for

physical education major students, .81 .84 and .58, respectively, for Third, Second, First team varsity soccer players.

Crew (1968) related several soccer skills of the soccer ability of college men. The criterion of soccer ability consisted of the opinions of Competitive play. Correlation of test items with this criterion was,.96 for ball control,.0.92 for durability, and .88 for wall volley. A multiple correlation of 0.97 was reported with the ball control and dribbling testing. The author selected controlled kicking as the most fundamental skill element of soccer. A test of this skill could be administered easily and promised to be an objective measure of general soccer ability and could be used at the high school or college level. Actually the test combined the requirements of accurate kicking ball control and judgment of a moving ball.

In the original study, experiments were conducted at distances of 9 feet (2.74m) 15 feet (6.40m) and 30 feet (9.14m) from the kick board the scores at the various distances were correlated with the test criterion consisting of a subjective rating by three coaches. Of overall soccer playing ability, the kick board test, with a 9-foot (2.74m) restraining distance, providing the highest validity coefficients and is described here.

Yeagley (1972) measured basic soccer skills of beginning players. The validity of each of the four test items was examined with two different criteria: 1.The ratings of four judges on the soccer juggling skill 2.The composite standard score of the four tests. The concurrent validity coefficients were as follows A multiple correlation of 0.76 was reported between the criterion (the judges' ratings) dribbling and juggling tests. The addition of the wall volley and heading tests increased the multiple correlations to only 0.78; thus we recommend that dribble and juggling be used if a short form is wanted. With a sample male physical education majors who were soccer players, the following internal-consistency coefficients were reported for dribbling, wall volley, juggling, and heading.

Mor-Christian general Soccer Ability Skill Test Battery (1979) evaluated passing, dribbling, and shooting ability in soccer. Validity and Reliability validity coefficients of 0.73, 0.78, and 0.91 were reported for dribbling, passing, shooting respectively. The criterion measure was a rating scale developed and used by three

soccer experts, using the test-retest approach, reliability coefficients for dribbling, assign, and shooting were .80, 0.96, and 0.9+8, respectively. Originally conducted with college males. Appropriate for junior high school and senior high school students. One individual at each of the three stations as recorder/scorer. Students retrieve and replace balls.

Johnson Soccer Test (1963) To evaluate general ability in soccer, Validity coefficients of .98, .94, .58, .84, and .81 were reported for service class students, physical education majors, first team varsity players, second-team varsity players, and third-team varsity players, respectively. Validity was determined by rank difference between scores on the test and investigator rankings of soccer ability. A reliability of 0.92 was reported. Originally conducted with college males, it is appropriate for junior high school and senior high school students also.

Yeagley (1972) studied evaluation of soccer playing ability for beginners, The validity coefficients of .80, .80, and .74, obtained by comparing judges' ratings with test scores; were reported for the dribbles, wall-volley, and juggling tests, respectively. Reliability coefficients of .92, .90, and .95 were reported for the dribble, wall-volley, and juggling tests, respectively. Originally conducted with college students, it is appropriate for junior high school and senior high school students.

2.6 LITERATURE ON GOLF SKILL TEST

Green Eastland Hensley (1987) developed a 4 item Golf skills test battery for college males and females. The components, initially identified for the test battery were the shot put, chip shot, pitch shot, middle distance short and the drive. The final battery included the four items middle distance short Put, pitch shot, long put and chip shot. In this study the attributes were selected based on a conceptual analysis of the game of golf. The skill measures were developed and then analysed using a multiple linear regression model to determine the relative contribution of each measure to golf playing ability.

From the study it was revealed that by using the regression model with several Predictor measure, the size of the validity coefficient might be significantly increased. The approach of regression analysis to skill tests development serve two functions. First, it functioned as a method of establishing a concurrent validity

Coefficient for the test battery. Second, it delimited the skill components to those that accounted for the greatest proportion of explained variance. The use of a multiple regression approach also provided a certain degree of flexibility to potential test users by enabling them to select sub tests of the complete battery. The study revealed that an instructor may select a combination of test items that best suited a specific situation, considering the limitations such as time, equipment and personnel. An instructor may select a combination of test items that is best suited to a specific situation. In such cases, the multiple R still provides evidence of the validity for this combination of test items. For the Green Golf test, the high test simple correlation between any single test item and the 36 whole criterion score was 0.66. However, various combinations of test items 0.72 yielding validity coefficients as follows for middle distance and pitch shot, 0.76 for middle distance shot, pitch shot and long put and 0.77 for the middle distance shot, chip shot, pitch shot and long put.

2.7 LITERATURE ON HANDBALL SKILL TEST

Johnson and Nelson (1982) described this test in their book. Then constructed a test for the measurement of Handball ability. For this purpose five test items were selected, thirty second volley, the front wall placement, the back wall placement, the service placement and the power test. The subjects were all college men. A criterion consisting of the total points scored by each student and the points scored by his opponents was used in the statistical procedure for the test selection. The correlation r for the first five test with the criterion was calculated to be 0.69. Among the first five test the power test was slightly high in correlation with the criterion $r=0.58$.

Satter (1973) constructed a test for handball players of beginning stage, with 102 college men six handball classes as subjects. From eight skill tests, three were selected as having greatest validity as related to a criterion of round robin play within each of the six classes. Highly skilled players were not included in the sample. The three tests were Dominant overhead return, one minute continuous Back-wall volley and thirty second alternate hand front wall volley. The respective objectivity coefficients were 0.89, 0.85 and 0.90 and 0.81, 0.78 and 0.80. The multiple correlations with the criterion were 0.91.

2.8 LITERATURE ON HOCKEY SKILL TEST

Chapman (1982) designed this test to assess the player's ability to combine the quickness of wrist and the hand movements needed to manipulate the stick with ability to control the force when contacting the ball. He conducted a pilot study on 23 women inter-collegiate hockey players of Illinois State University.

The test is a timed one in which the subjects were asked to send the ball in and out of the centre circle by tapping it with the stick. A point is scored each time the ball is clearly tapped into or through from the centre, outside the larger circle, provided it can be sent out through a segment other than that through which it entered. No point is awarded for the ball that is tapped. 1. while it is in the orange area or 2. with sound in the side of stick. Total points can be made out of three 15 seconds trials of the subject scores.

The test administration should include a demonstration of the scoring techniques. One way ANOVA was conducted on the scores of the first day trials (total of three) and from that an estimate of reliability of the sum was made by means of an intra class correlation (Baumgartner and Jackson, 1975), $r=0.89$. To find out validity the first trial scores (Total of three) were subjected to 't' test and revealed a statistical difference between the means of scores of members on the two teams significant at 0.01 level. The sample size, mean and standard deviation for team I and team II were respectively. $N=11$, $X=57.45$, $S.D.=14.7$ and $N=12$, $X=39$, $S.D=15.94$. The totals of rank order values for the 11 varsity players and the 12 juniors varsity players and their ball control test scores were treated by P.P.M. method correlation. The scores were significantly correlated ($r=0.63, n=11$ and $r_2=0.40$). The findings were the ball control test designed by the tester appears to be reliable and valid and that can be used as an assessment tool for the individual skill of ball control in women's field Hockey.

Friedal (1974) constructed a test in Hockey for field control and drive while moving. The subject runs from the starting end of 10 by 25 yard rectangle and fields as ball rolled from a corner on the starting end towards the target 1 by 2 yards centered 15 yards away. After fielding the ball it has to be dribbled to the end. Ten trials are given with the ball rolled from the right corner and ten from the left. The

elapsed time is totalled separately for each side and then combined for the final score. A validity coefficient of 0.87 was reported with Schmitt French ball control test. Reliability estimates were 0.90 and 0.787 on left and right side stepped up from half coefficients.

Kirubakaran (1986) conducted a study on the construction of a battery of objective skill test in Hockey for Madras University students. For the purpose of this study he selected 32 men college students belonging to the age group of 19 to 25 years who had enough experience in the game as players representing the college or the University. He conducted the following tests to them 1.Speed, 2. dribble test and 3. ball carrying dodging, passing ability test and target hitting test. The scientific authenticity of the battery of skill tests was established by computing the correlation coefficient. The battery of skill tests constructed by the investigator measures the offensive Hockey playing ability of the Madras University students. It is found that 1.The battery of objective skill tests satisfy the criterion of scientific authenticity in reliability, objectivity, validity and administrative feasibility.2.These have a significant correlation between the total scores of the test battery and the Hockey playing ability assessed by the experts subjectively. 3. The multiple correlation between hockey playing ability assessed by the experts and the scores of the test battery is also highly significant.

2.9 LITERATURE ON KABADDI SKILL TEST

Alagan Subramanian (1988) conducted a study on the construction of skill test in kabaddi for 13-15 years from 4 districts. Three trials in the newly constructed test were given on consecutive days under similar conditions. To establish reliability of the test, the data were put into Intra class correlation analysis for each age group separately and for total population. He obtained the following results .1.The consistency of the constructed test was good and the test was reliable 2.The test measured the efficiency based on construct validity test and hence the test was valid 3.The correlation coefficient was found to be consistent.

2.10 LITERATURE ON LAWN TENNIS SKILL TEST

Kemp and Vincent (1968) constructed a Tennis skill test to overcome the criticism of available tennis skill tests did not measure skills under game conditions, required the use of special equipments or line markings and the time involved in their administration was prohibitive. In the test, the students rallied as in a game situation, a relatively short time period was involved and no special equipment or line markings were needed. Two forms of validation of the Kemp-Vincent Rally Test (KVRT) were employed. In the first, 54 men and women players were ranked according to round robin tournament play in two instructional classes. Thirty of these were intermediate players, and 24 were beginners. The KVRT scores for these players were ranked from high to low; the Spearman rho rank – difference correlation test was applied to the tournament ranks and the KVRT scores to yield a validity coefficient of 84 for the beginner group and 93 for the intermediate players. In the second validation of the test, 362 men and women students served as subjects using the low Modification of the Dyer test at the next class meeting. Using the Pearson's Product – Moment Correlation Method, the validity coefficient for the total group was 80.

Pannerselvam (1990) conducted research on construction of a service test in tennis for college tennis players in Tamilnadu. 925 college men players from 86 colleges were selected as subjects. The criterion test scores in two forms namely the average of trials and best of trials and best of trials (ACT and BCT) were correlated with the equivalent form of the new test. (ANT and BNT) using the Pearson's Product Moment Correlation method. In both the cases of average and best in each group the co-efficient ranged from 0.892 to 0.934.

Bosco and William (1983) referred this test in their book. The Hewitt's Tennis achievement test consists of forehand, backhand and service elements and is categorised according to beginners, advance and varsity levels. The equipment were a seven foot and two inch by two inch measured two wooden poles installed at each side of the net post and one quarter inch (6.35 m.m) rope is strung between the poles at a height of 7 feet (2.13 m) above the net, thirty six number of heavy duty tennis balls, tennis rackets and the court markings were needed for the conduct of this test.

The test- retest method, over two successive class periods was used to obtain reliability coefficients of 0.75, 0.78, 0.94 for forehand, backhand, and service tests respectively. Validity co-efficient was obtained by correlating the test scores with the test criterion, namely ranking of all players from the results of the round robin tournaments. For beginners, the validity coefficients 0.67, 0.62 and 0.72 and for advanced players 0.61, 0.61 and 0.62 for varsity level players 0.57, 0.52 and 0.92 were obtained for forehand, backhand and service tests respectively.

Kahohn et.al (1992) studied 111 college students enrolled in the beginning tennis classes at a large Midwestern university. The collection of data was incorporated into the normal skills testing procedures conducted in each class and was approved by the departmental human subjects committee. Because the data were collected as a part of the normal evaluation procedures for each class, informed consent was deemed unnecessary.

2.11 LITERATURE ON SWIMMING SKILL TEST

Jackson and others (1979) constructed the 12 minutes swim test to provide a practical field test of swimming endurance using the crawl stroke. The pools of 25 yards length with lane divers are used as testing area. On signal the swimmers started push off and the stopwatch starts functioning to take the time. A partner assigned to each swimmer counts the number of laps. On the command 'stop' the partners record the closest yard to the swimmers hand and the number of filed laps completed and the time taken was also recorded. The validity coefficient is calculated as 0.898 by using criterion measure of Tethered swim. The reliability co-efficient is 0.98 obtained for test re-test method.

2.12 STUDIES ON NORMS CONSTRUCTION

Suganthi (1997) conducted a study on computation of norms of Knox Basketball test for college women. The Knox basket ball test consisted speed, dribble, wall pass, dribble shot and penny cup test. She constructed percentile norms and T scale norms based on 250 subjects.

James and William (1983) constructed norms for boys. AAPHPER softball test consisting of underhand pitching for accuracy for boys was conducted.

Percentile table were constructed from approximately 700 scores for boys, aged from 10 to 18 years. Thus the abilities of boys of the same age can be compared. This is practical, easily administered test that can be used for measuring present ability in underhand pitching.

Jason (1993) conducted a study on construction of norms for hockey goal keepers on selected physical, psychological and anthropometrical variables. Sixty goal keepers were selected between the age group of 18 years and 25 years from various district hand quarters in Tamilnadu. In agility (4x10 yards shuttle run) as per the qualitative grading for the constructed norms, 7 subjects were poor, 15 subjects were fair, 14 subjects were average, 14 subjects were good, 10 subjects were very good and no one was excellent. In flexibility (sit and reach) as per the qualitative grading for the constructed norms, 8 subjects were poor, 5 subjects were fair, 32 subjects were average, 7 subjects were good, 8 subjects were very good and no one was excellent.

Gupta (1986) had conducted a study for validation of McDonald soccer test and to compile norm for it. For this 250 male soccer player participating in Tripura First division league were selected and their player ability were determined. The subjects were administered the McDonald test and the scores were taken for statistical application. The mean and standard deviation were calculated to be 16-25 and 2.01 respectively. Based on this mean and standard deviation the 'F' scale was computed and norms were constructed.

Holding and Jackson (1980) had conducted a study on physical fitness, the norm reference standards were development from scores of over 1500 men and women who were tested at different young Man's Christian Association throughout United States. The standards were included the test scores associated with selected percentile. The maximal up-take of 54 mg./kg fell in the ninety fifth and below. This means that all men tested were thirty-five years and younger.

Bitcon (1995) has constructed a norm table for the grades of 9-12 by taking the following tests. Pull-ups, two-minute sit-up, standing broad jump and 300 meters run. He showed the comparison of the validity of the test against with AAPHER

Youth fitness test. The obtained validity and the reliability co-efficient were 0.934 and 0.961 respectively.

Callway (1987) had constructed a percentile norm for Alabama students in grade 1-9 based on both AAPHER youth fitness test. The subjects were 2545 Alabama boys and girls. Norms were constructed for each item based on age and sex. The obtained mean performance on each test items were compared with National norms.

Robson and others (1978) conducted a study on simple physical fitness test battery for elementary school children. About 152 boys and 150 girls students of kendriya Vidyalaya, Gwalior from grade 1 to 5 acted as the subjects. All the subjects and assistants were oriented to the test battery comprising of 50 meter dash, 600-meter run/walk, straight leg sit-up, vertical jump, 4x100 mts. Shuttle run and modified push-up. The subjects were given practice in these items so that were able to give the correct performance in each item. Assistants were properly oriented to record measurements accurately so that mistake could be avoided. The test items were administered to the subjects on two days administering three items each day. After a day's rest the same students on the fourth and fifth day for finding out the reliability. The value of 'r' obtained was 0.97, which showed that the subjects had achieved consistency of performance in the test items. The readings were taken during forenoon sessions. Norms were computed for the six physical fitness test items separately.

Montgomery and Connolly (1987) conducted a criterion referenced tests. (The purpose of this article were 1) to compare the similarities and difference between norm-referenced and criterion-referenced tests and 2) to summarize how each should be used in the assessment of development performance in children. Specific developmental assessments, the populations they address, and the information they provide are described briefly. The need for additional criterion-referenced tests in physical therapy is discussed and an example of how task analysis can be applied to movement or motor skill in the development of a criterion-referenced test is provided. Physical therapists can enhance the credibility of their assessments by appropriate use of norm-referenced and criterion referenced tests.

The Vermont (1982) Governor's council on physical fitness had provided a motor fitness test battery for students from kinder garden to grade twelve for use by the schools in the state. To keep school levels intact and to utilize the AAHPERD battery when applicable the modified test were recommended for the elementary schools and AAHPERD tests for the secondary schools. The modified test battery composed, standing long jump, bent knee sit ups, desk push ups and a figure- 8 run as optional for secondary school boys and girl in order to enter achievement for special Vermont fitness awards. Norms for the test items were available separately for boys and girl at each age from five to eighteen years, they took the form of performance required for four award levels known as Certificate, 30th percentile standard, 5th percentile, merit 80th percentile, Governor 85th percentile.

Yadev (1986) had school constructed a study on standardization of physical fitness norms for the school children of Haryana (13 to 16 years) with the purpose of estimating the fitness and comparing the standard of physical fitness of urban and rural boys of Haryana. For this study 3600 school boys of the twelve districts of Haryana were randomly selected and the performance of the boys were recorded in 50 meter dash, shot put, standing broad jump, zig-zag run, sit ups and set up tests. The norms in term of percentile rank of group were developed.

Athicha Pillai (1991) had conducted a study on computation of norms for twelve minutes run and walk among school boys. The data were collected from 20 districts except in the Niligiris districts in Tamilnadu. Two way analysis of variance was applied to find out whether there was any significant difference between the districts and age group in 12 minute run/walk difference between the districts and age group in 12 minutes run/walk performance. It was found that there was no difference between District and age group by using Hull scale.

Surjit Singh (1996) had conducted a study on establishing norms for physical fitness of primary school children of Punjab and Haryana states. The data relating to Punjab/ Haryana /Male /Female /Rural /Urban elementary school children of age groups 6-11 years were collected by using Groover (1962) physical test battery on (N=2500) each from Punjab and Haryana. To assess physical fitness of elementary school children of age groups (6-11 years) mean, standard deviation were computed

and to determine the difference in selected variable among five levels, one way analysis was computed. 'T' ratio was computed to see significance of differences if any existing in inter groups as well as on physical fitness test battery. Further, Scheffé post hoc test mean pair difference was applied to see significance in pairs and finally percentile scale, T-scale and Hull scale were computed for norms for various age groups and in different variables of physical fitness of Punjab /Haryana /Male /Female /Rural/ urban elementary school children. Based on the findings and within the limitation of the study the following conclusions were drawn.

The subjects belonging to age groups 6-11 years of Punjab / Haryana showed varied performance in standing broad jump, shuttle race, sit ups and seal crawl. There were variation in performance in Punjab/ Male /Female/ Rural/Urban elementary students in ages 6-11 years in standing broad jump, shuttle race, sit ups and seal crawl. There were variations in performance in Haryana / Male / Female / Rural/ Urban elementary school in ages 6-11 years in standing broad jump, shuttle race, sit ups and seal crawl.

Helina (1997) constructed norms for the AAPHERD youth fitness test for the physical education professional college men and women students in Tamilnadu. For the purpose of the study, men and women students who studied during the year 1995-96 and 96-97 in all the Physical education college in Tamilnadu totaling 1064 men and 500 women were selected as subjects. The age of the subjects ranged from 19 to 25. AAHPERD youth fitness variable were selected for the norm construction. Pull ups, sit ups, 4 x 10 yards shuttle run, standing broad jump, 50 mts, 600 yard run/walk were conducted for men and except pull up other tests were conducted for women. After collecting the raw score, the mean standard deviation for each test were computed. Then the scores were converted into Hull scale norm for the selected variables. Hence the performance of the subjects in all the selected variables can be identified according to their index in the norm table, such as failing category, Average, Above average and out standing category.

Hanumantha Rao (1993) conducted a study on construction of norms for health related physical fitness variables for high school boys of 15 years of age in Andhra Pradesh. He selected 1005 subjects from various school in Andhra Pradesh. The following variables were selected for this study. Aerobic endurance, body

composition, muscular strength and upper body strength. Calculation of mean standard deviation, and Hull scale were the statistical techniques used in this study. As per the qualification grading after the constructed norm, in aerobic endurance 182 subjects were poor, 194 subjects were fair, 319 subjects were average, 182 subjects were good 84 subjects were very good and 58 subjects were excellent. In flexibility 170 were poor, 259 were fair, 242 average, 210 very good 72 were very good 52 were excellent. In muscular strength/ endurance, 334 were poor 249 were fair, 202 were average, 97 were good, 68 were very good and 55 were excellent.

Gowda (1995) conducted a study on construction of norms in selected athletic events for the undergraduate physical education men students in Karnataka state. The study was conducted with 645 undergraduate physical education men students in Karnataka state. The data were collected from the selected athletic events 100 meters, 800 meters, 1500 meters, long jump, and shot put. The data were statistically analysed with the help of mean and standard deviation. The raw scores were converted into Hull scale norm score. In 100 meters as per the norm scores 102 were poor, 120 were fair, 160 were average, 186 were good, 73 were very good and 4 were excellent.

New Begin Chellappa (1993) conducted an investigation on construction of norms for soccer goal keepers on selected skill, physical, psychological and anthropometrical variable, Sixty goal keepers were taken for the study from various districts of Tamilnadu. In kicking test as per the qualitative grading for constructed norms it was evident that 40 goal keepers out of 60 goal keepers (23-33%) were very poor, 13 goal keepers (21-67%) were fair, 11 goal keepers (18-33%0 were very good and none of them was excellent in kicking performance.

Marry (1994) conducted a study on construction of norms in Basketball skills for college women basketball players. For this purpose 384 subjects were selected at random from 32 colleges under six Universities in Tamilnadu. The following variables were selected for the study. Shooting test, throw for accuracy and dribbling test. The mean, S.D. and Hull scale were the statistical techniques used for this study. As per the qualitative grading for the constructed norm in shooting 22 players were poor, 96 players were good and 17 players were excellent. In throw for

accuracy 76 players were poor, 64 were good and 23 were found to be excellent. In dribbling test 72 were poor, 65 players good and 13 players were excellent.

Mohinder Singh (1986) had prepared physical fitness norms for high school boys of Punjab state. Data were collected from five thousand subjects from various schools in the state. The test administered consists of eight items that is standing broad jump, sit and reach test, agility run, knee bent sit ups, 50 meters dash, push ups (chairs), cricket ball throw and 600 meters run/walk test. The percentile norms for physical test were found to be valid and suitable to assess the physical fitness level of the high school boys of 12 to 15 years of age.

Pichaiappa (1999) constructed norms for the predicated fundamental volleyball skills of Tamilnadu School Boys at different age level. To achieve this purpose 100 volleyball players in each group were selected as subjects for the predication of the fundamental skills. Underhand pass, overhead pass, service setting, spiking, block were selected as independent variables, the dependent variable was the volley ball playing ability. All the skills were measured using standardized test; the block and playing ability were assessed by subjective rating by a panel of three judges. To choose the minimum number of independent variables in the order of contribution wherry Doolittle method of variable selection was used. When the multiple correlation computed four different fundamental volleyball skills in each age group were predicated. In the construction of norm 2000 volleyball players was used to test the overhead and underhand pass skill, Russell Lange volleyball service test was used for serving skill, spike test by Harold and Mc Gee AAPHER volleyball set up test was used to measure the skill. Blocking was measured by the judges ratings. The collected data were statistically analyzed for computing mean, standard Deviation and Hull scale value. Then the norms were constructed for the predicted fundamental volleyball skills for each age group. Among the skill variables service and underhand pass were found to be significantly related to playing ability for all the age groups. Spiking with 16 and 17 years, Setting with 16 and 18 years, overhand pass and blocking in the 17 and 18 years. The Hull scale norms on the performance of service, underhand pass, setting and spiking shows out of 2000 subjects in all the selected variable can be identified

according to their index in the norm table such as failing category below average, average, good outstanding category.

REVIEWS ON SKILL PEST

Mistkavi (1966) in his study prepared the national norms for the one minute basketball throw for goal, pull ups. Potato race standing hop step and jump, push ups, standing broad jump and soft ball target throw items of the Y.M.C.A. national athletic achievement programme. Y.M.C.A. through out the united states tested 2000 boys in each group, and the author obtained five percent of the scores at the Salem Y.M.C.A. oregon.

Alex (1990) computed norms for the playing ability among foot ball players. He had computed the norms for the kicking skill test based on the hull scale for 150 players. It was found that 43 players were below average and 107 players were above the average level. It was proved that the performance of the warner soccer kicking skill test for college players were good.

Baskaran (1992) constructed a norms for agility coordination test for Tamilnadu college men players. One thousand eighty five players of basket ball. foot ball, hockey and volley ball games were selected randomly from 63 colleges in Tamilnadu. It was found that 140 players out of 1085 players were poor in agility coordination test performance. 259 players were fair, 2 + 9 players were average, 279 players were found to be good, 140 players were very good and nobody found to be excellent.

Jason (1993) constructed norms for hockey goal keepers on selected physical, psychological and anthropometrical variables, sixty goal keepers were selected from all the districts in Tamilnadu and the sample was selected between the age group of 18 years and 25 years. In agility (4 x 10 yards shuttle run) as per the qualitative grading for the constructed norms, 7 subjects were poor 15 subjects were fair, 14 subjects were average, 14 subjects were good, 10 subjects were very good and no one was excellent. In power (standing long jump) 7 subjects were poor, 14 subjects were fair, 16 subjects were average, 15 subjects were good, 7 subjects were very good. One subject was excellent.

Gupta (1986) had computed norms and validation of McDonald soccer test for the soccer players playing ability in Tripura first division soccer league. The present study was delimited to male soccer player of Tripura first division soccer league 250 male soccer players as first division tournaments registered in tripura state foot ball association were selected as subjects for this study. The subjects voluntarily agreed to participate in the project for the personal assessment and for new scientific invention.

Rajasekar (1990) conducted a study to compare the agility coordination among basket ball and soccer players at college level. For this purpose he selected thirty basket 11 players and thirty soccer players who represented their college for inter collegiate tournaments held at Trichy and Madurai. The soccer and basket ball players were asked to ear for agility, coordination test which is known as AGGO test. The data collect were subjected to 't' ratio test of analysis for the significance of difference. The level of significance chosen was 0.5. He concluded that there was no significant difference on agility coordination for both soccer and basket ball players, and it was concluded that the agility coordination for both the groups were same.

2.13 SUMMARY OF LITERATURE

The development of sports skill had a long and productive history. Skill test reflect the ability of the pupil to perform in a specified sport such as Soccer, Hockey or Basket ball. By knowing the level of a players in a particular sport, it becomes possible to use his ability score for purposes of classification, determining progress and marking.

In this study, Safrit and Cooper were pioneers in development of the skill test for assessing the skill in volley ball. In the present study, volley ball related skill test have been scanned from 1950 to till now. Further the literature collected for this study, helps to know the merits and demerits of the existing skill tests and helps to construct the new skills test in volley ball.