

**A Study On The Effect Of Physical Fitness Parameters And Psychological Factors On Service And Repeated Volley Performance Of Collegiate Men Volleyball Players Of Bellary And Koppal Districts**

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### Introduction

Sports form an important aspect of life and play vital role in bringing about physical, mental and social growth of nation. The past few decades have witnessed man on innovation in this area. Sports are becoming increasingly sophisticated, technical and gaining popularity as separate profession with the expansion of educational facilities in the country. More and more young people are taking part in sports as a daily feature of their life. The participation in Sports and Physical Education activities promote good health, high degree of physical fitness and increase an individual's productivity besides promoting social harmony and discipline.

The phenomenon of sports today intervenes in almost all fields of human endeavor and very often, it even has a central position. Sports, thus has experienced an enormous extension quantitatively as well as qualitatively with many positive but also some negative aspects. Many people participate in games and sports for fun, happiness, pleasure for health and fitness. Increased participation in sports has resulted in competition which has become an important element of modern life. Competition provides the means by which one can show one's worth successfully.

The developing tendencies in international sports are identified as the increase in game tempo, tougher body game and greater variability in technique and tactics. In principle, an increase in performance level can only be achieved by better exploitation of all major components i.e. technique coordination, tactics, physical fitness and psychological quantities of the sportsperson. The component technique co-ordination however, plays a greater role in sports.

Sports are categorized in different categories i.e. semi-contact and non-contact sports. Semi-contact sports are those sports in which physical contact occurs sometimes as per the demands of a situation. For Example: Football. Non-contact sports are those sports in which no body contact occurs during a competition. For Example: Gymnastics. Coordinative abilities are an expression of motor coordination which is of crucial importance in sports movements. The movement quality depends to a great extent on coordinative abilities. The rhythm, flow, accuracy, consistency, amplitude etc. of a movement are expression of motor coordination and hence highly dependent on the level of various coordinative abilities. So in every sport, whether it is semi-contact and non-contact sports requires some type of coordination but it is very difficult to find out, in which sports, which type of coordinative ability is required (Bisht R. and Mardikar M. 2017).

### Objectives Of The Study:

**The following are the major objectives of the study.**

1. To Analyze The Effect Of Physical Fitness Parameters On The Service And Repeated Volley Performance Of Collegiate Volleyball Players Of Koppal And Ballary District
2. To Analyze The Effect Of Psychological Factors On The Service And Repeated Volley Performance Of Collegiate Volleyball Players Of Koppal And Ballary District

### Hypotheses Of The Study:

1. There would be significant effect of physical fitness parameters on the service and repeated volley performance of collegiate Volleyball players of Koppal and Ballary district

2. There may be significant effect of psychological factors on the service and repeated volley performance of collegiate Volleyball players of Koppal and Ballary district

**Limitation Of The Study:**

1. This study was limited to two districts of Ballary and Koppal districts..
2. This study was limited to Collegiate Volleyball players of Ballary and Koppal districts.

**Delimitations of the study:**

1. This study was delimited to 120 Collegiate Volleyball players who represented their districts in the collegiate tournaments.
2. This study was further delimited to the AAPHER physical fitness and Russel Lange’s service and volley tests.

**Review Of Related Literature**

**Praveen Kumar Mishra, Dr. Gursewak Singh Saggi (2017)**, the purpose of the study was to compare the selected Differentiation Ability of track and field athletes at different levels of achievement. It was hypothesized that there may be no significant difference in Differentiation Ability of track and field athletes at different levels of achievement. For the purpose of the study, 90 male track and field athletes from Gujarat were selected as a subject. Thirty athlete (n=30) from district level and thirty athlete (n=30) from state level participated as subjects for the study. Hence, purposive sampling technique was considered for selection of subjects. The age of the subjects was ranged from 15-18 years. Descriptive statistics was used to process the data prior to employing inferential statistics. Analysis of Variance (ANOVA) was used to compare Differentiation Ability of track and field players of different level on selected criterion variables separately. Level of significance was set at 0.05. It is evident from significant difference was found between the Differentiation Ability of District & State (-2.2000), District & National (-3.5333) and State & National level (-1.3333). The observed sequence of performance of Differentiation Ability in three groups is District>State>National. It may be concluded that Differentiation Ability is increased

with the district and state level athletes are of more or less similar skill and technique level.

**Sunil Kumar (2016)**, during the past some decades or so, the concept of scientific training has been very important role in sports and physical Education. Many studies have been completed on scientific training literature. Many studies also have proved the effects of scientific training on performance of sports persons. Reaction ability is the deciding factor in achieving the top performance in athletics; therefore the researcher took reaction ability test for their study. 40 junior track and field athletes of Sirsa and Fatehabad District were randomly selected for the study and were compare their reaction ability. The reaction ability was tested with Nelson reaction test manual The study showed that the track athletes has more reaction ability in both category hand-eye and leg-eye reaction ability, and it was significantly different at .05 level of significance. Keywords: Hand-eye reaction, leg-eye reaction, nelson reaction test.

**Sample Design**

DISTRICTS	VOLLEYBALL PLAYERS		TOTAL
	HIGH	LOW	
BELLARY	30	30	60
KOPPAL	30	30	60

**Tools:**

1. Selected Physical Fitness Tests: 30 Meter Dash, 505 Agility Test, Sit and Reach Test .
2. Bhargava’s Achievement Motive Test
3. Self-confidence Questionnaire (SCQ) developed by M. Basavanna (1971).

**Selected Physical Fitness Tests:**

• **30 Meter Dash:**

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport.

Purpose: The aim of this test is to determine acceleration and speed.

**Equipment required:** [Measuring Tape](#) or marked track, [stopwatch](#) or [timing gates](#), [cone markers](#), flat and clear surface of at least 50 meters.

**Procedure:**

The test involves running a single maximum sprint over 30 meters, with the time recorded. A

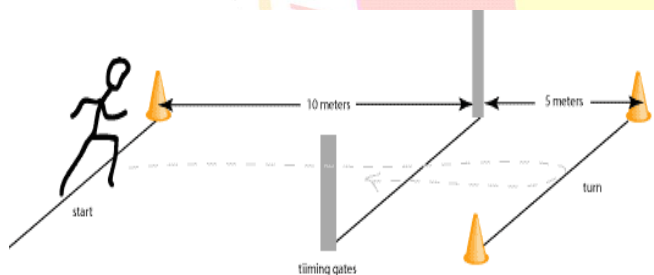
thorough warm up should be given, including some practice starts and accelerations. Start from a stationary position, with one foot in front of the other. The front foot must be on or behind the starting line. This starting position should be held for 2 seconds prior to starting, and no rocking movements are allowed. The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and encouraged to continue running hard through the finish line.

**Results:**

Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.

**505 Agility Test:**

The 505 Agility test is a test of 180 degree turning ability. The test may also be adapted for sport specific testing by having the subject dribble a soccer ball or hockey ball though the course, or bounce a basketball.



**Equipment required:** [start/stop timing gates](#) or [stopwatch](#), [non-slip surface](#), [cone markers](#).

**Procedure:**

Markers are set up 5 and 15 meters from a line marked on the ground. The athlete runs from the 15 meter marker towards the line (run in distance to build up speed) and through the 5 m markers, turns on the line and runs back through the 5 m markers. The time is recorded from when the athletes first runs through the 5 meter marker, and stopped when they return through these markers (that is, the time taken to cover the 5 m up and back distance - 10 m total).

**The best of two trials time is recorded.** The turning ability on each leg should be tested. The subject should be encouraged to not overstep the line by too much, as this will increase their time.

**Sit and Reach Test;**

The sit and reach test is a common measure of flexibility, and specifically measures the flexibility of the lower back and hamstring muscles. This test is important as because tightness in this area is implicated in lumbar lord sis, forward pelvic tilt and lower back pain. This test was first described by Wells and Dillon (1952) and is now widely used as a general test of flexibility.

**Procedure:**

This test involves sitting on the floor with legs stretched out straight ahead. Shoes should be removed. The soles of the feet are placed flat against the box. Both knees should be locked and pressed flat to the floor - the tester may assist by holding them down. With the palms facing downwards, and the hands on top of each other or side by side, the subject reaches forward along the measuring line as far as possible. Ensure that the hands remain at the same level, not one reaching further forward than the other. After some practice reaches, the subject reaches out and holds that position for at one-two seconds while the distance is recorded. Make sure there are no jerky movements. See also video demonstrations of the [Sit and Reach Test](#).

**Scoring:**

The score is recorded to the nearest centimeter or half inch as the distance reached by the hand. Some test versions use the level of the feet as the zero mark, while others have the zero mark 9 inches before the feet. There is also the [modified sit and reach test](#) which adjusts the zero mark depending on the arm and leg length of the subject. There are some [norms for the sit and reach test](#) and also examples of some actual [athlete results](#).

**1. Self-confidence Questionnaire (SCQ)**

The self confidence questionnaire is developed by M. Basavanna (1971). This questionnaire consists of 100 items. The add-even split half reliability was calculated and reliability coefficient as corrected by the Spearman Brown prophecy formula was found to be 0.94.

**Psychological Tests Administration:**

To collect necessary data pertaining to present study through questionnaire method. The subjects were administered to the Achievement Motivation

Test (ACMT) and Self confidence Inventory. The data were in the form of answer given by the subjects in response to the various questions of the questionnaire. The subjects will complete answering the questionnaire within the stipulated time after which the questionnaires will be collected back and the standard scoring key was used to get the score. The scores were analyzed with the help of the standardized norms [key] provided in the tabular supplement of tests manual.

**Statistical Analysis:**

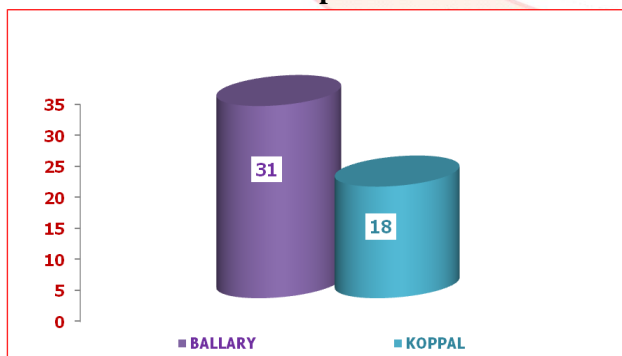
- 1. Descriptive statistics:** Included a mean and standard deviation for selected Coordinative abilities and Leg explosive strength of tall and short Volleyball players.
- 2. Paired t-test:** For comparison of Collegiate Volleyball players with respect to Physical fitness, Psychological and Performance.
- 3. One Way ANNOVA:** Performed to find out analysis of variance in Physical fitness, Psychological level and Performance among Collegiate Volleyball players.

**Achievement motivation level among inter-collegiate Volleyball players of, Ballary and Koppal districts.**

**TABLE NO.1**

Districts	Achievement Motivation Scores	Achievement Motivation level
<b>Ballary</b>	31	<b>High</b>
<b>Koppal</b>	18	<b>Low</b>

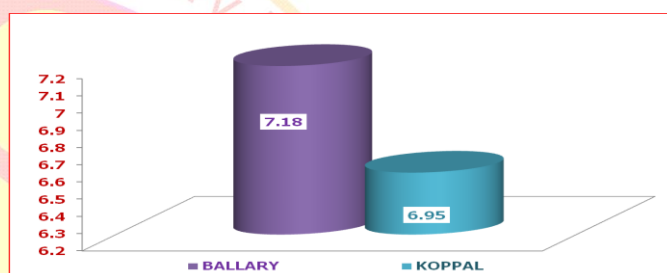
**Graph.1**



**Analysis of physical fitness level among inter-collegiate Volleyball players of Ballary and koppal districts**

**Analysis of 30 mtrs Dash Speed Test ,agility and sit and reach test among inter-collegiate Volleyball players of Ballary, and Koppal districts**

Pairs	Test	Districts	Paired Samples Statistics			t-value	p-value
			Mean	N	Std. Deviation		
Pair 1	30 mtrs Dash Speed Test,Agility,Sit and Reach test	Ballary	7.18	60	0.92	align="center">3.06*	align="center">.003
		koppal	6.95	60	0.73		



**Summary And Conclusions**

Based on the objectives of the present study the following methods were used to collect the data.

- Design of the Study
- Selection of Subjects
- Sample Design
- Selection of variables
- Criterion Variables
- Selection of Tests
- Instrument Reliability
- Reliability of the Data
- Orientation of the Subjects
- Collection of Data
- Tools

**The analysis of data and interpretation of results are done based on the following steps,**

1. Analysis of achievement motivation and self confidence level among inter-collegiate Volleyball players of Ballary, and Koppal districts.
2. Analysis of physical fitness level among inter-collegiate Volleyball players of ballary and koppal districts.

3. Comparison of Volleyball playing ability of high and low achievement motivation and self confidence inter-collegiate Volleyball players of Ballary, and Koppal districts.
4. Analysis of variance (ANOVA) of Volleyball playing ability among high and low achievement motivation and self confidence inter-collegiate Volleyball players of Ballary, and Koppal districts.
5. Comparison of Volleyball playing ability among high and low physical fitness level inter-collegiate Volleyball players of Ballary, and Koppal districts.

**Recommendations:**

Based on the findings and results of present study the following recommendations were drawn,

1. It is recommended that based on the study results coaches and trainers can prepare scientific training programmes for Volleyball players for better performance.
2. The data and results can be used by concerned public instruction departments of Hyderabad Karnataka region for the improvement of performances in the Volleyball players.
3. Similar kind of studies on various games can be studied for effective performance.

**References:**

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