



Criterion Physical Fitness Components Relation with Netball Player's Performance

^{1*}Dr. R.S. Varma, Deputy Registrar, Centurion University AP, India.

^{*2}Dr. B. Gowri Naidu, Government Medical College, Srikakulam, A.P, India.

Abstract

The purpose of this study was Criterion Performance Physical Fitness Components Relation with Netball Performance. The 150 female Netball players were selected Inter- University representation in the academic year of 2015-2016, 2016-2017, 2018-19 and 2019-20 in Andhra Pradesh state on non-randomly by purposive sample was used. Karl Pearson coefficient of correlation was used to Analysis of the collected data on Criterion Performance Physical Fitness Components were simple Reaction Ability (0.528*), Aerobic endurance (0.423*), Muscular endurance (0.291*), Agility (0.328*), Orientation ability (0.515*), Dynamic Balance (0.333*) and Dynamic Flexibility (0.369*) coefficient of correlation with Netball Performance had been positively with significant level 0.05. Remaining Performance Physical Fitness Components did not correlate on this current study.

Key words: Performance, Physical Fitness Components, Netball Players.

Introduction

Netball is an exciting, fast and skillful game of fair contest. It is a game in which two teams of seven players each strive to keep or gain possession of the ball. The team with the ball, through running, jumping, throwing and catching, attempts to move the ball into its goal circle from where a goal may be scored, while the opposing team uses defensive movements and strategies to prevent this and to gain possession. The team with the greater number of goals is the winner of the match.

Players have specified areas in which they can move. Play restarts after each goal with teams having alternate possession. The Rules are based on the core values of equal opportunity, fair play and respect for an opponent's skill and safety. It is the responsibility of players to ensure that they are physically and technically prepared in a manner that enables them to play the Game, comply with the Rules and participate safely in a sporting and fair manner.

It is an exceedingly fast game demanding skill, quick perception, correct judgment, agility of movement and capacity to control the ball with proper movement of wrist. Fitness is the ability to meet the demands of a physical task. Basic fitness can be classified in four main components: Strength, Speed, Stamina and Flexibility. However, exercise scientists have identified nine components that comprise the definition of fitness: Strength, Power, Agility, Balance, Flexibility, Local Muscle Endurance, Strength Endurance and Co-ordination. All the nine elements of fitness Cardiac Respiratory qualities are the most important to develop as they enhance all the other components of the conditioning equation. Training components generally classified two categories one is health related physical fitness components and skill related training components which both were so much useful for

making healthful wellbeing and develop of specific game /sport fitness bodies players but specific or performance training components may would be developed good conditioning of fitness body and to perform top performance in a specific competition.

Methodology

Purpose of the Study:

This study would be decided the Criterion Performance Physical Fitness Components Relation with Netball Performance.

Selection of the Subjects:

150 female Netball players were selected who had been Inter- University representation in the academic year of 2016-2017, 2017-18, 2018-2019 and 2019-20 in Andhra Pradesh State on non-randomly by purposive sample had been used.

Figure-I
Performance Physical Fitness Components

S. No	Performance Physical Fitness Components	Test
1	Complex Reaction Ability	Nelson Reaction Test
2*	Simple Reaction ability	Nelson Reaction Test
3*	Aerobic endurance	1Mile run Test
4	Speed Endurance	300mts Run
5*	Muscular endurance	Push Ups
6*	Agility	Shuttle Run
7*	Orientation ability	Baseball Throw
8	Explosive Strength	Standing Broad Jump
9*	Dynamic Balance	Balance Test
10*	Dynamic Flexibility	Flexibility Test
11	Anaerobic Endurance	Margaria-Kalamen Test
13	Endurance	600 Yard Run
14	Static Flexibility	Sit and Reach Test
15	Maximum Strength	1rm Test

Collection of the Data and Tools

The data have been collected by administrating the standard procedures for taking performance physical fitness components as well as Netball player's performance and tools were used stopwatches, push up stands and Flexible measuring tape for flexibility. The score has been recorded time in the nearest one tenth of the seconds and nearest centimeters.

Statistical Analysis and Discussions

In order to find out the relationship of criterion performance physical fitness components with Netball player's performance with the Karl Pearson coefficient of correlation had been used and testing the Hypothesis the level of confidence is 0.05.

Figure-II

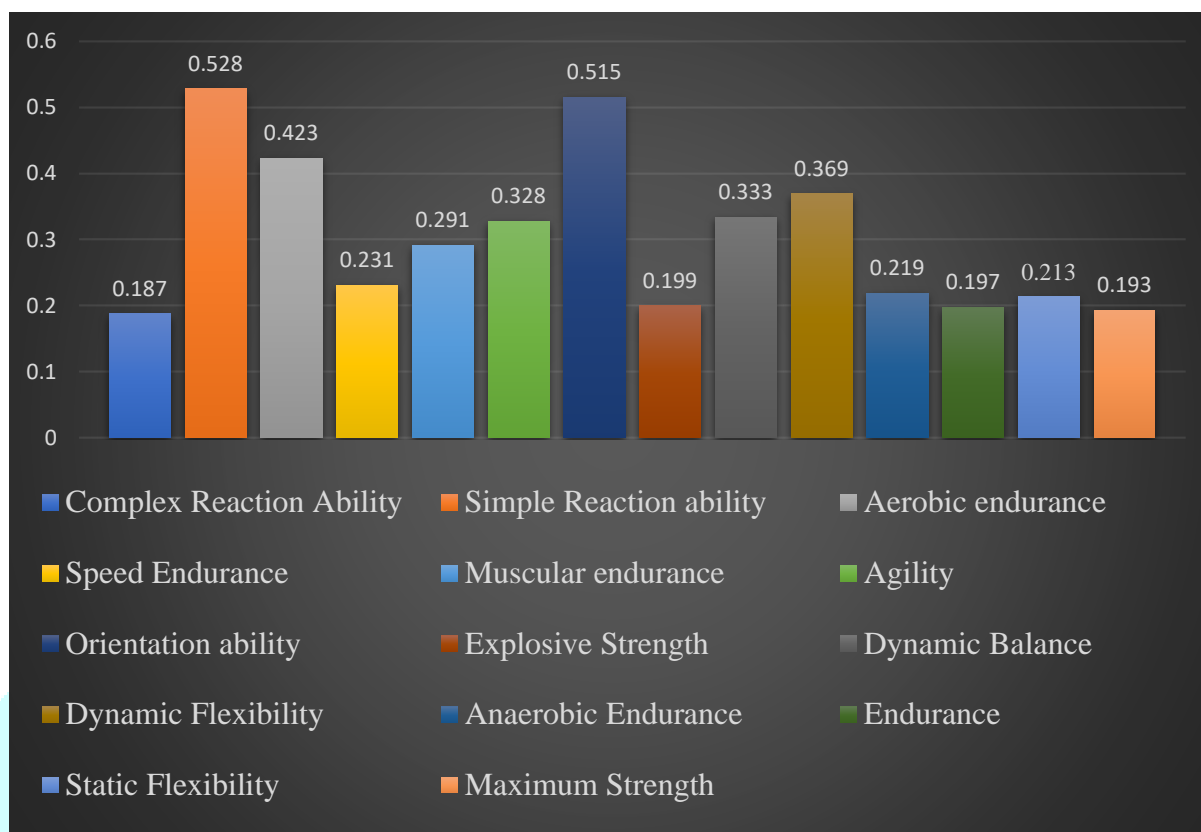
Criterion Performance Physical Fitness Components Association with Netball Performance

S. No	Performance Physical Fitness Components	Coefficient of Correlation 'r'
1	Complex Reaction Ability	0.187
2	Simple Reaction ability	0.528*
3	Aerobic endurance	0.423*
4	Speed Endurance	0.231
5	Muscular endurance	0.291*
6	Agility	0.328*
7	Orientation ability	0.515*
8	Explosive Strength	0.199
9	Dynamic Balance	0.333*
10	Dynamic Flexibility	0.369*
11	Anaerobic Endurance	0.219
13	Endurance	0.197
14	Static Flexibility	0.213
15	Maximum Strength	0.193

N=150, $r_{0.05(150)} = 0.238$, *Significant at 0.05 level.

An analysis of the above table reveals that Netball players had been significantly related to criterion performance physical fitness components were simple Reaction Ability (0.528*), Aerobic endurance (0.423*), Muscular endurance (0.291*), Agility (0.328*), Orientation ability (0.515*), Dynamic Balance (0.333*) and Dynamic Flexibility (0.369*) as obtained values of correlation were greater than the value of $r = 0.238$ the correlation to be significant at 0.05 performance physical fitness components were Explosive Strength, Anaerobic Endurance, Endurance, Maximum Strength, Static Flexibility, Complex Reaction Ability and Speed endurance as their correlation values are less than the value of $r = 0.238$ need for significance at 0.05 level of confidence.

Figure-III
Criterion Performance Physical Fitness Components Relation with Netball Performance



As for the results finally, the study exposes that Netball performance would be significantly related to criterion performance physical fitness components were simple Reaction Ability (0.528*), Aerobic endurance (0.423*), Muscular endurance (0.291*), Agility (0.328*), Orientation ability (0.515*), Dynamic Balance (0.333*) and Dynamic Flexibility (0.369*) As per the analysis, suggested that to the coaches, physical directors, physical education teachers, physical instructors to concentrate on the above criterion performance physical fitness components while selecting or screening for Netball Players in a basic level. It would be given effective and good performance in a specific competition.

Reference

1. Borrow Harold M. and McGee Rosemary (1979), A Practical Approach to Movements in Physical Education. Philadelphia: Leaand Febiger.
2. Verma J. P. (2000), A text book on sports statistics, Venus publication, Gwalior. (M.P.).
3. Nelson N. P. and Johnson C. R. (1970), Measurement and Statistics in Physical Education, Belmont, California, Wordsworth Publishing Company Inc.
4. Battaglia G, Paoli A, Bellafiore M, Bianco A, Palma A. Coll Antropol. (2014), Influence of a sport-specific training background on vertical jumping and throwing performance in young female basketball and players' Sports Med Phys Fitness.2014 Oct;54(5):581-7.
5. Gowri Naidu, B. and Vijay Mohan, N., 2017. "Criterion anthropometric measurements with relation to fast bowler's performance". International Journal of Current Research, 09, (02), 46438-46440.
6. Belmont, California, Wordsworth Publishing Company Inc.

7. Gowri Naidu, B. and Vijay Mohan, N., 2017. "Criterion anthropometric measurements with relation to fast bowler's performance". International Journal of Current Research, 09, (02), 46438-46440. AIBA. (2017).
8. Gowri Naidu, B. and Vijay Mohan, N., 2017. "Training performance Physical Fitness Components Association with Hockey Playing" International Journal of Multidisciplinary Educational Research, Volume 6, Issue 3(8), March 2017.
9. Gowri Naidu, B. and Vijay Mohan, N., 2016. "Performance Physical Fitness Components as Predictors of Kho-Kho performance ability" Research Journal of Physical Education Sciences, Vol. 4(9), 1-3, November (2016).
10. Gowri Naidu, B. and Vijay Mohan, N., 2017. "Criterion performance physical fitness components relation with Kabaddi playing ability" Research Journal of Physical Education Sciences, Vol. 5(2), 1-3, February (2017).
11. Gowri Naidu, B., 2016. "Relationship of selected performance physical fitness components to the performance of jumpers" International Journal of Physical Education, Sports and Health 2016; 3(6): 319-322.
12. Gowri Naidu, B. and Vijay Mohan, N., 2017. "A study of performance physical fitness components of runners, jumpers and throwers" International Journal of Physical Education, Sports and Health 2017; 4(2): 103-105.
13. Sandhya Rani, T. and Satish Varma, R., 2017. "Performance physical fitness components relation with Badminton players performance ability" International Journal of Health, Physical Education and Computer Science in Sports 2017; Volume No. 27, pp 435-436.
14. Gowri Naidu, B., 2018. "Effectiveness of Fast Bowlers Performance Relation with Specific Physical Fitness Variables" Asian Journal of Physical Education and Computer Science in Sports Volume No.19, No.1.pp1-3.
15. <https://www.topendsports.com/sport/anthropometry.htm>
16. <http://ballbadmintonindia.com/index.php>
17. https://en.wikipedia.org/wiki/Ball_badminton
18. <https://netball.sport/game/netball-explained>