

Correlation of physical fitness with basketball playing ability of university players

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Abstract

Purpose: The purpose of the study was to find out relationship between selected physical fitness variables and Basketball playing ability of basketball players.

Selection of Subjects: 20 Basketball players were selected from department of Physical Education (Basketball Specialization group) Bilaspur Chhattisgarh. The age was ranging between 19-25 years. The mean and SD of age of Basketball players was 22.15 and 1.98.

Selection of variables: Under independent variables researcher has selected physical fitness (speed, Agility, flexibility, grip strength) and Basketball playing ability was selected as dependent variables..

Statistical technique: To find out correlation between Independent Variables (Physical fitness variables) and Dependent Variable (Basketball Playing ability), descriptive statistics and Product Moment Method of correlation was used. The data were analyzed by the SPSS 16.0 software. Level of significance was set at 0.05.

Results and Conclusion: The correlation values of Speed (-.898), Agility (-.702), Flexibility (.848) and Grip Strength (.803) were found significant in relation to the Basketball playing ability of Basketball players. The correlation On the basis of findings of this study this may be due to the fact that the ultimate playing ability of Basketball players depends on the selected physical fitness variables (Speed, Agility, Flexibility and Grip Strength).

Keywords: Basketball playing ability, Physical fitness variables.

Introduction

Basketball is the fastest and well liked game in the world. The origin of the Basketball game in the year 1891 at the school of Christian workers (The International YMCA Training School), and now days known as Springfield College by Dr. James Naismith for engaging the college students in their free time to provide some recreation, competition as well as fitness activity. Basketball is the most speedy and Athletic game. Basketball players should have speed to run and move forward, sideways and backward both for offence and defense in different playing conditions. Highest performer basketball player requires agility to rapid changes the direction and coordinative abilities to coordinate with their team mate. Basketball players needs large amount of speed, agility, flexibility and grip strength to sudden stops, bends, twist, falls, and dives. It is necessary for every Basketball players to play the match with a variety of movements during game situation, with varying pace from slow to fast, according to the situation of the ball, as well as opponent movement, which requires endurance capacity.

Basketball is a unique game that can progress overall fitness and self-confidence of players. Basketball requires speed, agility, flexibility and strength. Basketball is the most popular and broadly viewed games in world. Basketball was at first played with a soccer ball. The first balls made specifically for basketball were brown, and it was only in the late 1950s that Tony Hinkle, searching for a ball that would be more noticeable to players and spectators alike, introduced the orange ball that is now in common use. Basketball is a sport played by two teams of five players on a rectangular court.

The objective is to shoot a ball into the ring for getting points. Daya Nand Singh (2014) [14]

Fitness of an individual is a measure of its capacity. Physical Fitness is the ability of individual's which enables person of live most effectively and potentially. The functional ability of an individual is governed by the physical, mental, emotional, social and spiritual components of fitness, all of which is linked to each other and are mutually interdependent (AAHPER)

"Physical fitness is the capacity of an individual to carry out daily tasks with energetic and alertness without undue tiredness, and with ample energy to engage in pursuits and to meet emergency situation." Clarke (1957) [2]

Physical fitness to be a very significant factor in basketball game since a player is required to make unwanted movements during the game, repeated jumps during shooting, rebounding, jump for receive the ball etc. Physical fitness is also necessary for performing some techniques in basketball which demand jumping ability such as jump shot, rebounding fast breaks and other unwanted movement during the game etc. For a basketballer to give good performance he must possess sprinting speed, strength, agility, even though these components of physical fitness effect the performance of a player. There is no doubt to contribution of all these components which bring about better performance. So physical fitness play a vital role in contributing high performance of basketball players.

In its most broad meaning, physical fitness is a general state of good physical health. Obtaining and maintaining physical fitness is a product of physical activity, proper diet and

nutrition and of course proper rest for physical recovery. Physical fitness is the fine tuning engine of human body. Physical fitness enables people to execute up to their potential. Regardless of the age, fitness can be described as a condition that helps individuals look, experience and do their most excellent. Therefore, physical fitness trainers, explain it as the capability to perform daily tasks strongly and alertly, with left over energy to enjoy free time activities and meet urgent situation demands. Particularly true for senior citizens, physical fitness is the ability to tolerate, bear up and carry on in situation where an unfit person could not continue.

Objective of the study

The purpose of the study was to find out relationship between selected physical fitness variables and Basketball playing ability of basketball players.

Hypothesis of the study

It was hypothesized there will be no significant relationship between selected Physical fitness variables and dependent variables (Basketball playing ability).

Methodology

20 Basketball players were selected from department of Physical Education (Basketball Specialization group) Bilaspur Chhattisgarh. The age was ranging between 19-25 years. The mean and SD of age is 22.15 and 1.98. Under independent

variables researcher has selected Physical fitness variables (speed, Agility, flexibility, grip strength). Under dependent variables Basketball performance was assessed on the basis of subjective judgment of the experts.

Selection of Variables

Keeping the feasibility criterion in mind, the researcher selected the following variables for the present study:

- ❖ Independent variables:-
 - Speed
 - Agility
 - Flexibility
 - grip strength
- ❖ Dependent variables (Basketball playing ability)

Criterion Measures

Basketball playing ability was measured by the subjective judgment of the experts. For each criteria maximum 10 marks was given by the expert and over all 30 marks were awarded for measuring the basketball playing ability. The basketball playing ability was measured by the three experts on the basis of these three criteria like as

- Dribbling
- Shooting
- Passing

Table 1: Selected variables and their criterion measures with unit of measurement

S.N.	Variables	Criterion measures	Unit of measures
1	Speed	Stop watch	Second
2	Agility	Stop watch	Second
3	Flexibility	Sit and Reach test	Centimeter
4	Leg strength	Dynamometer	Kilogram
5	Basketball playing ability	Subjective judgment by the experts	Numbers

Statistical Analysis:- To find out correlation between Independent Variables (Physical fitness variables) and Dependent Variable (Basketball Playing ability), descriptive statistics and Product Moment Method of correlation was

used. All statistics were calculated with SPSS 16.0. Level of significance was set at 0.05.

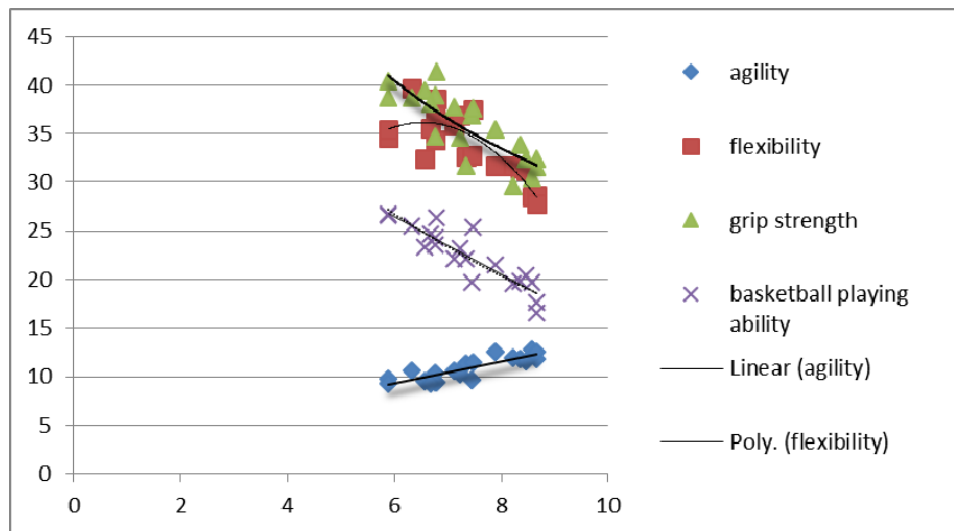
Result and Findings of the Study

Table 2: Descriptive Statistics of Dependent Variable (fast bowling Performance) and Independent Variables (Anthropometric variables)

Variables	N	M	SD
Speed	20	7.3510	.90693
Agility	20	10.8150	1.19297
Flexibility	20	33.7115	3.37596
Grip Stringth	20	35.7395	3.52733
Basketball Playing Ability	20	22.4515	3.02005

Table 2: Correlation between Dependent Variable (Basketball playing ability) and Independent Variables (Physical Fitness variables)

S.N.	name of independent variables	correlation coefficient	sIG.
1	Speed	-.898*	.000
2	Agility	-.702*	.001
3	Flexibility	.848*	.000
4	Grip Strength	.803*	.000



Graphical Representation of Relationship of selected physical fitness variables with the Basketball playing ability of Basketball players

Discussion of Findings

The correlation values of Speed (-.898), Agility (-.702), Flexibility (.848) and Grip Strength (.803) were found significant in relation to the Basketball playing ability of Basketball players. The correlation On the basis of findings of this study this may be due to the fact that the ultimate playing ability of Basketball depends on the selected physical fitness variables (Speed, Agility, Flexibility and Grip Strength). Basketball is the fastest game in the world players need more speed and endurance with excellent skill for the high performance. On the basis of findings this is understandable that significant relationship was found in speed, agility, flexibility and grip strength with the basketball playing ability. The physical fitness variables (Speed, Agility, Flexibility, and Grip Strength) decide the Basketball playing ability.

Conclusions

On the basis of result and findings these following conclusions can be drawn:

- ❖ Significant relationship was found between Basketball playing ability and Speed ($r = -.898, p < .05$).
- ❖ Significant relationship was found between Basketball playing ability and Agility ($r = -.702, p < .05$).
- ❖ Significant relationship was found between Basketball playing ability and Flexibility ($r = .848, p < .05$).
- ❖ Significant relationship was found between Basketball playing ability and Grip Strength ($r = .803, p < .05$).

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