

**Experimental Study of Anthropometric and Physiological Attributes to
Skill Performance of Male Inter- Colligate Basketball Players**

Mr. Sampath Kumar

Phd Research Scholar
University College Of Physical Education
Gulbargauniversity Kalaburgi

Dr .N.G.Kannur

Principal
University College Of Physical Education,
Gulbargauniversity Kalaburgi

1. Introduction

Physical activity is an inherent trait of a human being. It develops of its own in a natural way. It becomes all the way imperative to identify the nature and the degree of this natural talent and to nurture, modify and refine it to get the cherished outcomes. The children perform a lot of activities such as running, jumping, throwing, catching, kicking, striking etc. these activates are known as natural or universal skills because they seem common to all the people all over the globe irrespective of geographical, regional, national or racial barriers. These natural abilities ultimately develop into more and more complex and specific sports skills.

Sports no longer remain confined to the physical aspect alone for its roots lie tentacle through human anatomy and physiology, exercise physiology, sports biomechanics, sports medicine, sports psychology sports sociology, health education etc. scientific principles of coaching and training are being applied to the sportspersons right from their early stage onwards to make them explore and realize the otherwise impossible looking possibilities. Such a peak performance cannot be thought of under normal or natural circumstances or conditions. The sportspersons are being prepared in a mechanized manner. The concept of optimal physical and motor development (psychomotor) has to be understood by the parents, and the sports specialists concerned. From humble beginning, basketball has progressed to be a "world wide game" internationally popular and universally accepted. The pleasure and thrills that the game provides have impelled people of all classes to play basketball or witness the game the world over. Dutta (1988) stated that there is hardly a corner of the earth where people of all ages and both sexes have not been attracted by this game of fast movement, amazing accuracy and thrill, sometimes extraordinary finishes. The intricate blend of cooperative and individual skills, flexible enough to accommodate the fire works of personal duties yet remaining essentially a team sport, is a unique attraction.

Review of Related Literature:

American Alliance for Health, Physical Education, Recreation and Dance – Basketball Skills Test (AAHPERD-BST)

The AAHPERD-BST (AAHPERD, 1984; Hastad & Lacy, 1998; Kirkendall, Gruber, & Johnson, 1987) was selected as it contains important all-around components of the sport, including dribbling, passing, defensive, and close range speed shooting skills, and the participants were familiar with the skills involved. The AAHPERD-BST is also a well constructed, norm referenced basketball skills test for males (Kirkendall, Gruber, & Johnson, 1987). The test was formed on 10,000 students from four age groups: elementary, junior high, high school, and college, and reliability and content, construct, and concurrent validity results provided adequate substantiation of it as being a reliable and valid instrument (Kirkendall, et al., 1987). The passing component of the AAHPERD-BST was not administered due to the confinements of the gymnasium used.

K. Narazaki.et.al¹ assessed physiological demands of competitive basketball by measuring oxygen consumption (VO₂) and other variables during practice games. Each of 12 players (20.4 ± 1.1 years) was monitored in a 20-min practice game, which was conducted in the same way as actual games with the presence of referees and coaches. VO₂ was measured by a portable system during the game and blood lactate concentration (LA) was measured in brief breaks. Subjects were also videotaped for time-motion analysis. Female and male players demonstrated respective VO₂ of 33.4 ± 4.0 and 36.9 ± 2.6 mL/kg/min and LA of 3.2 ± 0.9 and 4.2 ± 1.3 mmol/L in the practice games (P<0.05). They spent 34.1% of play time running and jumping, 56.8% walking, and 9.0% standing. Pre-obtained VO₂max was correlated to VO₂ during play (r=0.673) and to percent of duration for running and jumping (r=0.935 and 0.962 for females and males, respectively). This study demonstrated a greater oxygen uptake for competitive basketball than that estimated based on a previous compendium. The correlation between aerobic capacity and activity level suggests the potential benefit of aerobic conditioning.

2. Statement of the Problem:

The purpose of this research work is to investigate “**Experimental Study of Selected Anthropometric and Physiological Attributes to Skill Performance of Male Inter-Collegiate Basketball Players**”

3. Objectives of the Study

1. To assess the skill performance to Basketball players from the study variables.
2. To estimate the skill performance of Basketball players from the anthropometric, variables.
3. To estimate the skill performance of Basketball players from the physiological variables.

4. Significance of the Study

1. The present study helps the coach's trainers and physical education teachers to understand the dominant factors that indicate Basketball Skill performance at inter-collegiate level.
2. The results of study may be helpful in designing appropriate training programme to improve required Anthropometric and Physiological aspects of junior Basketball players.
3. The study may be helpful to identify potential boys based on the Anthropometric and Physiological aspects to groom outstanding Basketball players.

5. Delimitations

1. The study will be delimited to male inter-collegiate Basketball players from Karnataka state.
2. Further the study will be delimited to the players ranging in age between 18 to 25 years.
3. The study will be delimited to One hundred forty subjects (N=140).

6. Limitations

1. No motivational technique will be used during test performance of subjects.
2. Differences in training states and model of training of players selected as subjects may have influence on the data collected and the result of the study.
3. The study is limited to Karnataka

7. Hypotheses

To accomplish the purpose of the study the following hypotheses will be formulated.

¹ K. Narazaki1, K. Berg, N. Stergiou, B. Chen “Physiological demands of competitive basketball” Scand J Med Sci Sports 2009; 19: 425–432.

1. There will be a significant difference between the selected Anthropometric Physiological variables and skill performance among the Basketball players playing in different positions.
2. There is a significant relationship between the selected Anthropometric variables with skill performance of Basketball players in different positions.
3. Only a few of the Anthropometric and Physiological variables significantly predict the skill performance of Basketball players in different positions.

Methodology

The following methodology will be used to establish the nature of relationship between the performance in basketball and the study variables.

Sample size of the Study

A Total of one hundred forty Basketball players (N=140)

Selection of Variables for the Study

After a thorough review of literature related to the game Basketball in books, journals, periodicals and research articles besides detailed discussion with the experts and keeping in view of the feasibility of the study in terms of availability of equipment and the relevance of the variables to the present study, the following variables

Table -1
Selected Anthropometric variables, their Tests and Units of Measurement

Sr.No.	Variables	Equipment	Unit
1	Height	Stadio Meter	Centimeter
2	Weight	Standard Weighing Machine	Kilogram
3	Arm Length	Flexible Tape	Centimeter
4	Leg Length	Flexible Tape	Centimeter

Table -2
Selected Physiological Variables, Their Tests And Units Of Measurement

Sr.No	Variables	Test /Equipments	Criterion Measures
1	Anaerobic Power	Vertical Jump Test	Kg-M/S
2	Aerobic Power	20-Metre Multistage Shuttle Run	Min
3	Vital Capacity	wet Spiro Meter	Liter
4	Body Fat (Bicep, Tricep, Sub Scapular, Suprailliac Skinfolde)	Harpenden Skinfold Caliper	Percentage

Collection of Data:

1. The Selected Anthropometric variables are measured as per the procedure and instructions available in the literature.
2. The Selected Physiological Variables are measured as per the procedure and instructions available in the literature.
3. The data in respect of the skill performance of the subject are collected in numerical form AAHPERD Basketball skill test.
4. All the data will be in numerical form.

Basketball skills test:

AAHPERD Basketball skills test

1.Speed Spot Shooting:

2.Dribbling Skill Test:

3.Defensive Skill Test:

4.Passing:

5.Offensive Rebound skill Test:

Interpretation

“STATISTICAL TECHNIQUE TO BE EMPLOYEED”

After obtaining the data the below mentioned statistical technique will be used to analyze and to interpret the study.

1. Descriptive statistical
2. Cross table procedure
3. Pearson's product moment correlation
4. Analysis of variance -2way

Conclusion

1. There will be a significant difference between the selected Anthropometric Psychomotor Physiological variables and skill performance among the Basketball players playing in different positions.
2. There is a significant relationship between the selected Anthropometric variables with skill performance of Basketball players in different positions.
3. Only a few of the Anthropometric and Physiological variables significantly predict the skill performance of Basketball players in different positions.

Recommendation

1. It is recommended that that based on the study results the coaches and trainers can prepare scientific training program for better performance of basketball skills on the basis of the Anthropometric and Physiological variables
2. The data results can be utilized by concerned basketball associations in general for talent identification
3. the study can be useful further research work

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