“Anthropometric, Physical Fitness, Psychological Parameters and Football skills according to Playing Positions of Intervarsity male Soccer Players”

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ABSTRACT

Anthropometric, Physical Fitness, Psychological Parameters and Football skills according to Playing Positions of Intervarsity male Soccer Players

Football, which is also known as Soccer, is probably world’s most popular sport, played in practically every nation at varying levels of competence. Football may be played competitively or for fun, as a career, a means of keeping fit or simply a recreational pursuit (Reilly, 1996). Soccer is the most popular sport in the world because it is performed by men and women, children and adults with different levels of expertise. The popularity of the game is reflected in the millions who participate in Soccer in lower levels of play. Soccer is now being played in more than 210 countries throughout the world. Soccer is popular because of the fact it is a simple game requiring very minimum infrastructure and equipment.

Success in soccer is dependent upon a variety of factors including the physical characteristics and physiological capacities of the players, their level of skill, their degree of motivation, and tactics employed by them against the opposition.
Some of these factors are not easily measured objectively, but others can be tested using standardized methods and can provide useful information for coaches (Mosher, 1985).

In soccer, speed plays an important role; the accelerated pace of the game calls for rapid execution of typical movements by every member in a team. In many instances, successful implementation of certain technical or tactical maneuvers by different team members is directly related with the degree of velocity deployed (Kollath & Quade, 1990).

In soccer, in addition to mental, psychological, physiological and coordination features, the improvement of conditional features is important as well. Peak conditional features in soccer players provide an advantage. Much of what affects the results of a match occurs during or after the high intensity sprint. Analysis of the specific movements and activities performed by football players during games can provide much relevant information on which suitable training programs can be designed (Dawson, 2002). According to the Dawson (2002), the large majority of sprints performed in soccer take six seconds or
less to complete, over distances of only 10-30 meters, and many of the sprints involve at least one change of direction. As running speed increases, longer strides are taken. In this instance, the swing phase involves greater knee flexion and hip extension, and greater hip flexion in the latter part of the phase (Howe, 1996).

During soccer games, many actions affect the result of games. These actions are characterized by intermittent and multi-directional movements, as well as the movements of changing intensity and time. Reilly and Ball (1984) stated that each game typically involves about 1000 changes of activity by each individual in the course of play, and each change requires abrupt acceleration or deceleration of the body or an alteration in the direction of motion.

Capela, C et al (2004) having compared the anthropometric and motor performance parameters such as aerobic fitness, speed, agility and strength of different age group Portugal Club Soccer players, have reported that no significant difference in anthropometric parameters were observed, whereas significant differences in all motor performance parameters were observed
and they also attributed this difference to experience and training.

Specific physical and physiological characteristics of soccer players plying in different positions have been studied and the results are used by coaches not only to select the talents but also to modify training programs and to help players prepare for the game strategy. The modern soccer relies on the ability of all players to attack and defend whenever necessary. Therefore, it is important that all players achieve a high level of performance in the basic skills of kicking, passing, trapping, dribbling, tackling and heading. Analysis of the physical and physiological characteristics of the players and determination of the specific requirements for optimal performance are thus a necessity (Tiryaki et al., 1996).

Talent identification in soccer is a process of recognizing current participants, who have the potential to become elite players. It entails predicting performance by measuring physical, physiological, psychological, and sociological attributes as well as technical abilities. Earlier talented players are recognized the
more time they have to prepare in quality facilities, which will increase their chances of becoming a successful soccer player in the future. College level and University level players are the future talents, who can be groomed into top level players, for which proper technique to be adopted to identify the right talent at that level. We should also know that physical, physiological and psychological factors and soccer skills, which determine top class performance in soccer in general and also as per playing position. The findings of this study will enable us to get enough information on talent identification at university level so that they can be put to rigorous training for grooming into top class players.

**Objectives of this Research Study:**

(i) To find out whether the University level Soccer players playing in different positions differed in the selected anthropometric parameters.

(ii) To find out whether the University level Soccer players playing in different positions differed in the selected Physical Fitness parameters.
(iii) To find out whether the University level Soccer players playing in different positions differed in the selected Soccer Skills.

(iv) To find out whether the University level Soccer players playing in different positions differed in the selected psychological variables.

**Delimitation of the Study:**

The study was delimited to male soccer players of North Zone University Football Players, who will participate in North Zone Inter-Varsity Championship only.

**Limitations of the study:**

The data on all the volunteered subjects can not be collected at the same time, as the Universities were having competition matches on different dates and reporting at the venue on different dates and at different times and the could be collected only during their rest days.

**Hypotheses:**

The following hypotheses are formulated to verify through this study:
(i) There will be no significant difference in the selected anthropometric variables of the University level male soccer players playing in different playing positions.

(ii) There will be no significant difference in the selected Physical fitness variables of the University level male soccer players playing in different playing positions.

(iii) There will be no significant difference in the selected Football (Soccer) skills of the University level male soccer players playing in different playing positions.

(iv) There will be no significant difference in the selected Psychological variables of the University level male soccer players playing in different playing positions.

Research Design:

This Analytical Study was conducted on selected 200 Inter-University Soccer players from North Zone Universities, who participate in North Zone Inter-Varsity Football Championship which was held during October, 2008 at Patiala, Volunteered as subjects for this study.
Methods:

For this analytical research the variables and the tests selected to measure the variables were:

(i) **Anthropometric variables selected:**

a) Standing Height (Stature),

b) Body Weight (body mass),

c) Leg length,

d) Knee diameter,

e) Thigh girth,

f) Calf girth and,

g) Skinfolds (Biceps, Triceps, Subscapular, Suprailiac)

(ii) **Physical Fitness Parameters selected:**

a) Explosive Strength endurance of legs (measured through five hops with both feet test, which is considered as a valid test for Indian population as many Indian researchers have used this test in their studies) Nagerkoti (1989),

b) Sprinting Speed (measured through 40 meters sprint test) Malhotra et al (1979),

c) Agility (measured through 6 x 10 meters shuttle run test,
Subramanian (1981),

d) Endurance (measured through 2.4 Kilo-meters run on 400 meters track) which is validated against VO2 max on treadmill and used by Malhotra et al (1979).

e) Flexibility (measured through bend and reach test), Subramanian (1979).

(iii) Psychological variables selected:

a) Self-Efficacy

b) Anxiety

c) Self-Confidence

(iv) Soccer Skill tests, which were used by Van Rossum and Wijbenga (1993) were selected:

a) Ball control with the body (skill 1),

b) Ball control with the head,

c) Dribbling with a pass (speed and accuracy),

d) Dribbling (speed),

e) Passing,

f) Shooting.
**Tests selected:**

Anthropometric measurements were conducted using Anthropometer rod, steel tape, Harpenden skin fold caliper, observing all precautions and instructions.

Physical fitness tests selected are: Five hops with right leg and Five hops with left leg, 40 Meters sprint, 6 X 10 Meters shuttle run, and Bend and Reach. All the tests were conducted as per instructions of the manuals.

The following football skill tests used by Van Rossum and Wijbenga (1993) were selected and administered as per instructions provided by the authors:

1. Ball control with the head (Ball juggling)
2. Passing
3. Ball control with the body (Ball juggling)
4. Dribbling with a pass (for speed and accuracy)
5. Dribbling speed
6. Shooting

**Psychological inventories used are:**

a) Self efficacy questionnaire, used by Ryckman et.al.(1982)
b) Anxiety scale (CSAI- used by Martens, 1982)

c) Self confidence questionnaire developed by Vealey et. al. (1998) and subsequently modified by WU & CHI (2000).

Results:

The data collected for each variable was analyzed for each playing position on the field, namely ‘Goalkeeper’, ‘Defender’, ‘Mid-fielder’ and ‘Striker’ and presented as descriptive statistics for each variable and also for all research subjects as per their playing positions.

The data was further analyzed to find out the mean differences among the subjects of varying field positions by computing ANOVA and the significance of difference was analyzed by computing ‘F’ score and is presented.

Conclusions:

Based on the results obtained in this research study, it can be safely concluded that:

1. Goalkeepers and Defenders were the tallest and heaviest among all the subjects selected for this study.
2. Strikers were the fastest players among all.

3. Strikers were the best in ‘Shooting’ skill and the Goalkeepers were the worst in ‘Shooting’.

4. Mid-fielders were best in ball control.

5. Players playing in different playing positions did not differ in psychological abilities.

6. Strikers were the best in ‘Shooting’ skill and the Goalkeeper were the worst in ‘Shooting’.

7. Mid-fielders were best in ball control.

8. Players playing in different playing positions did not differ in psychological abilities.
REFERENCES


