



RELATIONSHIP OF SELECTED PHYSIOLOGICAL VARIABLES WITH PLAYING ABILITY AMONG UNIVERSITY MEN SOCCER PLAYERS

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Abstract:

The purpose of the study was to find out the relationship between relationship of selected Physiological variables with playing ability among university men soccer players. 22 men soccer players from AMET University, Chennai and Tamil Nadu Physical Education Sports University were selected as the subject for this study. The subjects were tested on selected physiological variable such as breath holding time, systolic pressure, diastolic pressure, resting heart rate and were associated with playing ability of men soccer player. The collected data were statistically analyzed by using Pearson product movement correlation and multiple correlation. After the statistical treatment, it was concluded that the physiological variables on such as systolic pressure, Diastolic Pressure, Breath holding time, Resting heart rate, had significant relationship with playing ability among University Men Soccer Players.

Key Words: Soccer, Physiology, Soccer Players & Playing Ability

Introduction:

Soccer is the world's most popular form of sport, being played in every nation without exception. The most widespread code is association football or soccer. The sport has a rich history though it was formalized as we know it today by the establishment of the Football Association in 1863. The game soon spread to continental European countries and later to South America and the other continents. The world's governing body, the Federation of the International Football Association (FIFA), was set up in 1904 and the first Olympic football competition was held four years later. (Thomas Reilly, 1996)

Soccer is a fast packed game based as much as strategies and split second decisions as on quickness, strength, accuracy and endurance. Soccer, as a relatively simple game to play and understand, holds and unparalleled reach into the hearts and minds of people around the world.

A Sport that requires little in terms of technical equipment to play. Soccer has been called "the beautiful game" as well as "the simplest game". We can all identify with the description "the beautiful game" quality soccer is beautiful.

Soccer matches last 90 minutes and the pattern of activity in this time can be expressed as work-rate profiles. These may be determined by methods of motion analysis which give useful pointers to the physiological stresses imposed by match-play. Although the physiological demands of soccer may vary according to the system of play or tactics employed.

Physiology is the science of the functioning of living systems. It is a subcategory of biology. In physiology, the scientific method is applied to determine how organisms, organ systems, organs, cells and biomolecules carry out the chemical or physical function that they have in a living system. The physiological effects of exercise are fairly well known. When a large muscle group goes into action, it requires an increased supply of food together with an increased supply of oxygen for the conversion of the food into energy. It requires also a more rapid disposal of waste products. Heart and lungs together speedup their action in order to meet these demand. Because of this heightened organic activity,

Assimilation is accelerated, digestion improved and general nutrition heightened as evidenced in improved appetite and a loss of body fat. Keeping pace with these nutritional demands, elimination by means of kidneys, lungs, intestines and skin is increased. These effects are made possible which controls organic activity. Thus circulatory-respiratory-digestive-excretory-nervous systems are involved in simple muscular activity. The vitality of the organic system of the body depends throughout on muscular activity.

Statement of Problem:

The purpose of the study was to analysis of selected Physiological variables on performance among University men Soccer Players.

Hypothesis:

It was Hypothesized that there would be significant relationship between selected Physiological Variables and Playing Ability among University men Soccer Players.

Methods:

Total Twenty Two university soccer team players from AMET University and Tamil Nadu physical Education Sports University were selected as subjects. The age of the subjects ranged from 18 to 24 years. The selected soccer players had an average of four years of soccer training and having plenty of match experiences and they are representing their university soccer team.

The following Physiological variables were selected for this study.

Physiological Variables:

- ✓ Breath Holding time
- ✓ Systolic Pressure
- ✓ Diastolic Pressure
- ✓ Resting Heart Rate

Performance Variable:

Playing Ability:

A panel of three coaches (judges) was formed to assess the playing ability of Soccer player by using 10 points scale during match.

Criterion Measures:

The following criterion measures were adapted to

- ✓ Systolic was measured using Sphygmometer & Stethoscope.
- ✓ Diastolic was measured using Sphygmometer & Stethoscope.
- ✓ Breathe Holding was measured using Stopwatch.
- ✓ Resting Heart Rate was measured using Stopwatch.

Research Design:

For the purpose of this study, Twenty Two university level Soccer players were selected. And they were tested on selected Physiological variables. The data collected on the variables from the Soccer players were correlated using Pearson product moment correlation.

Relationship Between Physiological Measurements and Soccer Playing Ability Among University Men Soccer Players:

The scores on each of the independent variables of physiological variables were correlated with criterion variable, the score on playing ability in order to find out the relationship between the dependent and independent variable which is presented in the following tables.

Table 1: Relationship of Selected Physiological Variables with Playing Ability among University Men Soccer Players

(Score in ml, mm hg and per minute)

Variables	Correlation Coefficient (r)
Resting Heart Rate & Playing Ability	0.86*
Systolic Blood Pressure & Playing Ability	0.89*
Diastolic Blood Pressure & Playing Ability	0.82*
Breath Holding Capacity & Playing Ability	0.81*

Results of Physiological Variable:

Table I shows that the obtained "r" values for resting heart rate and playing ability, systolic blood pressure and playing ability, diastolic blood pressure and playing ability breath holding capacity and playing ability were 0.81, 0.86, 0.89 and 0.82 respectively and table value "r" of 05 level of significance with 53 degree of freedom is 0.268 the obtained "r" value of resting heart rate and playing ability (0.81), systolic blood pressure and playing ability (0.86), diastolic blood pressure and playing ability (0.89) and breath holding capacity and playing ability (0.82) were found to be higher than the table value.

Discussion on the Finding of Physiological Variable:

Based on the result obtained, there was more significant relation found in resting heart rate and playing ability, systolic blood pressure and playing ability, diastolic blood pressure and playing ability and breath holding capacity and playing ability of University men Soccer players.

Conclusions:

Based on the above discussion, it was also concluded that the physiological variables on such as systolic pressure, Diastolic Pressure, Breath holding time, resting heart rate, had significant relationship with playing ability of University men Soccer players.

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