

COMPARATIVE STUDY OF SELECTED MOTOR FITNESS COMPONENTS AMONG SWIMMERS AND FOOTBALL PLAYERS



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Abstract:

The present study is state that as Study of Selected Motor Fitness Components among Swimmers and Football Players in Sant Gadge Baba Amravati University, for this study, the subjects were selected from Amravati University. Forty (40) subjects were selected for this study. Twenty (20) subjects were taken from Football while the remaining twenty (20) were taken from swimming game. The subjects were selected by the simple random sampling method. The testing in all selected parameters was done on the inter-collegiate Football and Swimming players. The data pertaining to this study was collected by administrating the test items on the selected subjects.

Before collection of data, the subjects was given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done to ensure uniform testing condition the subjects was tested and data was collected. Following are the criterion measures which were responsible for collection of data, to testing the hypothesis. The purpose of this study was to find out the selected motor fitness components. The data pertaining to each of the selected motor fitness components were examined by the special statistical techniques viz. mean, standard deviation and 't' test.

The main purpose of the study was to compare the selected motor fitness components among inter-collegiate swimmer and football players. Some allied objectives are to find out Cardiovascular Endurance, Explosive Strength, Agility and Speed of the Swimmers and Football players.

Keywords: Motor Fitness Components, Swimming and Football Players.

Introduction:

Physical fitness is the positive state of well-being allowing you enough strength and energy to participate in a full, active life-style of your choice. Physical fitness is the general capacity to adapt favourably to physical effort. Individuals are physically fit when they are able to meet both the usual and unusual demands of daily life, safely and effectively with undue stress or exhaustion. Physical fitness is the capacity to carry out reasonably well various forms of physical activities without being unduly tired and includes qualities important to the individual's health and well-being. The fit person is one who is free of limiting and debilitating ailments,

who has the stamina and skill to do the day's work and who has sufficient reserve of energy not only to meet emergencies but also to participate in leisure time activities. Physical fitness is one phase of total fitness, and it may be used inter-changeably with motor fitness. Other phases of total fitness include social fitness, emotional fitness, mental fitness etc.

The term motor fitness is most often used synonymously with physical fitness by the coaches but it is very important for the physical education students to understand the basic difference between physical fitness and motor fitness. Physical fitness is used to denote only the five basic fitness components (muscular strength, muscular endurance, cardiovascular endurance, freedom from obesity and flexibility), whereas motor fitness is a more comprehensive term, which includes all the ten fitness components including additional five motor performance components (power, speed, agility, balance and reaction time), important mainly for success in sports. In other word, motor fitness refers to the efficiency of basic movements in addition to the physical fitness. Physical educators, exercise physiologists, and physicians have proposed many tests to demonstrate the effect of such programs. These tests have generally been labelled "Motor Fitness Test" "Physical Fitness Tests" and "Cardiovascular Tests". Additional tests have been developed by many colleges and universities. With so many groups and individuals promoting different fitness test, the practitioner may easily become confused especially when the same items appears in both motor and physical fitness tests. Thus one might ask whether there is a difference between motor fitness and physical fitness.

The history of football can be dated back to the 19th century. Before 19th century, the game of football was referred to any ball games played on foot. However, there were different rules for these games, some games allows the use of hands "running games", others forbidding it "kicking games". The first traces of what would become American football are found in the 19th century in the games played by students at the elite schools and universities of the United States. A particularly violent running game was played at Princeton University circa 1820, and around this time a kicking game was also being played by students of Dartmouth College. Rules for the Dartmouth game, known as "Old Division Football", were published in 1871. In football history, Walter Camp is known as the father of modern American football. During 1880s, he came up with various major adjustments to the game: an eleven player team, a smaller field, and the scrimmage, a player handing the ball backward to start the play. Camp also established the norm of a seven-man line, a quarterback, two halfbacks, and a fullback. Football soon became popular among the general public. On November 12, 1892 William Heffeling, a Yale All-American guard, became the first professional football player.

The history of swimming is a long one; precisely it can be traced back to the prehistoric times. The Bible, as well as the Iliad and the Odyssey all contain references to the sport of swimming. However, these sources date back nearly 3,000 years. Egyptian clay seals from 4000 B.C. also depict four swimmers doing the crawl stroke. Ancient Egyptian, Grecian and Roman palaces were often equipped with swimming pools or baths. Even drawings

discovered in the Kebir desert are linked to this time period and show people moving through water. According to the historians, swimming was also often used in the battle.

Another turning point in the history of swimming is when schools accepted swimming as a natural part of any life education. Thus, they began to teach swimming in schools not just as a life safety course but as an extracurricular activity. However, swimming competitions began to arise around the mid 1800's. England was the first to modernize the sport and incorporate an indoor swimming pool with a swim team. In 1837, London's six artificial pools hosted competitions. They began to formulate new swimming styles including the sidestroke and later evolved freestyle swimming. In time, additional freestyle races were added, as well as the backstroke, butterfly, breaststroke, and the IM or individual medley. The world swimming association named Federation International de Natation de Amateur (FINA) was established in the year 1908. Women were allowed to participate in 1912 Olympic which was held in Stockholm.

Methodology:

The researcher took the male subjects for the study. The sources of the data was made from the Football and Swimming players, who were participated in the inter-collegiate tournament of Sant Gadge Baba Amravati University, Amravati during the session of 2014-2015 Forty (40) subjects were selected for this study. Twenty (20) subjects were taken from Football while the remaining twenty (20) were taken from swimming game. The 40 subjects were selected by the simple random sampling method. The testing in all selected parameters was done on the inter-collegiate Football and Swimming players. Following are the criterion measures which were responsible for collection of data, to testing the hypothesis. The data pertaining to this study was collected by administrating the test items on the selected subjects.

Before collection of data, the subjects was given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done to ensure uniform testing condition the subjects was tested and data was collected.

Analysis of data:

The purpose of this study was to find out the selected motor fitness components. The data pertaining to each of the selected motor fitness components were examined by the special statistical techniques viz. mean, standard deviation and 't' test.

Table No. 1

Comparison in Agility of Inter Collegiate Swimmer and Football Players

Game	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Football	9.31	0.37	0.87	0.18	38	4.82	2.02
Swimmer	10.18	0.72					

Level of significance = 0.05

Table no. 1 reveals that there is significant difference between the mean of Intercollegiate Swimmer and Football Players because mean of Swimmer game = 10.18 which is greater than the mean of Football game = 9.31 so the mean difference where found as 0.87 and the standard error where found as 0.18. To check the significant difference between Swimmer and Football game the data is again analysed by applying 't' test. Before applying 't' test, standard deviation is calculated between Swimmer and Football Game which is 0.72 and 0.37 respectively and the calculated value of 't' is found as 4.82, is greater than the tabulated 't' which is 2.02 at 0.05 level of significance. This shows that the Football players are having the more agility than the Swimmer players. Hence the hypothesis which was given by the researcher is accepted.

Graph No. 1

Graphical Representation of Mean Difference between Agility of Inter Collegiate Swimmer and Football Players

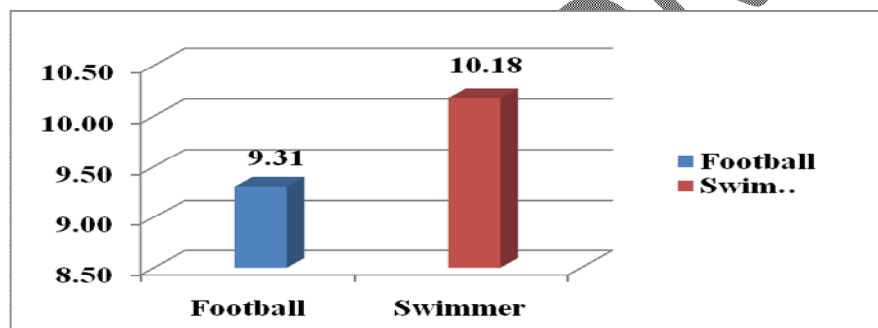


Table No. 2

Comparison in Cardiovascular Endurance of Inter Collegiate Swimmer and Football Players

Game	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Football	78.28	3.20	2.43	1.13	38	2.16	2.02
Swimmer	75.85	3.88					

Level of significance = 0.05

Table no. 2 reveals that there is significant difference between the mean of Intercollegiate Swimmer and Football Players because mean of Swimmer game = 75.85 which is less than the mean of Football game = 78.28 so the mean difference where found as 2.43 and the standard error where found as 1.13. To check the significant difference between Swimmer and Football game the data is again analysed by applying 't' test. Before applying 't' test, standard deviation is calculated between Swimmer and Football Game which is 3.88 and 3.20 respectively and the calculated value of 't' is found as 2.16, is greater than the tabulated 't' which is 2.02 at

0.05 level of significance. This shows that the Football players are having the more cardiovascular endurance than the Swimmer players. Hence the hypothesis which was given by the researcher is accepted.

Graph No. 2

Graphical Representation of Mean Difference between Cardiovascular Endurance of Inter Collegiate Swimmer and Football Players

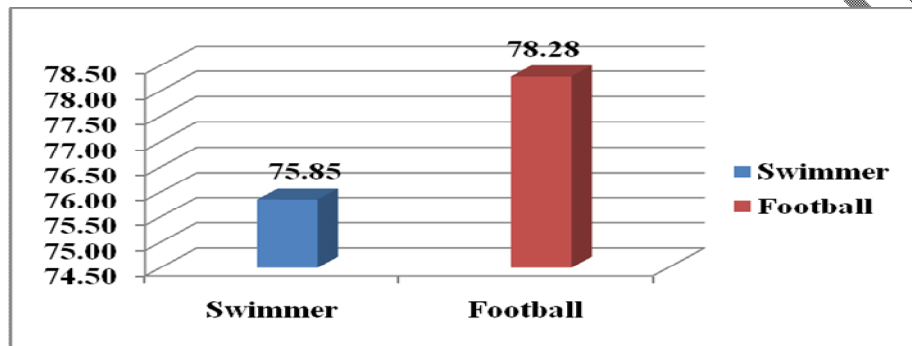


Table No. 3

Comparison in Speed of Inter Collegiate Swimmer and Football Players

Game	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Football	7.51	0.27	0.31	0.09	38	3.47	2.02
Swimmer	7.82	0.29					

Level of significance = 0.05

Table no. 3 reveals that there is significant difference between the mean of Intercollegiate Swimmer and Football Players because mean of Swimmer game = 7.82 which is greater than the mean of Football game = 7.51 so the mean difference where found as 0.31 and the standard error where found as 0.09. To check the significant difference between Swimmer and Football game the data is again analysed by applying 't' test. Before applying 't' test, standard deviation is calculated between Swimmer and Football Game which is 0.29 and 0.27 respectively and the calculated value of 't' is found as 3.47, is greater than the tabulated 't' which is 2.02 at 0.05 level of significance. This shows that the Football players are having the more speed than the Swimmer players. Hence the hypothesis which was given by the researcher is accepted.

Graph No. 3
Graphical Representation of Mean Difference between Speed of Inter Collegiate Swimmer and Football Players

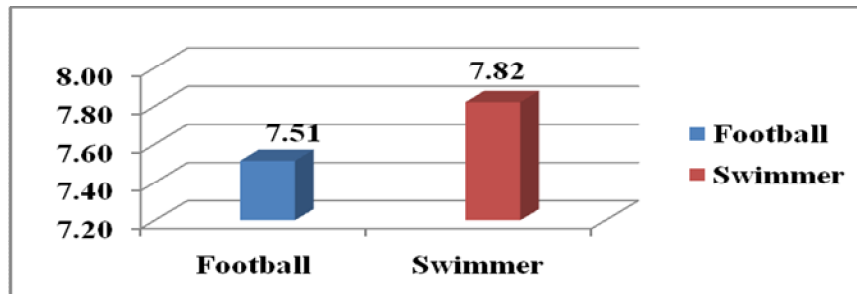


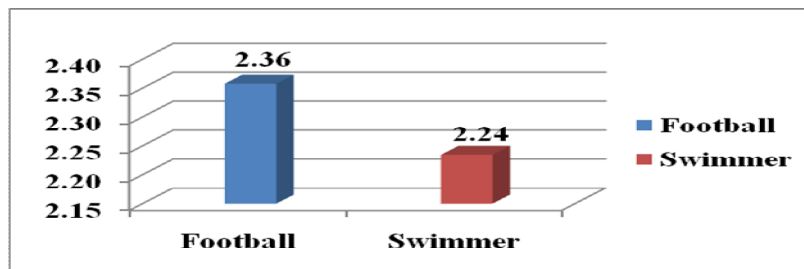
Table No. 4
Comparison in Explosive Strength of Inter Collegiate Swimmer and Football Players

Game	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Football	2.36	0.11	0.12	0.03	38	4.18	2.02
Swimmer	2.24	0.07					

Level of significance = 0.05

Table no. 4 reveals that there is significant difference between the mean of Intercollegiate Swimmer and Football Players because mean of Swimmer game = 2.24 which is less than the mean of Football game = 2.36 so the mean difference where found as 0.12 and the standard error where found as 0.03. To check the significant difference between Swimmer and Football game the data is again analysed by applying 't' test. Before applying 't' test, standard deviation is calculated between Swimmer and Football Game which is 0.07 and 0.11 respectively and the calculated value of 't' is found as 4.18, is greater than the tabulated 't' which is 2.02 at 0.05 level of significance. This shows that the Football players are having the more explosive strength than the Swimmer players. Hence the hypothesis which was given by the researcher is accepted.

Graph No. 4
Graphical Representation of Mean Difference between Explosive Strength of Inter Collegiate Swimmer and Football Players



Discussion of Hypothesis:

In the beginning of this study it was hypothesized that there might be significant difference in selected motor fitness components among swimmers and football players. In overall numerical and statistical analysis the comparison of selected motor fitness components among swimmer and football players, it is found that there is significant difference in selected motor fitness components among swimmer and football players. Therefore the hypothesis which the researcher has given is accepted.

Conclusion:

The researcher compared the selected motor fitness components among swimmers and football players. Within the limitations of the present study and on the basis of findings it was concluded that there was significant difference in selected motor fitness components between the Agility, Cardiovascular Endurance, Explosive Strength and Speed of inter collegiate swimmer and football players, it was also found that the significant result in Agility, Explosive Strength, Speed and Cardiovascular Endurance. Hence the researcher's hypothesis has been accepted.

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