

A comparative study of individual game player and team game player on endurance and strength ability

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Abstract

The purpose of the study was to investigate and compare the endurance and strength ability on individual game player and team game player who had represented their Inter collegiate tournament. Thirty players were selected from individual sports and thirty players were selected from team games from M.D.U, Rohtak and the subject age ranging from 18 to 25 years. Endurance measured by copper's 12 minutes run/walk test and strength measure by bent-knee sit-ups in one minute was applied to collect the data. 'T' test statistical technique were computed for comparing the two groups to find out the Mean and S.D between individual team game player and team game player. For testing the hypothesis the level of significance was set at 0.05. The findings of the study concluded that no significant difference between individual game player and team game player.

Keywords: endurance, strength, team game and individual game

Introduction

Scientists and physiologists have been of the view of that physical components of an athlete have a lot to do with the performance, more than the technique and tactics of a player or a team. The research findings show that high level technique perfection alone has nothing to do with the success in competitive sports. Most of the games demand a greater amount of strength, endurance of the organism.

Complete technical and tactical mastery are important pre-requisites for a sportsperson Unless the fundamental skills of a sport are learnt for physical fitness alone would not help in putting up good sports performance In view of this the coach has to understand the process of adaptation to training loads for the enhancement of conditional abilities namely strength and endurance and as well as he has to develop a very clear concept regarding the process of skill acquisition. Both these processes enhance sports performance but they occur differently.

Endurance (also related to sufferance, resilience, constitution, fortitude, and hardiness) is the ability of an organism to exert itself and remain active for a long period of time, as well as its ability to resist, withstand, recover from, and have immunity to trauma, wounds, or fatigue.

Strength is the maximal force you can apply against a load. Training to improve muscle strength includes lifting weights or otherwise increasing the resistance against which you work.

Muscular endurance will benefit for athletic and recreational activities. Developing muscular endurance will allow you to perform activities for longer before fatigue sets in. If you ever wanted to run a little farther, hike an incline a little longer or jump for that rebound in the last minutes of a basketball game but could not due to muscular fatigue, boosting your muscular endurance will benefit those types of situations. After muscular endurance training, your muscles will be able to sustain a load -- such as your body weight or a back pack -- for longer periods, and they will do so more efficiently.

Problem Statement

The purpose of the study was to compare the endurance and strength ability among players of individual sports & team games.

Hypothesis

It was hypothesized that there will be a significant difference in endurance and strength ability between individual game player and team game player.

Methodology

Selection of subjects: 60 subjects were selected for this study from M.D. University, Rohtak who had represented inter collegiate tournament. Thirty players were selected from individual sports and thirty players were selected from team games. Names of team games were cricket, football, basketball and name of individual sports were athletics, wrestling, boxing students were selected randomly as subjects for this study. The age of the subjects were ranged from 18 to 25 years.

Endurance Measure

It was measured in distance covered in copper's 12 minutes run/walk test.

Strength Measure

Number of correctly executed bent-knee sit-ups in one minute.

Administration of Test

Bent-knee sit-ups for Strength

Purpose: bent-knee sit-ups test was administered to obtain data on strength for abdomen muscle.

Equipment: (1) mat (2) stop watch

Procedure: the subjects assumed supine lying position with bent knee to an angle less than 90 degrees and hands clasped behind the neck. The feet were Held firmly by a partner.

To perform sit-ups

1. The subjects brought his head and elbows forward to curl-up motion.
2. Touched elbows to knees.
3. In returning to supine position the elbows touched the floor each time.

Score: the number of correctly executed sit-ups performed in one minute

12 minute run/walk test

Purpose: to measure the cardiovascular endurance of the subjects ‘cooper’s 12 minutes run/walk test’ was administered

Equipment: (1) tape (2) whistle

Procedure: test was administered in the 400 meters track. The subjects were asked to run outside of the inner line of the track. There were several marking of the line every 10 meters apart from one another begging from the starting line. All the

subjects were divided into 5 groups. One lap scorer was selected for each runner to count the laps. Each group assembled behind the starting line and started off just after blowing a whistle with full instruction to cover the distance in the continuous running and when running was not possible resort walking as far as possible within the 12 minutes time limit. At the signal by whistling again to stop, they remained wherever they were and test administrators with the help of lap scorer recorded the distance covered by each of the subject. All the groups can one after Another.

Score: the distance covered by the subjects in 12minutes run/walk was recorded in meters as the score of the subjects.

Statistical Analysis

To compare the endurance and strength ability between players of individual sports & team games t-test was used. Significance was set at .05 level of confidence.

Result of the Study

Table 1: Description of Mean, Standard Deviation and T-Ratio for the Data of Endurance and Strength Ability on Individual Game Player and Team Game Player

Group Statistics						
Variables	Game	N	Mean	S.D	S.E mean	T- value
Strength	Individual game player	30	30.4000	3.68220	.67228	1.357
	Team game player	30	29.2000	3.14478	.57416	
Endurance	Individual game player	30	1900.5000	148.85396	27.17689	.785
	Team game player	30	1932.3333	165.04301	30.13259	

Level of Significance - 0.05

The finding of table-1 reveals that the calculated t-value of strength and endurance between individual game player and team game player is 1.357 and .785 is lower than the tabulated t-value at 0.05 level for the 58 degree of freedom, Hence statistically there is no significant difference between the

means of individual team game player and team game player groups in the selected variables of strength and endurance. Hence, the hypothesis is rejected in both case. The Mean and S.D difference has been shown picturesquely in figure 1 and figure 2.

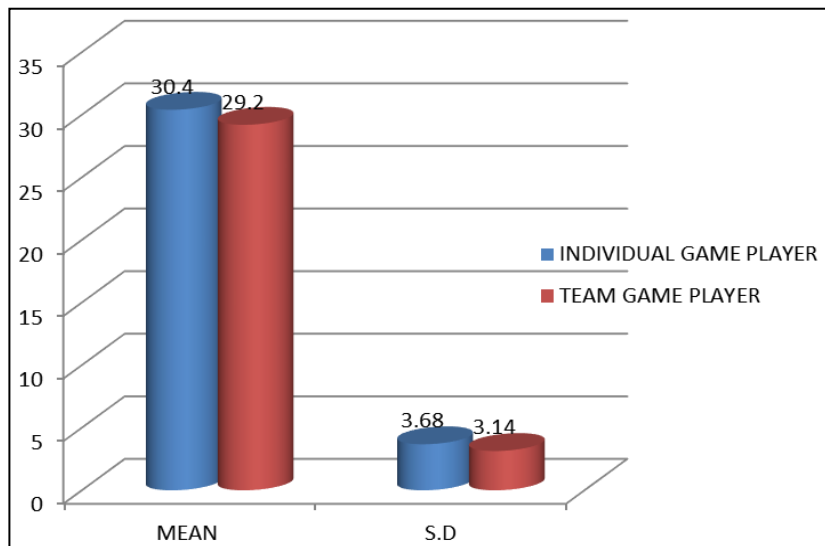


Fig 1: Mean and S.D Difference of Strength Ability between the Individual Game Player and Team Game Player

It shows that Mean and S.D of strength ability between the individual game player and team game player that mean of individual game player is higher than the team game player it

indicate that individual game player strength ability is better than the team game player.

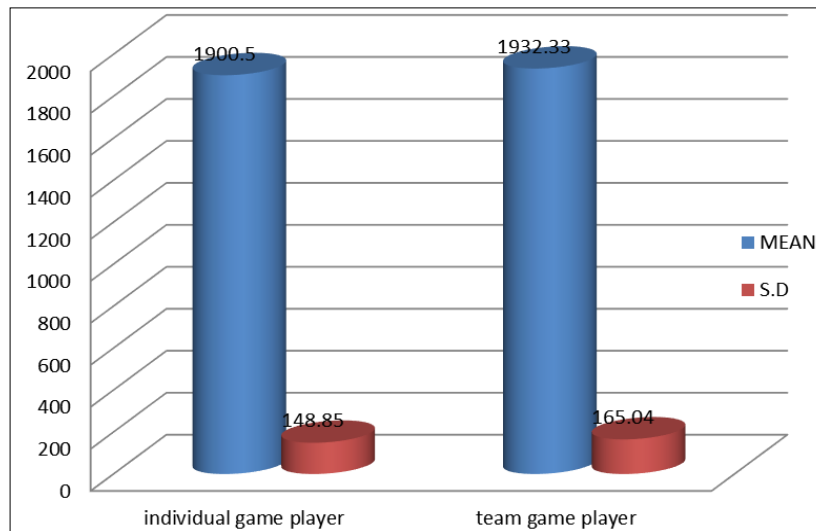


Fig 2: Mean and S.D Difference of Endurance Ability between the Individual Game Player and Team Game Player

It shows that Mean and S.D of endurance ability between the individual game player and team game player that mean of team game player is higher than the individual team game player it indicate that team game player endurance ability is better than the individual team game player.

Discussion of Findings

Statistical finding reveals that there is no significant difference in the endurance and strength ability on individual game player and team game player. So the hypothesis of our study is rejected that there would be significant difference of endurance and strength ability on individual game player and team game player. It may be attributed to the fact that all the selected students were belonged to the same profession. In strength the mean of individual game player is higher than the team game player. In endurance mean of team game player is higher than the individual team game player. It may be because of age factor, maturity etc. Therefore, such result might have occurred in this study.

Conclusion

Hence, it may be fairly concluded that in the variables of endurance and strength ability no significant difference was found between individual team game player and team game player.

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