



ISSN: 2456-0057

IJPNPE 2020; 5(2): 137-139

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www.journalofsports.com

Received: 20-07-2020

Accepted: 26-08-2020

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An investigation of comparative analysis on selected physical fitness factors of Ballary and Raichur district sports hostel boy's athletes

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Abstract

Athletes require the specific fitness with reference to strength, speed, flexibility and co-ordination. Fitness training equips the sports person to face the physical and physiological challenges that come his way in his competitive sports career. Specific physical fitness characteristics enable the player to perform the unusual movements required by the concerned sport. Physical fitness characteristics measurement plays an important role on the successful athlete's performances. These parameters further help to predict talents and finance on the potentially of best athletes for each sport. In purview of aforesaid the investigator aimed to study a comparative analysis on selected Physical Fitness factors of Ballary and Raichur district sports hostel boy's athletes. To achieve the purpose of the study 64 samples were selected on random sampling method. The data were collected from Ballary and Raichur districts on the selected physical fitness parameters like strength, speed, agility, flexibility, endurance and explosive strength with their respective tests. The results found that there is no significant difference in upper body strength between Ballary and Raichur district sports hostel boy's athletes. Further the results shown significant difference in speed, agility, flexibility, endurance and explosive strength tests between Ballary and Raichur district sports hostel boy's athletes.

Keywords: Strength, speed, agility, flexibility, endurance and explosive strength

Introduction

Sports has emerged as a discipline not merely to discuss performance, techniques or records but also to study it as a means by which greater societal forces may be analyzed and through which various problems may be remedied.

Physical parameters are very essential in athletics where the athletes have to perform with endurance and strength endurance for a longer period with breathing mechanism and along with lot of concentration attention and mental toughness. The athletes need to have greater physical fitness and mental toughness for effective physical fitness characteristics play an important role in deciding the performance level and also they have their importance in the field of athletics. Somewhat or altogether physical fitness parameters have definite effects on the performance of athletes.

Application of science and technology has greatly influenced modern sports. Sports performances are reaching to newer heights and success in sports performance today is not only a chance. Based on the knowledge of modern sports sciences, scientific principles of training and coaching and application of sophisticated modern testing and measuring techniques, it has now become possible to predict performance of the athletes at different levels of competitions.

Athletes require the specific fitness with reference to strength, speed, flexibility and co-ordination. Fitness training equips the sports person to face the physical and physiological challenges that come his way in his competitive sports career. Specific physical fitness characteristics enable the player to perform the unusual movements required by the concerned sport. Physical fitness characteristics measurement plays an important role on the successful athlete's performances. These parameters further help to predict talents and finance on the potentially of best athletes for each sport. One of the challenges confronting the coaches and sport scientists is to understand the physical fitness factors contributing to successful athletes.

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Statement of the Problem

The problem formulated for the present study is “An comparative analysis on selected Physical Fitness factors of Ballary and Raichur district sports hostel boy’s athletes”.

Purpose of the Study

Physical parameters are very essential in athletics where the players have to perform with endurance and strength endurance for a longer period with breathing mechanism. Based on these facts the present research study aims to analyze comparatively on selected physical fitness factors of Ballary and Raichur district sports hostel boy’s athletes. Also the present study analyzes the differences in the physical fitness parameters on selected physical fitness factors of Ballary and Raichur district sports hostel boy’s athletes. Hence the present study is taken into consideration to bring the changes in the present scenario of coaching and training means and methods for effective performance.

Objective of the Study

- To analyze the differences in the selected physical fitness parameters among Ballary and Raichur district sports hostel boy’s athletes.
- To suggest the better training means and methods for effective performance.

Materials and Methods

The methodological aspects related to the present investigation have been described. The procedure and methods applied in sample selection, selection of subjects, selection of variables, selection of tests, instrument reliability of data, orientation of the subjects, collection of data, test administration, experimental design and statistical technique are present in this chapter.

Selection of Subjects

The total 60 samples from Ballary and Raichur districts were selected by random sampling method.

Table 1: Sample Design

Districts	No. of Subjects	Total
Ballary	32	64
Raichur	32	

Selection of variables

The investigator had gone through the available literature and had discussions with research supervisor and various experts before selecting variables. The availability of technique for the purpose of analysis, feasibility, reliability of the procedure and the outcome were extensively taken care before finalizing the variables. After analysing the various factors associated with the present study physical fitness variables like strength, speed, agility, flexibility, endurance and explosive strength were selected.

Criterion Variables

Each sport demands specific requirement of physical capacities for successful performance, the importance of these parameters lays in the fact that in majority of the sports; it scores as the basis for good performance. The following physical parameters were selected.

Physical Fitness parameters

- Strength
- Speed

- Agility
- Flexibility
- Endurance
- Explosive strength

Selection of Tests

The selected physical and physiological parameters and their respective tests to be administered are presented in Table 2.

Table 2: List of Variables and their respective Test

S. N.	Variables	Test
1.	Strength	Push-up test
2.	Speed	40 mtrs. Sprint test
3.	Agility	Illion’s agility test
4.	Flexibility	Sit and Reach test
5.	Endurance	12 mtrs. Run and Walk test
6.	Explosive strength	Vertical jump test

Collection of Data

The data were collected on total 64 samples from Ballary and Raichur districts on the selected physical fitness parameters like strength, speed, agility, flexibility, endurance and explosive strength.

Test Administration

The investigator visited to the sports hostels of Ballary and Raichur districts and investigator approached the concerned authorities and explained about the purpose of the study and took permission for the same. Then the investigator briefly explained and oriented the subjects about the procedure and importance of the tests. Further investigator collected the data related to present study in the following methods,

Physical Fitness Parameters

1. Speed: 40 Meter Sprint test
2. Agility: Illinois Agility Test
3. Flexibility: Sit and Reach Test
4. Strength: Push-up test
5. Explosive strength: Vertical Jump Test:
6. Endurance: Cooper 12minute run and walking Test:

Statistical Analysis

Descriptive Statistics and paired t-test for comparison of selected physical parameters of sports hostel boy’s athletes.

Results and Discussions

Analysis of physical fitness parameters among Ballary and Raichur districts sports hostel boy’s athletes

Table 3: Differences in upper body strength among Ballary and Raichur districts sports hostel boys athletes

Paired Samples Statistics						
Variable	Athletes	Mean	N	Std. Deviation	t-value	Sig. (2-tailed)
Upper Body Strength	Ballary	7.25	32	1.86	3.54*	.000
	Raichur	4.28	32	0.64		

Significant at 0.05 level

It can be seen from the table.No.3 that the value t-statistics 3.54 of paired samples test between Ballary and Raichur district sports hostel boy’s athletes respectively. The t-value is not significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean values of upper body strength test between Ballary (7.25) and Raichur (4.28) are not similar. In other words there is significant difference in upper body

strength between Ballary and Raichur district sports hostel boy's athletes.

Table 4: Differences in speed among Ballary and Raichur districts sports hostel boys athletes

Paired Samples Statistics						
Variable	Athletes	Mean	N	Std. Deviation	t-value	Sig. (2-tailed)
Speed	Ballary	7.22	32	1.67	2.67*	.000
	Raichur	9.26	32	1.84		

Significant at 0.05 level

It can be seen from the table.No.4 that the value t-statistics 2.67 of paired samples test between Ballary and Raichur district sports hostel boy's athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean values of speed test between Ballary (7.22) and Raichur (9.26) are not similar. In other words there is significant difference in speed between Ballary and Raichur district sports hostel boy's athletes.

Table 5: Differences in endurance among Ballary and Raichur districts sports hostel boys athletes

Paired Samples Statistics						
Variable	Athletes	Mean	N	Std. Deviation	t-value	Sig. (2-tailed)
Endurance	Ballary	2720.10	32	520.12	7.01*	.000
	Raichur	2450.60	32	491.04		

Significant at 0.05 level

It can be seen from the table.No.5 that the value t-statistics 7.01 of paired samples test between Ballary and Raichur district sports hostel boy's athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean values of endurance test between Ballary (2720.10) and Raichur (2450.60) are not similar. In other words there is significant difference in endurance between Ballary and Raichur district sports hostel boy's athletes.

Table 6: Differences in agility among Ballary and Raichur districts sports hostel Boys athletes

Paired Samples Statistics						
Variable	Athletes	Mean	N	Std. Deviation	t-value	Sig. (2-tailed)
Agility	Ballary	22.63	32	6.24	8.02*	.000
	Raichur	26.54	32	4.72		

Significant at 0.05 level

It can be seen from the table.No.6 that the value t-statistics 8.02 of paired samples test between Ballary and Raichur district sports hostel boy's athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean values of agility test between Ballary (22.63) and Raichur (26.54) are not similar. In other words there is significant difference in agility between Ballary and Raichur district sports hostel boy's athletes.

Table 7: Differences in flexibility among Ballary and Raichur districts sports hostel boys athletes

Paired Samples Statistics						
Variable	Athletes	Mean	N	Std. Deviation	t-value	Sig. (2-tailed)
Flexibility	Ballary	28.62	32	5.24	5.64*	.000
	Raichur	25.14	32	4.96		

Significant at 0.05 level

It can be seen from the table.No.7 that the value t-statistics 5.64 of paired samples test between Ballary and Raichur

district sports hostel boy's athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean values of flexibility test between Ballary (28.62) and Raichur (25.14) are not similar. In other words there is no significant difference in flexibility between Ballary and Raichur district sports hostel boy's athletes.

Table 8: Differences in explosive strength among Ballary and Raichur districts sports hostel Boys athletes

Paired Samples Statistics						
Variable	Athletes	Mean	N	Std. Deviation	t-value	Sig. (2-tailed)
Explosive Strength	Ballary	13.12	32	3.42	4.96*	.001
	Raichur	10.02	32	4.67		

Significant at 0.05 level

It can be seen from the table.No.8 that the value t-statistics 4.96 of paired samples test between Ballary and Raichur district sports hostel boy's athletes respectively. The t-value is significant as the p-value (.001) is more than 0.05. Thus, it can be concluded that the mean values of explosive strength test between Ballary (13.12) and Raichur (10.02) are not similar. In other words there is significant difference in explosive strength between Ballary and Raichur district sports hostel boy's athletes.

Conclusions

1. There is significant difference in upper body strength between Ballary and Raichur district sports hostel boy's athletes.
2. There is significant difference in speed between Ballary and Raichur district sports hostel boy's athletes.
3. There is significant difference in endurance between Ballary and Raichur district sports hostel boy's athletes.
4. There is significant difference in agility between Ballary and Raichur district sports hostel boy's athletes.
5. There is significant difference in flexibility between Ballary and Raichur district sports hostel boy's athletes.
6. There is significant difference in explosive strength between Ballary and Raichur district sports hostel boy's athletes.
7. It is suggested from the study that core muscle exercise training is very much essential to keep the optimum level of performance.

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