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Assessment of relationship between fitness variable 3 hops with right leg of soccer players of University, Colleges, Sports Hostel and Schools

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Abstract

The purpose of the study was to assess the relationship of Fitness variable 3 hops with right leg of soccer players of University, Colleges, Sports Hostel and Schools with the range of 18-23 years. The selected fitness variables are explosive strength tested with 3 hops with right leg a test item in fitness test battery developed by Su Kumar Saha 1986. Mean and standard deviation were used as descriptive statistics. ANOVA technique is used to tackle data to find out F value of soccer players of University, Colleges, Sports Hostel and Schools. ANOVA was used with the significant level at 0.05. The multiple comparison has been executed with the help of INOVA among soccer players of University, College, Sports Hostel and Schools of Himachal Pradesh. In the explanation of findings the study can be used as a criteria regarding selection of players at a suitable time to start a training systematically and scientifically.

Keywords: Fitness variables, soccer players, explosive strength, speed, agility, endurance, Su Kumar Saha test

Introduction

Soccer player is a game of unit and there must be a best level of fitness and coordination among players to be effective as a team. To large extent fitness components are concerned. Player needs excellent fitness to speed up the game. Player requires good explosive strength, Speed, Agility, Endurance. Fitness is not a static factor, as it varies from person to person, and in the same individual varies from time to time, depending on numerous influencing factor it may be Genetical, hormonal and environment mental. Johnson 1942 prove that youth fitness test is partial indicator of both motor and cardio respiratory fitness. Boone 1967 examined the fitness level of 100 Urban boys and Rural boys and concluded that two samples were weaker in the same component of physical fitness. Singh 1986 conducted a test on physical fitness of 4000 College Students. He found that physical fitness improves according to the age and student belonging to Rural area were significantly superior in their performance of test items. In the present study Su Kumar Saha fitness test battery variable 3 hops with right leg was employed on subjects from University, Colleges, Sports Hostel and Schools to get the hypothetically desired results. It was expected that there would be significant relationship in selected motor fitness of Himachal Pradesh soccer players of University, Colleges, Sports Hostel and Schools.

Methodology, selection of subjects

For this project researcher selected 120 male soccer players from four categories of Himachal Pradesh University, Colleges, Sports Hostel and Schools as subjects ranging with the age of 18-23 years.

Selection of variables

By keeping the objective in mind, the researcher selected the following variables for the present study 3 Hops with right leg was selected as an independent variable and soccer players of University, Colleges, Sports Hostel and Schools were taken as a dependent variables.

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Criterion measures

Selected variable and their purpose and criterion measures

Table 1: The variables category numbers measuring unit

Variables	Category	Numbers	Measuring Unit
3 Hops with right leg (Explosive leg strength)	University Soccer Players	34	in meters
	College Soccer Players	30	in meters
	Sports Hostel Soccer Players	27	in meters
	Schools Soccer Players	30	in meters

Statistical analysis

To find out the significance relation between the selected motor fitness variable 3 hops with right leg with soccer players of University, Colleges, Sports Hostel and Schools. The data were analyzed by descriptive statistics, analysis of variance and multiple comparison of 3 hops with right leg among soccer players of University, College, Sports Hostel and Schools. The level of significance was setup at 0.05.

Result of the study

The data were obtained by applying 3 hops with right leg for explosive strength employed on 120 soccer players of University, Colleges, Sports Hostel and Schools of Himachal Pradesh.

Table 2: Descriptive Table (University soccer players)

Variables	Mean	Standard Deviation	N
University	35.59	5.79	34
College	32.90	4.44	30
Sports Hostel	31.96	2.90	27
Schools	35.06	4.58	30

In the above mentioned table the mean score and standard deviation came out on 3 hops with right leg 35.59 and 5.79 with the total number of 34 soccer players of University and mean score and standard deviation came out on 3 hops with right leg 32.90 and 4.44 with the total number of 30 soccer players of College and mean score and standard deviation came out on 3 hops with right leg 31.96 and 2.90 with the total number of 27 soccer players of Sports Hostel and mean score and standard deviation came out on 3 hops with right leg 35.06 and 4.58 with the total number of 30 soccer players of Schools of Himachal Pradesh.

Table 3: Analysis of Variance

Analysis of Variance of 3 Hops with Right Leg					
Dependent Variable 3 Hops with Right Leg					
Variable	Source	Sum of Squares	DF	Mean Square	F Value
3 Hops with Right Leg	Between Group	268.202	3	89.401	4.168
	Within Group	2509.765	117	21.491	
	Total	2777.967	120		

* Significant at.05 level

F_{.05} (3,117)=1.96

Above table clearly indicates that there were significant differences found among various groups of soccer players of University, College, Sports Hostel and Schools on the variable of 3 hops with right leg the value of F obtained at.05 level was 4.168 whereas, the value needed for significance was 1.96 for 3 and 117 degrees of freedom at 0.5 level.

Multiple comparison of 3 hops with right leg of soccer players among University, College, Sports Hostel and Schools

Table 4: Difference of university college sport hostel and school

(I) Group	(J) Group	Mean Difference (I-J)	Sig.
University	College	2.69	.100
	Sports Hostel	3.63*	.015
	Schools	.52	.970
College	University	-2.69	.100
	Sports Hostel	.94	.871
	Schools	-2.17	.273
Sports Hostel	University	-3.63*	.015
	College	-.94	.871
	Schools	-3.10	.061
Schools	University	-.52	.970
	College	2.17	.273
	Sports Hostel	3.10	.061

A look at the result depicted in multiple comparison of 3 hops with right leg of soccer players from University, College, Sports Hostel and Schools of Himachal Pradesh. When University soccer players compared on 3 hops with right leg of soccer players from College, Sports Hostel and Schools, the mean difference calculated 2.69*, 3.63*,.52* respectively and P value calculated.100,.015,.970 with College, Sports Hostel and Schools respectively. The P value was found to be statistically significant among University soccer players and Sports Hostel soccer players and non-significant with College soccer players and Schools soccer players. The F value obtained was 4.168* whereas tabulated value is 1.98 which 3/117 degree of freedom at.05 level of significance.

The result presented in above table the result depicted in multiple comparison of 3 hops with right leg of soccer players from University, College, Sports Hostel and Schools of Himachal Pradesh. When College soccer players compared on 3 hops with right leg of soccer players from University, Sports Hostel and Schools, the mean difference calculated -2.69,.94, -2.17 respectively and P value calculated.100,.871,.273 with University, Sports Hostel and Schools respectively. The P value was found to be statistically non-significant among University, Sports Hostel and Schools soccer players. The F value obtained was 4.168* whereas tabulated value is 1.98 which 3/117 degree of freedom at.05 level of significance.

It is evident the result depicted in multiple comparison of 3 hops with right leg of soccer players from University, College, Sports Hostel and Schools of Himachal Pradesh. When Sports Hostel soccer players compared on 3 hops with right leg of soccer players from University, College and Schools, the mean difference calculated -3.63*, -.94*, -3.10* respectively and P value calculated.015,.871,.061 with University, College and Schools respectively. The P value was found to be statistically significant among Sports Hostel soccer players and University soccer players and non-significant with College soccer players and Schools soccer players. The F value obtained was 4.168* whereas tabulated value is 1.98 which 3/117 degree of freedom at.05 level of significance.

It is observed the result depicted in multiple comparison of 3 hops with right leg of soccer players from University, College, Sports Hostel and Schools of Himachal Pradesh. When Schools soccer players compared on 3 hops with right leg of soccer players from University, College and Sports Hostel, the mean difference calculated -.52, 2.17, 3.10 respectively and P value calculated.970,.273,.061 with

University, College and Sports Hostel respectively. The P value was found to be statistically non-significant among University, College and Sports Hostel soccer players. The F value obtained was 4.168* whereas tabulated value is 1.98 which 3/117 degree of freedom at .05 level of significance.

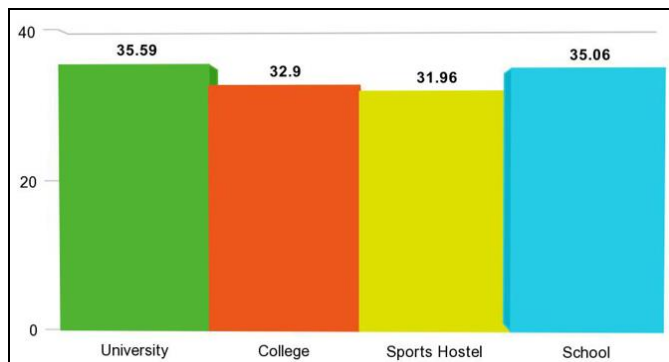


Fig 1: Graphical representation of mean scores of soccer players on 3 hops with right leg

Discussion of the study

The finding of the study indicates that the strength is significantly inter related to the performance of the soccer players on 3 hops with right leg by soccer players of University, College, Sports Hostel and Schools. It was also supported by ^[1] Johnson 1942 founds significant relationship between 600 yards run/walk, softball throw, standing broad jump, shuttle run ^[2]. Boone 1967 examined the fitness level of Urban and Rural boys. The result of the study showed the Urban boys were superior to the Rural boys and there is significant difference at .05 level of confidence. There are few more research were also supported to present study such as ^[3] Pradhan, K, 2016 were conducted a study that the significant difference in agility among the different fitness variables of Volleyball players.

Conclusion of the study

There is significant relationship found by soccer players of University on 3 hops with right leg with soccer players of Sports Hostel and Non-significant relationship was found with soccer players of College and Schools.

There is non-significant relationship found on 3 hops with right leg of College players with soccer players of University, Sports Hostel and Schools.

There is significant relationship found by soccer players of Sports Hostel with University soccer players on 3 hops with right leg and non-significant relationship found by soccer players of Sports Hostel with soccer players of College and Schools.

There is non-significant relationship found by soccer players of Schools on 3 hops with right leg with soccer players of University, College and Sports Hostel.

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