



ISSN: 2456-0057  
IJPNPE 2019; 4(1): 1434-1437  
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www.journalofsports.com  
Received: 16-11-2018  
Accepted: 18-12-2018

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## Significance of physical and physiological components of football players

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### Abstract

Sport is an activity appreciated by everyone in this world. One among the popular games in sports is the football game. Success of this game involves various factors. This paper deals with the performance analysis of various components namely physical and physiological components of the football players. Performance analysis of these components are performed using ANOVA, Correlation and Chi-square test among the respondents in Bangalore city. The performance analysis gives a broad view in order to enhance the performance for the future players especially in this field of sports.

**Keywords:** Football, physical, physiological, body control, technical qualities, coachability, effective performance

### Introduction

As of late much research with respect to coordinate execution has been directed, and science has to a more prominent degree been fused into preparing arranging and nutritional methodologies to get ready for games and training. Changes in both execution and physiological reaction all through an amusement have been examined with an attention on individual contrasts in the physical worry to which players are exposed in games. These distinctions are identified with the preparation status of the players and the particular strategic job of the individual player.

Football is the most mainstream sport on the planet. Other than its noteworthy social and financial effects it has additionally critical job in diversion, wellbeing advancement and network building, so the methodology connected in football ability care is imperative. A conceivable point of football-ability improvement could be sustaining physically and rationally solid and effective football players, will be ready to speak towards socially helpful qualities. Talent psychology could give genuine commitment to this sort of procedure. In this investigation the impact of psychological factors on the improvement of football-ability is analyzed. As hypothetical system of this exploration provides an integrative ability demonstrations are introduced, which can add to the viability of football-ability care.

At first, general ability hypotheses and models endeavored to distinguish at least one vital intrapersonal factors, which lie behind the improvement of ability. In the talent model approach those models which effectively considered the job of the social condition fundamentally in the advancement of ability addressing to a huge change. Later another imperative, new perspective showed up: progressively current ability models stress the common impact the elements of ability have on one another, and their elements, and treats the improvement of ability as formative procedure. In this examination another, complex, and dynamic talented model is presented. This integrative model gives the hypothetical foundation of the present research concerning factors (psychological) in the improvement of football-ability.

Football is likely the world's most well-known game, played in basically every country at different dimensions of ability. Football might be played intensely or for no particular reason, as a vocation, a methods for staying in shape or basically a recreational interest. Modern football is extremely quick in its inclination game of steady activity and requires ceaseless adjustment to changing circumstance by the group in general just as by the individual players. In spite of the fact that it is a group diversion, there is a plentiful space for players to show

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their splendor through group play including act of spontaneity and strategic learning

### Review of literature

Mirkov D *et al.* (2008) [7] analyzed pre-season strong quality and power profiles in expert and junior world class soccer players all through the formative long stretches of 15-21. One unique part of our examination was that isokinetic information was considered close by the previous history of damage in these players. Fifty-seven first class and junior tip top male soccer players were allotted to three gatherings: PRO, n=19; U-21, n=20 and U-17, n=18. Useful execution was assessed all through a squat jump and 10 m sprint. New patterns in objective preparing could concentrate more on the danger of unevenness and execute adversary fortifying went for damage avoidance. Such an intercession would profit competitors recovering from damage, yet in addition healthy players.

Caterina Pesce *et al.* (2007) [6] examined the connection between squat 1 repetition maximum (1RM) and b-ball important tests and the factors that impact agility (T-test) in tip top male expert b-ball players. In light of the present investigation's discoveries, agility ought to be viewed as an essence physiological capacity for players (elite) on basketball. Subsequently, b-ball explicit deftness drills ought to be worried in first class b-ball preparing. Given the relationship between squat 1RM execution and short sprint times, squat activities ought to be a noteworthy segment of b-ball conditioning.

Wisbey. B., *et al.* (2009) [5] analyzed the impacts of consolidated quality and plyometric preparing with quality preparing alone on power-related estimations in expert soccer players. Subjects in the intercession group were arbitrarily separated into 2 gatherings. Gathering ST (n = 6) performed overwhelming quality preparing two times per week for 7 weeks notwithstanding 6 to 8 soccer sessions seven days. Gathering ST+P (n = 8) played out a plyometric preparing program notwithstanding a similar preparing as the ST gathering. The control gathering (n = 7) performed 6 to 8 soccer sessions seven days. The outcomes propose that there are no noteworthy execution improving impacts of consolidating quality and plyometric preparing in expert soccer players simultaneously performing 6 to 8 soccer sessions seven days contrasted with quality preparing alone. In any case, overwhelming quality preparing prompts huge gains in quality and power-related estimations in expert soccer players Pyne, D. B *et al.* (2006) [4], inspected physical, physiological, and motor responses and saw effort amid various soccer drills. In little sided amusements, the individual playing zone (~ 275 m<sup>2</sup>, ~ 175 m<sup>2</sup>, and ~ 75 m<sup>2</sup>) was changed while the quantity of players per group was kept consistent: 5 versus 5 or in addition to goalkeepers. Members were ten male youth soccer players. Every session involved three little sided amusement groups, which kept going 8 min each with a 5-min rest period (passive) between them. A scope of factors was recorded and dissected for the three drills performed more than three instructional courses: (a) physiological, estimated utilizing Polar Team devices; (b) physical, utilizing GPS SPI devices (elite); (c) saw effort, appraised utilizing the CR-10

Scale; and (d) motor based response, assessed utilizing an Observational apparatus that was uncommonly intended for this study.

### Objectives

1. To identify the issues among the foot ball players.
2. To study on the impact of physical and physiological components among the players of football.
3. To improve the performance of football players.

### Population of the Study

The Population for the proposed research includes 221 players of selected sports academy in Bangalore city.

### Research Design and Data Collection

The success of any research is solely depending on research design. Descriptive research was adopted for this study. The reason for choosing the descriptive research was that it helps in generalization to a greater extent. The study is based on both primary and secondary data. Primary data is collected through a well framed and structured questionnaire to elicit the well-considered opinions of the respondents. The secondary data is collected from different Business Periodicals, Business journals, magazines, publications, reports, books, dailies, Research articles, websites, manuals and booklets.

### Sampling Method

Random Sampling method (Malhotra and Birks, 2006) was employed. The survey was based on the selected sports academy in Bangalore.

### Statistical Tool Used For Analysis

- Chi-Square
- ANOVA
- Correlation

### CHI-Square

**H<sub>02.1</sub>:** There is no significance difference between age and Occupation

**Table 1:** Association between Age and Occupation

Factor	Value	Df	Symp. Sig. (2-sided)	Statistical Inference
Pearson Chi-Square	6.074 <sup>a</sup>	3	0.108	X <sup>2</sup> = 6.074 <sup>a</sup> Df = 3 P= .000 <0.05 *Significant at 5% level
Likelihood Ratio	6.044	3	0.109	
Linear-by-Linear Association	.272	1	0.602	
N of Valid Cases	221			

\*Significant at 5% level

### Analysis

It can be seen from Table – 1 the P value is greater than our chosen significance at = 0.05 levels, the null hypothesis is accepted.

### Discussion

It is therefore concluded that there is no association between age and occupation.

**H<sub>01.1</sub>:** There is no significant difference between occupation with regards to the Body Control, Technical qualities, Coachability and Effective Performance.

**Table 2:** One Way Anova (Age)

Dimensions		Sum of Squares	Df	Mean Square	F	Sig
Body Control	Between Groups	43.837	1	43.837	1.860	0.174
	Within Groups	5160.299	219	23.563		
	Total	5204.136	220			
Technical Qualities	Between Groups	3.389	1	3.389	.156	0.693
	Within Groups	4756.321	219	21.718		
	Total	4759.710	220			
Coachability	Between Groups	5050.507	219	23.062	.252	0.617
	Within Groups	5056.308	220			
	Total	5056.308	220			
Effective Performance	Between Groups	395.052	1	395.052	18.183	0.000
	Within Groups	4758.188	219	21.727		
	Total	5153.240	220			

\* Significant at the 5% level

**Analysis**

It can be seen from Table No –2 that null hypotheses are rejected as the p values are lesser than 0.05 for Effective Performance. For all other dimensions since the p value is greater than 0.05 null hypotheses is accepted.

**Discussion**

There is significant difference between age group with

regards to the Effective Performance. There is no significance difference between age groups with regards to Body Control, Coachability and Technical Qualities

**H01.2:** There is no significant difference between occupation with regards to the Body Control, Technical qualities, Coachability and Effective Performance.

**Table 3:** One Way Anova (Occupation)

Dimensions		Sum of Squares	Df	Mean Square	F	Sig
Body Control	Between Groups	30.461	3	10.154	.426	.735
	Within Groups	5173.674	217	23.842		
	Total	5204.136	220			
Technical Qualities	Between Groups	137.208	3	45.736	2.147	.095
	Within Groups	4622.502	217	21.302		
	Total	4759.710	220			
Coachability	Between Groups	472.970	3	157.657	7.464	.000
	Within Groups	4583.338	217	21.121		
	Total	5056.308	220			
Effective Performance	Between Groups	313.646	3	104.549	4.688	.003
	Within Groups	4839.594	217	22.302		
	Total	5153.240	220			

\* Significant at the 5% level

**Analysis**

It can be seen from Table No–3 that null hypotheses are rejected since the p values are lesser than 0.05 for Coachability and Effective Performance. For all other dimensions since the p value is greater than 0.05 null hypotheses is accepted.

**Discussion**

There is significant difference between occupation group with regards to the Coach Ability and Effective Performance.

There is no significance difference between occupation groups with regards to Body Control and Technical Qualities.

**Correlation Analysis**

**Correlation between the Technical Qualities and coach ability**

The following table gives the correlation between the Technical Qualities and coach ability

**Table 4:** Table showing the correlation between Technical Qualities and coach ability

Correlations			
		Technical Qualities	Coach ability
Technical Qualities	Pearson Correlation	1	.036
	Sig. (2-tailed)		.592
	N	221	221
Coach ability	Pearson Correlation	.036	1
	Sig. (2-tailed)	.592	
	N	221	221

(Source: Computed data) \* Significance 0.05

**Inference**

It can be understood from the table that the correlation coefficient between Technical Qualities and coach ability is 0.036. This implies that there exists a Positive correlation between the Technical Qualities and coach ability.

**Correlation between the body control and the coach ability**

The following table gives the correlation between the body control and coachability

**Table 5:** Table showing the correlation between the body control and coach ability

<b>Correlations</b>			
		<b>Body Control</b>	<b>Coachability</b>
Body Control	Pearson Correlation	1	0.050
	Sig. (2-tailed)		0.458
	N	221	221
Coach ability	Pearson Correlation	0.050	1
	Sig. (2-tailed)	0.458	
	N	221	221

(Source: Computed data) \* Significance 0.05

### Inference

It can be understood from the table that the correlation coefficient between the body control and coach ability is 0.050. This implies that there exists a Positive correlation between the body control and coach ability.

### Conclusion

Based on the above results it is been concluded that the physical and physiological components need to be analyzed as it decides the success of the individual as well as the team. Hence fitness factors are to be kept in mind by the individual players as it the control over the body entirely. These factors may lead towards an effective performance of the individual and the team. Hence it is been revealed that age factors has a direct relationships with body control as well as the technical qualities. The factors under physical and physiological measures provide guidance towards the coach as well as the players on the improvements regarding the enhancement of the success rate of the football game.

### References

1. Yobu A. Test, Measurement and Evaluation in Physical Education in Physical Education and Sports” Friends Publications (India), New delhi, 2010, 188-189.
2. Gupta AK. Test and Measurement in Physical Education, Sports Publications, Ashok Vihar, Delhi, 2003, 156-162.
3. Greg Gatz. Complete Conditioning for Soccer”, Human Kinetics, USA, 2009, 25.
4. Pyne DB, Gardner AS, Sheehan K, Hopkins WG. “Positional differences in fitness and anthropometric characteristics in Australian football, Journal of Science and Medicine in Sport. 2006; 9(1-2):143-50.
5. Wisbey B, Montgomery PG, Pyne DB, Rattray B. Quantifying movement demands of AFL football using GPS tracking, Journal of Science and Medicine in Sport, 2009. <http://www.ncbi.nlm.nih.gov/sites/entrez>.
6. Caterina Pesce, Antonio Tessitore, Rita Casella, Mirella Pirritano, Laura Capranica. Focusing of visual attention at rest and during physical exercise in soccer players, Journal of Sports Sciences. 2007; 25(11):1259-1270.
7. Mirkov D, Nedeljkovic A, Kukolj M, Ugarkovic D, Jaric S. Evaluation of the reliability of soccer-specific field tests, Journal of Strength and Conditioning Research, The Research Center, Faculty for Sports and Physical Education, Belgrade, Serbia. 2008; 22(4):1046-1050.