

A Comparative Study Fundamental Skill Profiles of Male Roll Ball players of Asia, Africa, South America and Europe

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ABSTRACT

Roll Ball is a team game played on roller skates with the ball repeatedly bounced on the ground and shooting it in to the opponent's goal post. Speed, balance, accuracy and teamwork are the 4 very important aspects of Roll Ball. The main aim of this study was to compare the fundamental skill profiles of Male Roll Ball players of Asia, Africa, South America and Europe. A total of 93 players playing at the International Level from four continents viz. Asia - 49, Africa - 14, South America - 15 and Europe - 15 were assessed for fundamental skills of Roll Ball. The players underwent skill profiles testing (20mts dribbling, shooting and sprint and turn). The present research aimed at comparing the performance variables of Male Roll Ball players of the above four continents. The objective of identifying general performance profile and comparing them was successfully accomplished.

Keywords : Roll Ball, profile, fundamental skills

Introduction

In recent decades, the application of scientific ideas to sports has exploded. This progress in the game's scientific and technical aspects aids the player in achieving new levels of success. These performances far exceed our wildest hopes and expectations. The demands of the games, as well as the essence of the games, are increasingly evolving as a result of the coach's and athletes' scientific research-based approach.

In the year 2003, a physical education teacher from Pune, India invented this game called Roll Ball and gave a new game to the world. While teaching roller skating to the students a basketball from the other court came into his area and the students started dribbling

the ball while roller skating. This struck to his mind and after a lot of study of various games he invented the game of Roll Ball.

Roll Ball is played on roller skates without stoppers. This is a team game. The players dribble and pass the ball on to the other players and shoot the ball in to the opponent's goal post. This game requires a lot of skills and is a very fast and free flowing game. Since 2003, many international championships have been conducted including 5 World Cups, 3 Asian Championships and 3 South Asian Championships along with many international series.

Roll Ball is getting popular and is being played in around 55 countries spread across 5 continents of Asia, Africa, South America, Europe and Oceania. As a result, meeting the demands of coaches for the selection of suitable players at the international level based on their fundamental skill criteria has become critical.

Several studies have looked at the physical, physiological, psychological, and anthropometric features of professional athletes in various sports. The majority of these studies focus on the types of profiles required for specific sports such as soccer, basketball, rugby, cycling, tennis, rowing and handball. Players of various sports and positions have different physical and physiologic profiles, according to research. One of the main factors for the game's success level to continue to grow is the profiling of players.

However, it appears that in India, funding is restricted to only the best athletes and a selected few sports. Several studies have shed light on the anthropometric and physical variables of Indian players based on their games (Naik, 2009), R. Kalidasan (2011), (Pawar.V, 2012).

Roll Ball is dependent on a number of variables, including the player's psychological, emotional, and physical fitness, as well as criteria, fundamental abilities, and anthropometric components. All 12 players on the team must be quick, agile, powerful, long-lasting, and balanced. Due to the researcher's limitations, only fundamental skills were chosen for this study.

Methodology

The current analysis is a descriptive research profile aimed at defining the characteristics that distinguish Male Roll Ball players from Asia, Africa, South America and Europe. This research is based on a descriptive survey design.

This research included 93 male Roll Ball players from Asia, Africa, South America, and Europe. The players were between the ages of 18 and 38. All participating players gave their consent prior to the fitness testing. The players had their skill profiles checked

on roller skates, which included speed, accuracy, balance, agility, and skate control (20mts dribbling, shooting and sprint and turn). The above test-items were verified to be included in the test after consulting with numerous experts in the fields of physical education and sports as well as the International Roll Ball Federation, and taking into account the current investigator's extensive professional experience. In reality, this ensured the test's content validity.

Standard tests were provided to measure the objects of each dimension for data collection. The investigator gathered appropriate equipment based on the existence of the variables (i.e. fundamental skills variables). These devices, on the other hand, were carefully examined and their operational status was tested to ensure accuracy.

Analysis of Data

The general performance profile of Roll Ball players of Asia, Africa, South America and Europe was identified for fundamental skill variable. Table No. 1, 2 and 3 show the descriptive data of 20m Dribbling, Shooting test and Sprint and Turn test of the above four continents while Table No. 3, 4 of and 5 shows the comparison of fundamental skills in men Roll Ball players of Asia, Africa, South America and Europe.

Results

Table 1 : Descriptive Analysis of 20 m Dribbling (seconds) of Roll Ball Players from Asia, Africa, South America and Europe (N=93)

	Asia	Africa	South America	Europe
Mean	5.20	4.07	4.41	5.01
Standard Error	0.18	0.10	0.07	0.15
Median	4.72	4.00	4.34	4.73
Mode	4.52	4.00	4.21	4.73
SD	1.27	0.36	0.29	0.58
Skewness	1.17	-0.03	1.24	0.32
Range	5.03	1.10	1.32	1.58
Minimum	3.67	3.50	3.89	4.34
Maximum	8.70	4.60	5.21	5.92

In TABLE1, the statistical output about 20m dribbling test is summarized. Concerning the variable speed on roller skates, 20m dribbling test scores were analyzed and the range of performing 20m dribbling on roller skates was calculated. It is found that subjects from Asia, Africa, South America and Europe were tested for speed, clocked between 3.67 to

8.70 sec, 3.50 to 4.60 sec, 3.89 to 5.21 sec and 4.34 to 5.92 sec respectively. Selected subjects clocked average 5.20, 4.07, 4.41 and 5.01 sec respectively.

On the basis of standard deviations and means it is inferred that middle 68.26% subjects could clock 3.93 to 6.47 sec for Asia, 3.71 to 7.78 sec for Africa, 4.12 to 4.7 sec for South America and 4.43 to 5.59 sec for Europe.

Table 2 : A Test of Significance Difference between the Means of 20 m Dribbling Test

Source	Sum of Squares	df	Mean Square	F	Sig
Between Groups	17.757	3	5.919	6.220	.001
Within Groups	84.695	89	.952		
Total	102.452	92			

From Table 2, the F value for continent comparison is 6.220 which are statistically significant at 0.05.

Table 3 : Comparison of Each Continent in 20 m Dribbling test

(I) Continent	(J) Continent	Mean Difference (I-J)	Std Error	Sig
Asia	South America	.78917*	.28786	.007
	Africa	1.13041*	.29563	.000
	Europe	.19117	.28786	.508
South America	Africa	.34124	.36251	.349
	Europe	-.59800	.35621	.097
Africa	Europe	-.93924*	.36251	.011

* The mean difference is significant at the 0.05 level.

Table 3 indicates the result of 20m dribbling for players of Asia, Africa, South America and Europe. The mean scores of 20m dribbling of the subjects of Asia, Africa, South America and Europe are significantly different at the 0.05 level. There is significant difference between Asia and South America (.78917*), Asia and Africa (1.13041*) and Africa and Europe (-.93924*). There is no significant difference between Asia and Europe (.19117), South America and Africa (.34124) and South America and Europe (-.59800). This means that the performance of the African players is better than that of Asian, South American and European players, while the performance of South American players is better than Asian and European players and the performance of the European players are better than that of the Asian players. The table indicates that the African players are the fastest on skates while dribbling the ball than the players of other three continents.

Table 4 : Descriptive Analysis of Shooting Test of Roll Ball Players from Asia, Africa, South America and Europe

	Asia	Africa	South America	Europe
Mean	7.04	1.57	5.13	5.33
Standard Error	0.19	0.23	0.34	0.30
Median	7.00	1.50	5.00	5.00
Mode	8.00	1.00	6.00	5.00
SD	1.31	0.85	1.30	1.18
Skewness	-0.20	0.18	-0.28	-0.15
Range	6.00	3.00	4.00	4.00
Minimum	4.00	0.00	3.00	3.00
Maximum	10.00	3.00	7.00	7.00

In TABLE 4, the statistical output about shooting test is summarized. Concerning the variable accuracy with the ball on roller skates, shooting test scores were analyzed and the range of performing shooting test on roller skates was calculated. It is found that subjects from Asia, Africa, South America and Europe were tested for accuracy, scored between 4 to 10 points, 0 to 3 points, 3 to 7 points and 3 to 7 points respectively. Selected subjects scored average 7 (7.04), 2 (1.57), 5 (5.13) and 5 (5.33) points respectively.

On the basis of standard deviations and means it is inferred that middle 68.26% subjects could score 5.73 (6) to 8.35 (8) for Asia, 0.72 (1) to 2.42 (2) for Africa, 3.83 (4) to 6.43 (6) for South America and 4.15 (4) to 6.51 (7) sec for Europe.

Table 5 : A Test of Significance Difference between the Means of Shooting Test

Source	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	333.156	3	111.052	73.532	.000
Within Groups	134.414	89	1.510		
Total	467.570	92			

From Table 5, the F value for continent comparison is 73.532 which are statistically significant at 0.05.

Table 6 : Comparison of Each Continent in Shooting Test

(I) Continent	(J) Continent	Mean Difference (I-J)	Std Error	Sig
Asia	South America	1.907*	.363	.000
	Africa	5.469*	.372	.000
	Europe	1.707*	.363	.000
South America	Africa	3.562*	.457	.000
	Europe	-.200	.449	.657
Africa	Europe	-3.762*	.457	.000

* The mean difference is significant at the 0.05 level.

Table 6 indicates the result of shooting test for players of Asia, Africa, South America and Europe. The mean scores of shooting test of the subjects of Asia, Africa, South America and Europe are significantly different at the 0.05 level. There is significant difference between Asia and South America (1.907*), Asia and Africa (5.469*), Asia and Europe (1.707*), South America and Africa (3.562*) and Africa and Europe (-3.762*) while there is no significant difference between South America and Europe (-.200). This shows that the performances of Asian players are better than South America, Africa and Europe. It is also seen that the mean difference between South America and Europe is (-.200) which determines that the performances of European players are better than South America and Africa.

Table 7 : Descriptive Analysis of Sprint and Turn Test of Roll Ball Players from Asia, Africa, South America and Europe

	Asia	Africa	South America	Europe
Mean	7.12	3.07	4.33	5.60
Standard Error	0.21	0.38	0.19	0.32
Median	7.00	3.00	4.00	6.00
Mode	8.00	3.00	5.00	6.00
SD	1.45	1.44	0.72	1.24
Skewness	-0.09	-0.69	-0.63	-0.65
Range	6.00	5.00	2.00	4.00
Minimum	4.00	0.00	3.00	3.00
Maximum	10.00	5.00	5.00	7.00

In TABLE 7, the statistical output about sprint and turn test is summarized. Concerning the variables agility and balance on roller skates, sprint and test scores were analyzed

and the range of performing sprint and turn on roller skates was calculated. It is found that subjects from Asia, Africa, South America and Europe were tested for agility and balance, clocked between 4 to 10 points, 0 to 5 points, 3 to 5 points and 3 to 7 points respectively. Selected subjects clocked average 7, 3, 4 and 5 points respectively.

On the basis of standard deviations and means it is inferred that middle 68.26% subjects could score 5.67 (6) to 8.57 (9) points for Asia, 1.63 (2) to 4.51 (5) points for Africa, 3.61 (4) to 5.05 (5) points for South America and 4.36 (4) to 5.84 (6) points for Europe.

Table 8 : A Test of Significance Difference Between the Means of Sprint and Turn test

Source	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	222.762	3	74.255	42.060	.000
Within Groups	157.127	89	1.765		
Total	379.892	92			

From Table 8, the F value for continent wise comparison is 42.060 which is statistically significant at 0.05.

Table 9 : Comparison of Each Continent in Sprint and Turn Test

(I) Continent	(J) Continent	Mean Difference (I-J)	Std Error	Sig
Asia	South America	2.789*	.392	.000
	Africa	4.051*	.403	.000
	Europe	1.522*	.392	.000
South America	Africa	1.262*	.494	.012
	Europe	-1.267	.485	.011
Africa	Europe	-2.529*	.494	.000

* The mean difference is significant at the 0.05 level.

Table 9 indicates the result of sprint and test for players of Asia, Africa, South America and Europe. The mean scores of sprint and turn test of the subjects of Asia, Africa, South America and Europe are significantly different at the 0.05 level. There is significant difference between Asia and South America (2.789*), Asia and Africa (4.051*), Asia and Europe (1.522*), South America and Africa (1.262*) and Africa and Europe (-2.529*), while there is no significant difference between South America and Europe (-1.267). This shows that the performances of Asian players are better than South America, Africa and Europe while the performance of South American players is better than Africa (1.262*). However the performance of European players (-1.267) is better than that of South America.

Discussion

The Mean scores of fundamental skills variables formed the profile and a mode of comparison of Male Roll Ball players of Asia, Africa, South America and Europe.

Roll Ball is a team game which requires Team Coordination, Balance, Speed and Accuracy along with good Fundamental Skills of Roll Ball. As per the research the parameters of the Asian players were better in all the Roll Ball Fundamental Skill tests than the other three continents which depict their performance in the competitions and have been winners on most of the occasions in World Cup Championships.

Profiling the athlete on various parameters has been proved to be very important in different stages of athlete's life, right from the choice of sport, to the development of training program, and high level of performance. In this study, the players were profiled and compared in general fundamental skill variables.

Conclusion

The present research aimed at comparing the fundamental skill variables of Male Roll Ball players of Asia, Africa, South America and Europe. The objective of identifying general performance profile and comparing was successfully accomplished.

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