Comparative analysis of motoric abilities between two groups of football referees from Kosovo

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Abstract

The aim of this research is to define the difference between two groups of football referees from Kosovo; 15 referees from Super league and 15 referees from First league, based on some motoric abilities. Referees have been tested on these motor abilities; 6x40m running, 7x150m running and 7x50m walking. Equipment and standard procedures are used during the test. In each of these motor abilities are counted central, basic and distribution parameters; arithmetical average, standard deviation, minimal rate, maximal rate, and distribution parameters (Skewness, Kortosis). In order to prove the difference between those two groups of referees is applied T-test analysis. The level of significance was set ($p<0.05$). Results showed that during the execution of 40m and 150m running referees have run slowly on their first attempt this was saving energy for

later attempts. Based on these findings of the study, appropriate conclusions and recommendations are made.

Introduction

A referee is the umpire who must have special knowledge of the rules and regulations in association football. The media coverage and difficulty of the job of the referee has increased dramatically over the years. Indeed, match analysis has shown that in 2006 World Cup, 15.4% referee's decisions were apparently wrong. Similarly, in 2010 World Cup, 26% of offside decisions were wrong when closely examined using TV images. Referees have been shown to have to make a decision every 40 seconds at the top level (http:/www.soccer performance.org/html/home.htm, 2011).

The responsibilities of soccer referees are to control players' behaviour and implement the rules of the game during competitive football. These place strenuous task on the referee's speed performances as well as biophysiological functioning.

Abass (2005) supported that; aerobic ability cannot see a soccer referee through successfully in ball games because of these frequent changes of space and need for sudden sprints. Sumiya, Tashima, Nakahara, and Shohoji (2001) submitted that attempt for referees to carry out their functions demands for maturity in terms of age, a biological parameter. They added that age poses strenuous task on the cardiorespiratory functioning of any individual and mostly referees and that soccer referees must be reaching and maintaining a high level of fitness. In this direction, therefore, referees must maintain a constant training programmed from time to time as they mature with officiating age. Asagba (2004) contributed by saying that, a soccer referee is supposed to be within 10 to 15m range from the ball at any time during play. Baumhakel, Kindermann, Kindermann and Bohn (2007) submitted that referees should have good physical condition as requirements during a match.

Football, or soccer as it is known in America, is one of the most important sports today. According to Rainea (2005), the most famous Romanian referees, football is not only what you see on the pitch, the fight between two teams for victory, but also it is a passion; it is a sophisticated machine which brings together energies, people, money and a huge amount of diplomacy.

According to Castagna (2007), the physical requirements of top-level football referees have shown them to run similar distances as professional players. For example, referees in the English premier league ran 9.5km and an International level referee was found to run 11.36km. He concluded that referees covered 47% of the distance at a jogging pace, 23% walking, 12% sprinting and 18% running backwards. In line with the above, Caballero, Ojeda, Garcia-Aranda, Mallo, Werner, Sarmeinto and Valdivielso (2011) stated that referees play a crucial role in modern soccer and the importance of decision during match-play can be critical for the final score of the match. Abass et al (2011) concluded that the Nigerian soccer referees are always seen to have good speed performance when officiating in the National Professional League competition.

Raylor and Donovan (2013) in their opinion, stated that physical fitness involves three separate skills i.e. endurance, speed and agility, all of which are critical for performing at your best. They said that the element of fitness that is critical for effective refereeing is speed. For example, they said when a defender clears the ball from a corner kick to an attacker at midfield and you are at the top of the penalty area you need to have the speed to chase after the counterattack. They suggested that, the best way to develop speed is through interval training which can be based on distance, time or both and generally consist of a ladder of increasing time or distance with increasing times or rest. They concluded that working on your endurance and speed through long runs and interval workouts will help ensure you are fit and prepare you for the demands of the 90 minutes or 120 minutes as the case may be.

Training for referees should therefore be similar to that of players, i.e. endurance runs, speed and strength training and stretching. Professionally, referees should be training at least 3-4 times a week. If we take into account the fact that many top referees also work professionally and are often 10-15 years older than players (and undergo similar physical stresses as players who take part in matches) one can understand the difficulty of the job (Baumhakel, et.al, 2007). The standard test to estimate running speed is the 50 yard dash developed by American Alliance for Health, Physical Education, Recreation and Dance (1976).

Methodology

The study is an experimental research design where profiles of football referees from two categories; Super league and First league from Kosovo are compared. The purpose is to compare selected motor fitness profiles to determine whether or not is any significant difference between the two groups. The population of the study consisted of 30 referees from Republic of Kosovo, 15 from Super league and 15 from First league. These subjects (referees) were certified by Football Federation of Kosovo (FFK) as having been travelling out for league matches or other competitions of similar importance. Referees have been tested on these motor abilities; 6x40m running, 7x150m running and 7x50m walking. Equipment and standard procedures are used during the test. In each of these motor abilities are counted central, basic and distribution parameters; arithmetical average, standard deviation, minimal rate, maximal rate, and distribution parameters (Skewness, Kortosis). In order to prove the difference between those two groups of referees is applied T-test. The level of significance was set ($p<0.05$).

The aim of this research is to define the difference between two group of football referees from Kosovo; 15 referees from super league and 15 referees from first league, based on some motoric abilities.

Results

Table 1. Basic stastistic parameters of motoric variables of Super league football referees in 40 meters running

	N	Min	Max	Ma	DS	Skewness	Kurtosis
VR401	15	5.70	7.03	6.2793	.3288	.517	.748
VR402	15	5.45	6.75	6.1233	.4014	.285	-.894
VR403	15	5.51	6.88	6.0647	.3449	.541	1.140
VR404	15	5.58	6.57	5.9333	.2590	1.047	1.072
VR405	15	5.60	6.67	6.0167	.2942	.931	.383
VR406	15	5.62	6.74	6.0080	.2959	1.015	1.435
MEAN				**6.0710**			
RRND				**6.2000**			
RRKO				**6.4000**			

In table 1, are shown basic statistic parameters of motor abilities of Super league football referees, when are included arithmetic average, minimal result, maximal result, standard deviation, Skewness, Kurtosis. The arithmetical average of variable in 6x40 meters running in all attempts, measures the running speed of this variable and shows a difference between the referees tested. Even thought there is a difference between minima and maximal results, it is clearly shown that flexibility and convexity of distribution gained (Skewness and Kurtosis) shown that there isn't any important deviation from normal distribution.

Table 2. Basic ststistic parameters of motoric variables of First league football referees in 40 meters running

	N	Min	Max	Ma	DS	Skewness	Kurtosis
VR401	15	5.48	6.39	5.8887	.2550	.420	.117
VR402	15	5.25	5.88	5.6640	.1617	-1.391	2.148
VR403	15	5.00	6.01	5.6060	.2628	-.701	.860
VR404	15	5.26	6.10	5.6987	.2524	-.065	-.868
VR405	15	5.22	6.29	5.8027	.3324	-.268	-.471
VR406	15	5.36	6.34	5.8507	.2774	.014	-.636
MEAN				**5.7518**			
REND				**6.2000**			
REKO				**6.4000**			

In table 2, are shown basic statistic parameters of motor abilities of First league football referees, when are included arithmetic average, minimal result, maximal result, standard deviation, Skewness, Kurtosis. The arithmetical average of variable in 6x40 meters running in all attempts, measures the running speed of this variable and shows a difference between the referees tested. Even thought there is a difference between minima and maximal results, it is clearly shown that flexibility and convexity of distribution gained (Skewness and Kurtosis) shown that there isn't any important deviation from normal distribution.

Table 3. Basic statistic parameters of motoric variables of Super league football referees in 150 meters running

	N	Min	Max	Ma	DS	Skewness	Kurtosis	
VR1501	15	27.00	30.00	28.5333	1.0601	.315	-1.139	
VR1502	15	28.00	30.00	29.2667	.7037	-.433	-.669	
VR1503	15	27.00	30.00	28.8667	.8338	-.579	.502	
VR1504	15	27.00	30.00	28.3333	.8997	.578	-.006	
VR1505	15	27.00	30.00	28.6667	.8165	-.168	-.033	
VR1506	15	28.00	30.00	29.3333	.8165	-.740	-1.022	
VR1507	15	27.00	30.00	28.7333	.8837	-.116	-.485	
MEAN				**28.8200**				
REND				**30.0000**				
REKO				**30.0000**				

In table 3, are shown basic statistic parameters of motor abilities of Super league football referees, when are included arithmetic average, minimal result, maximal result, standard deviation, Skewness, Kurtosis. Even thought there is a difference between minima and maximal results in all 7x150 meters runing attempts, it is clearly shown that flexibility and convexity of distribution gained (Skewness and Kurtosis) shown that there isn't any important deviation from normal distribution.

Table 4. Basic statistic parameters of motoric variables of Super league football referees in 50 meters walking

	N	Min	Max	Ma	DS	Skewness	Kurtosis	
EC501	15	38.00	40.00	38.9333	.7988	.128	-1.348	
EC502	15	38.00	40.00	39.0000	.8452	.000	-1.615	
EC503	15	35.00	40.00	39.1333	1.5976	-1.947	2.903	
EC504	15	36.00	40.00	38.3333	1.1127	-1.130	1.137	
EC505	15	35.00	40.00	38.5333	1.8074	-1.193	.155	
EC506	15	38.00	40.00	38.8667	.8338	.274	-1.499	
EC507	15	36.00	40.00	38.8000	1.2071	-.967	.556	
MEAN				**38.7999**				
REND				**35.0000**				
REKO				**40.0000**				

In table 4, are shown basic statistic parameters of motor abilities of Super league football referees, when are included arithmetic average, minimal result, maximal result, standard deviation, Skewness, Kurtosis. Even thought there is a difference between minima and maximal results in all 7x50 meters attempts, it is clearly shown that flexibility and convexity of distribution gained (Skewness and Kurtosis) shown that there isn't any important deviation from normal distribution.

Table 5. Basic statistic parameters of motoric variables of First league football referees in 150 meters running

	N	Min	Max	Ma	DS	Skewness	Kurtosis	
VR1501	15	28.00	30.00	29.2000	.6761	-.256	-.505	
VR1502	15	28.00	30.00	29.0667	.7988	-.128	-1.348	
VR1503	15	26.00	30.00	28.6667	1.1127	-.665	.851	
VR1504	15	26.00	30.00	28.5333	1.1255	-.616	.425	
VR1505	15	27.00	30.00	29.0000	1.0000	-.495	-.912	
VR1506	15	26.00	30.00	28.2667	1.2228	-.046	-.717	
VR1507	15	26.00	29.00	27.8667	.9904	-.719	-.113	
MEAN				**28.6571**				
REND				**32.0000**				
REKO				**34.0000**				

In table 5, are shown basic statistic parameters of motor abilities of First league football referees, when are included arithmetic average, minimal result, maximal result, standard deviation, Skewness, Kurtosis. Even thought there is a difference between minima and maximal results in all 7x150 meters running attempts, it is clearly shown that flexibility and convexity of distribution gained (Skewness and Kurtosis) shown that there isn't any important deviation from normal distribution.

Table 6. Basic statistic parameters of motoric variables of First league football referees in 50 meters walking

	N	Min	Max	Ma	DS	Skewness	Kurtosis
EC501	15	34.00	40.00	38.4000	2.3543	-1.049	-.783
EC502	15	37.00	40.00	39.2667	1.0328	-1.065	-.221
EC503	15	34.00	40.00	37.0667	1.7915	-.029	-1.120
EC504	15	36.00	40.00	38.2667	1.0998	-.237	.046
EC505	15	35.00	40.00	38.0000	1.2536	-1.004	1.482
EC506	15	34.00	39.00	36.2667	1.4376	.460	-.684
EC507	15	35.00	39.00	37.1333	1.5055	.031	-1.632
MEAN				**37.7715**			
REND				**35.0000**			
REKO				**40.0000**			

In table 6, are shown basic statistic parameters of motor abilities of First league football referees, when are included arithmetic average, minimal result, maximal result, standard deviation, Skewness, Kurtosis. Even thought there is a difference between minima and maximal results in all 7x50 meters walking attempts, it is clearly shown that flexibility and convexity of distribution gained (Skewness and Kurtosis) shown that there isn't any important deviation from normal distribution.

Discriminative analysis of motoric test between football referees from Super league and Fist league

Table 7. The difference in 40 meters running in 6 attempts of the referees from Super league.

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)	
				Lower	Upper				
VR401 - VR402	.1560	.5544	.1431	-.1510	.4630	1.090	14	.294	
VR401 - VR403	.2147	.5099	.1316	-.0676	.4970	1.631	14	.125	
VR401 - VR404	.3460	.4213	.1088	.1127	.5793	3.181	14	.007	
VR401 - VR405	.2627	.1864	.0481	.1594	.3659	5.457	14	.000	
VR401 - VR406	.2713	.2622	.0677	.1261	.4165	4.008	14	.001	
VR402 - VR403	.0586	.4927	.1272	-.2142	.3315	.461	14	.652	
VR402 -VR404	.1900	.3054	.0788	.0209	.3591	2.410	14	.030	
VR402 - VR405	.1067	.5227	.1350	-.1828	.3962	.790	14	.443	
VR402 - VR406	.1153	.5013	.1294	-.1623	.3929	.891	14	.388	
VR403 - VR404	.1313	.4575	.1181	-.1220	.3847	1.112	14	.285	
VR403 - VR405	.0480	.4632	.1196	-.2085	.3045	.401	14	.694	
VR403 - VR406	.0566	.4593	.1186	-.1977	.3110	.478	14	.640	
VR404 - VR405	-.0833	.3828	.0988	-.2953	.1287	-.843	14	.413	
VR404 - VR406	-.0746	.3908	.1009	-.2911	.1417	-.740	14	.472	
VR405 - VR406	.0866	.2755	.0711	-.1439	.1612	.122	14	.905	

In table 7, we can notice that exists a significant statistic difference in arithmetical average measure between first and six running in 40m. This difference is important in level ($p<0.01$). The difference gained shows that the referees have run slowly in their first attempts, this way to save energy for their last attempts.

Table 8. The difference between 40m running of 6 attempts of referees from first league

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
VR401 - VR402	.2247	.2868	7.406E-02	.0658	.3835	3.034	14	.009
VR401 - VR403	.2827	.3551	9.169E-02	.0860	.4793	3.083	14	.008
VR401 - VR404	.1900	.3939	.1017	-.0281	.4081	1.868	14	.083
VR401 - VR405	.0860	.4711	.1216	-.1749	.3469	.707	14	.491
VR401 - VR406	.0380	.4064	.1049	-.1871	.2631	.362	14	.723
VR402 - VR403	.0580	.3175	8.198E-02	-.1178	.2338	.707	14	.491
VR402 -VR404	-.0346	.2916	7.530E-02	-.1962	.1268	-.460	14	.652
VR402 - VR405	-.1387	.4351	.1123	-.3796	.1023	-1.234	14	.237
VR402 - VR406	-.1867	.3422	8.836E-02	-.3762	2.856E-03	-2.112	14	.053
VR403 - VR404	-.0926	.2972	7.673E-02	-.2572	7.190E-02	-1.208	14	.247
VR403 - VR405	-.1967	.3701	9.556E-02	-.4016	8.293E-03	-2.058	14	.059
VR403 - VR406	-.2447	.4502	.1163	-.4940	4.666E-03	-2.105	14	.054
VR404 - VR405	-.1040	.3645	9.411E-02	-.3058	9.784E-02	-1.105	14	.288
VR404 - VR406	-.1520	.3679	9.499E-02	-.3557	5.173E-02	-1.600	14	.132
VR405 - VR406	-.0480	.3445	8.895E-02	-.2388	.1428	-.540	14	.598

In table 8, we can notice that exists a significant statistic difference in arithmetical average measures between first and second running, and first and third running in 40m. This difference is important in level (p<0.01). The difference gained shows that the referees have run slowly in their first trying, this way saving energy for their last attempts.

Table 9. The difference between two group of football referees; Super league and Firs league in 40 meters running of 6 attempts

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
				Lower	Upper				
VR401S - VR401L	.3907	.4815	.1243	.1240	.6573	3.143	14	.007	
VR402S- VR402L	.4593	.4614	.1191	.2038	.7149	3.855	14	.002	
VR403S - VR403L	.4587	.4175	.1078	.2275	.6899	4.255	14	.001	
VR404S - R404L	.2347	.2758	.0712	8.194E-02	.3874	3.296	14	.005	
VR405S - VR405L	.2140	.3658	.0944	1.140E-02	.4166	2.266	14	.040	
VR406S - VR406L	.1573	.3617	.0934	-4.2987E-02	.3577	1.685	14	.114	

In table 9, we notice that exists a significant arithmetic difference in some rates of arithmetic average between two groups of referees in 40m running in 6 attempts expect in the last one. This difference is important in level (p<0.01). The gained difference shows that Super League referees have run slowly in all attempts expect the last one.

Table 10. The difference in 150 meters running in 7 attempts of referees from Super League.

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
VR150S1 – VR150L2	-.7333	1.1629	.3003	-1.3773	-.0893	-2.442	14	**.028**
VR150S1 – VR150L3	-.3333	1.1751	.3034	-.9841	.3174	-1.099	14	.290
VR150S1 – VR150L4	.2000	1.5213	.3928	-.6425	1.0425	.509	14	.619
VR150S1– VR150L5	-.1333	1.1255	.2906	-.7566	.4899	-.459	14	.653
VR150S1 – VR150L6	-.8000	1.5213	.3928	-1.6425	.0424	-2.037	14	.061
VR150S1 – VR150L7	-.2000	1.6987	.4386	-1.1407	.7407	-.456	14	.655
VR150S2 – VR150L3	.4000	.7368	.1902	-.0801	.8080	2.103	14	.054
VR150S2 – VR150L4	.9333	1.2799	.3305	.2246	1.6421	2.824	14	**.014**
VR150S2 – VR150L5	.6000	.9103	.2350	.0959	1.1041	2.553	14	**.023**
VR150S2 – VR150L6	-.0666	1.0328	.2667	-.6386	.5053	-.250	14	.806
VR150S2 – VR150L7	.5333	1.3020	.3362	-.1877	1.2544	1.586	14	.135
VR150S3 – VR150L4	.5333	1.5055	.3887	-.3004	1.3671	1.372	14	.192
VR150S3 – VR150L5	.2000	1.0142	.2619	-.3616	.7616	.764	14	.458
VR150S3 – VR150L6	-.4667	1.3020	.3362	-1.1877	.2544	-1.388	14	.187
VR150S3 – VR150L7	.1333	1.5976	.4125	-.7514	1.0181	.323	14	.751
VR150S4 – VR150L5	-.3333	1.1751	.3034	-.9841	.3174	-1.099	14	.290
VR150S4 – VR150L6	-1.0000	1.1952	.3086	-1.6619	-.3381	-3.240	14	**.006**
VR150S4 – VR150L7	-.4000	.9103	.2350	-.9041	.1041	-1.702	14	.111
VR150S5 – VR150L6	-.6667	1.2344	.3187	-1.3503	.0169	-2.092	14	.055
VR150S5 – VR150L7	-.0666	1.3870	.3581	-.8348	.7014	-.186	14	.855
VR150S6 – VR150L7	.6000	1.0556	.2726	.0154	1.1846	2.201	14	**.045**

In this table is noticed a significant difference in some arithmetic average rates between first and second running, second and third, second and fifth, fourth and sixth, sixth and seven, in 150 meters running. This difference is important in level ($p<0.05$). Gained difference shows that referees have run trying to keep their tempo in all attempts.

Table 11. The difference in 150 meters running in 7 attempts of referees from First league.

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
VR150S1 – VR150L2	.1333	1.0601	.2737	-.4537	.7204	.487	14	.634
VR150S1 – VR150L3	.5333	1.4075	.3634	-.2461	1.3128	1.468	14	.164
VR150S1 – VR150L4	.6667	1.3973	.3608	-.1071	1.4405	1.848	14	.086
VR150S1– VR150L5	.2000	1.1464	.2960	-.4349	.8349	.676	14	.510
VR150S1 – VR150L6	.9333	1.1629	.3003	.2893	1.5773	3.108	14	**.008**
VR150S1 – VR150L7	1.3333	1.2910	.3333	.6184	2.0483	4.000	14	**.001**
VR150S2 – VR150L3	.4000	1.3522	.3491	-.3488	1.1488	1.146	14	.271
VR150S2 – VR150L4	.5333	1.4573	.3763	-.2737	1.3404	1.417	14	.178
VR150S2 – VR150L5	.0666	1.2228	.3157	-.6105	.7438	.211	14	.836
VR150S2 – VR150L6	.8000	1.3732	.3546	.0395	1.5605	2.256	14	**.041**
VR150S2 – VR150L7	1.2000	1.3202	.3409	.4689	1.9311	3.520	14	**.003**
VR150S3 – VR150L4	.1333	1.9952	.5152	-.9716	1.2383	.259	14	.800
VR150S3 – VR150L5	-.3333	1.7995	.4646	-1.3298	.6632	-.717	14	.485
VR150S3 – VR150L6	.4000	1.5946	.4117	-.4831	1.2831	.972	14	.348
VR150S3 – VR150L7	.8000	1.6125	.4163	-.9294	1.6929	1.922	14	.075
VR150S4 – VR150L5	-.4667	1.5055	.3887	-1.3004	.3671	-1.200	14	.250
VR150S4 – VR150L6	.2667	2.0166	.5207	-.8501	1.3834	.512	14	.617
VR150S4 – VR150L7	.6667	1.0465	.2702	.0871	1.2462	2.467	14	**.027**
VR150S5 – VR150L6	.7333	1.3345	.3446	-.0057	1.4724	2.128	14	.052
VR150S5 – VR150L7	1.1333	1.3020	.3362	.4123	1.8544	3.371	14	**.005**
VR150S6 – VR150L7	.4000	1.6818	.4342	-.5314	1.3314	.921	14	.373

In this table is noticed a significant difference in some arithmetic average rates between first and sixth running, first and seventh, second and sixth, second and seventh, fourth and seventh, in 150 meters running. This difference is important in level (p<0.01). Gained difference shows that referees have run trying to keep their tempo in all attempts.

Table 12. The difference between two groups of football referees; Super league and Firs league in 150 meters running in 7 attempts

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
VR150S1 – VR150L1	-.6667	1.4960	.3863	-1.4951	.1618	-1.726	14	.106
VR150S2 – VR150L2	.2000	1.2649	.3266	-.5005	.9005	.612	14	.550
VR150S3 – VR150L3	.2000	1.5213	.3928	-.6425	1.0425	.509	14	.619
VR150S4 – VR150L4	-.2000	1.8974	.4899	-1.2507	.8507	-.408	14	.689
VR150S5 – VR150L5	-.3333	1.4960	.3863	-1.1618	.4951	-.863	14	.403
VR150S6 – VR150L6	1.0667	1.3870	.3581	.2986	1.8348	2.978	14	.010
VR150S7– VR150L7	.8667	1.4573	.3763	.0596	1.6737	2.303	14	.037

In this table is noticed a significant difference in some arithmetic average rates between first and sixth running, first and seventh, second and sixth, second and seventh, fourth and

seventh, in 150 meters running. This difference is important in level (p<0.01). Gained difference shows that referees have run slowly trying to keep their tempo in all attempts.

Table 13. The difference in 50 meters walking in 7 attempts of referees from Super league.

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
MW50S1 – MW50L2	-.6666	1.1629	.3003	-.7107	.5773	-.222	14	.827
MW50S1 – MW50L3	-.2000	1.2649	.3266	-.9005	.5005	-.612	14	.550
MW50S1 – MW50L4	.6000	1.5492	.4000	-.2579	1.4579	1.500	14	.156
MW50S1– MW50L5	.4000	1.9928	.5146	-.7036	1.5036	.777	14	.450
MW50S1 – MW50L6	.0666	.5936	.1533	-.2621	.3954	.435	14	.670
MW50S1 – MW50L7	.1333	1.4075	.3634	-.6461	.9128	.367	14	.719
MW50S2 – MW50L3	-.1333	1.6417	.4239	-1.0425	.7758	-.315	14	.758
MW50S2 – MW50L4	.6667	1.1127	.2873	.0504	1.2829	2.320	14	.036
MW50S2 – MW50L5	.4667	1.8848	.4866	-.5771	1.5104	.959	14	.354
MW50S2 – MW50L6	.1333	1.0601	.2737	-.4537	.7204	.487	14	.634
MW50S2 – MW50L7	.2000	1.7403	.4493	-.7637	1.1637	.445	14	.663
MW50S3 – MW50L4	.8000	2.1448	.5538	-.3877	1.9877	1.445	14	.171
MW50S3 – MW50L5	.6000	2.6403	.6817	-.8622	2.0622	.880	14	.394
MW50S3 – MW50L6	.2667	1.4376	.3712	-.5294	1.0628	.718	14	.484
MW50S3 – MW50L7	.3333	2.0237	.5225	-.7873	1.4540	.638	14	.534
MW50S4 – MW50L5	-.2000	2.4260	.6264	-1.5435	1.1435	-.319	14	.754
MW50S4 – MW50L6	-.5333	1.4573	.3763	-1.3404	.2737	-1.417	14	.178
MW50S4 – MW50L7	-.4667	1.9591	.5058	-1.5516	.6182	-.923	14	.372
MW50S5 – MW50L6	-.3333	2.0931	.5404	-1.4924	.8258	-.617	14	.547
MW50S5 – MW50L7	-.2667	1.9809	.5115	-1.3636	.8303	-.521	14	.610
MW50S6 – MW50L7	.0666	1.2799	.3305	-.6421	.7754	.202	14	.843

In this table we notice that there doesn't exist any important statistic difference in all average rates in seven attempts in 50 meters walking. This difference is not important in level (p<0.05). Gained difference shows that referees have walked in the same speed trying to keep the same tempo in all walking attempts.

Table 14. The difference in 50 meters walking in 7 attempts of referees from first league.

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
MW50S1 – MW50L2	-.8667	2.7482	.7096	-2.3885	.6552	-1.221	14	.242
MW50S1 – MW50L3	1.3333	3.6775	.9495	-.7032	3.3699	1.404	14	.182
MW50S1 – MW50L4	.1333	2.8752	.7424	-1.4589	1.7256	.180	14	.860
MW50S1– MW50L5	.4000	2.7980	.7224	-1.1495	1.9495	.554	14	.589
MW50S1 – MW50L6	2.1333	3.0206	.7799	.4606	3.8061	2.735	14	.016
MW50S1 – MW50L7	1.2667	2.3135	.5973	-.0145	2.5479	2.120	14	.052
MW50S2 – MW50L3	2.2000	1.8974	.4899	1.1493	3.2507	4.491	14	.001
MW50S2 – MW50L4	1.0000	1.5119	.3904	.1628	1.8372	2.562	14	.023
MW50S2 – MW50L5	1.2667	1.3345	.3446	.5276	2.0057	3.676	14	.002
MW50S2 – MW50L6	3.0000	2.0000	.5164	1.8924	4.1076	5.809	14	.000
MW50S2 – MW50L7	2.1333	2.3563	.6084	.8284	3.4382	3.506	14	.003
MW50S3 – MW50L4	-1.2000	1.8205	.4701	-2.2082	-.1918	-2.553	14	.023
MW50S3 – MW50L5	-.9333	1.7099	.4415	-1.8803	.0136	-2.114	14	.053
MW50S3 – MW50L6	.8000	2.2741	.5872	-.4593	2.0593	1.362	14	.195
MW50S3 – MW50L7	-.0666	2.4631	.6360	-1.4307	1.2973	-.105	14	.918
MW50S4 – MW50L5	.2667	1.3345	.3446	-.4724	1.0057	.774	14	.452
MW50S4 – MW50L6	2.0000	1.6475	.4254	1.0876	2.9124	4.702	14	.000
MW50S4 – MW50L7	1.1333	1.8074	.4667	.1324	2.1342	2.429	14	.029
MW50S5 – MW50L6	-.8667	2.7482	.7096	-2.3885	.6552	-1.221	14	.242
MW50S5 – MW50L7	1.3333	3.6775	.9495	-.7032	3.3699	1.404	14	.182
MW50S6 – MW50L7	.1333	2.8752	.7424	-1.4589	1.7256	.180	14	.860

In this table we notice that there exists an important statistic difference only between second attempts compared with others. In all other rates there isn't any difference in average. This difference is important in level ($p<0.01$). Gained difference shows that referees have gone faster in other attempts rather than in the second attempt.

Table 15. The difference between two groups of football referees; Super league and firs league in 50 meters walking in 6 attempts

	Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
MW50S1 – MW50L1	.5333	2.1336	.5509	-.6482	1.7149	.968	14	.349
ME50S2 – MW50L2	-.2667	1.5337	.3960	-1.1160	.5827	-.673	14	.512
ME50S3 – MW50L3	2.0667	2.6313	.6794	.6095	3.5238	3.042	14	.009
MW50S4 – MW50L4	.0666	1.0328	.2667	-.5053	.6386	.250	14	.806
MW50S5 – MW50L5	.5333	2.5875	.6681	-.8996	1.9663	.798	14	.438
MW50S6 – MW50L6	2.6000	1.6388	.4231	1.6925	3.5075	6.145	14	.000
MW50S7 – MW50L7	1.6667	2.1269	.5492	.4888	2.8445	3.035	14	.009

In this table we notice that there exists an important statistic difference in two last rates of arithmetic average between referees of Super league and first league in seven attempts in 50 meters walking, and between third, fifth and sixth attempt. This difference is not important in level (p<0.05). Gained difference shows that Super league referees have walked slowly in the third, the fifth and the sixth attempts.

Discussions of findings

The results of the research show that during the examination of the 40 meters and 150 meters runing, referees have mainly run slowly in theier first attempts saving condicion for their last attempts.

It is worth to mention the fact that in the execution of 40 meters running in six attempts, referees of First league have shown better results and this difference is noticet almost in all attempts expect the last attempt where referees of both leagues have almost identical results.

Similarly in 150 meters runing in seven attemps, referees of First league have shown better results, and this difference is noticed in two last attempts. So the results are almost the same in four first attempts.

The difference is the same in the execution of 50 meters walking in seven attempts, where better results have shown referees from the First league, and this difference is shown in two last attempts. So the results are almost the same in four first attempts.

Considering the need for a good sprinting ability for all referees, one could see why their standard deviation values were so negligible. Running speed is therefore a factor for successful performance in a game of soccer. Abass et.al (2011) however reported a mean of 5.33 + 0.255 seconds for Nigerian FIFA referees.

So far it has not been established as to what extent speed should be developed. It is however obvious that what is needed for these two groups is optimal running speed as referees are seen running relative to either the ball or to observe the distance of 9.15m. This was in line with Asagba (2004) who stated that, a soccer referee is supposed to be within 10 to 15m range from the ball at all times during play.

Previous studies consulted on referees; do not suggest any physical fitness norm for referees against which a comparison could be have been made. However, an average agility fitness level is required by a referee for effective performance.

Conclusions and Recommendations

The result of the statistical analysis revealed that:
1. There is no significant difference in running speed level of referees between the two groups.
2. There is no significant difference in agility level of referees between the two groups.

Based on the conclusions of the study, it was recommended that:

Even though it is not observed any significant difference in the variables tested between the two groups, and it is noticed that, the two groups were nearly perfect when compared with their counterparts, speed, agility and strength training should be included in the referees' training programme to enable them gain strength and stamina to cope with the game.

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