

Original Research

Influence of Team Ability and Players' Age on Physical and Tactical Performance According to Playing Position in Spanish Soccer LaLiga.

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Abstract: The current manuscript aims to verify if the team ability and the players' age influence the distance covered at various speeds and the technical-tactical performance in elite soccer. Physical and technical performance data from all matches in the Spanish LaLiga during the 2018–2019 season were analysed using a computerised tracking system (TRACAB, Chyronhego, New York, USA). Players were categorized into five positional roles: Central Defenders (CD; match observations = 1,179), fullbacks (FB; match observations = 980), Central Midfielders (CM; match observations = 1,000), External Midfielders (EM; match observations = 440), and forwards (F; match observations = 412). The following variables were considered: total distance covered (TD) covered by players, distance covered at high intensity (HIR; $>24.0 \text{ km} \cdot \text{h}^{-1}$), number of efforts made at high-intensity running (N of HIR), Average Speed (AvSpeed, $\text{km} \cdot \text{h}^{-1}$), Offensive Volume (Off Vol): sum of passes, shots, and dribbles executed by the player; Defensive Volume (Def Vol): sum of recoveries, clearances, opponent attack interruptions, and blocked shots executed by the player; and (iii) Game Volume (Game Vol): sum of offensive actions and defensive actions. The variable team quality was established by running an automatic clustering model (two-step) that identified 4 groups of teams: Best teams (ranked from 1st to 6th position), intermediate-higher ranked (from 7th to 11th position), intermediate-lower ranked (from 12th to 15th position), and lower ranked teams (from 16th to 20th position). Generalized linear models were used to analyse differences in players' match performance according to the team quality, age, and playing position. The main results revealed that: (i) Overall, the team quality affected the performance in all variables (all $p < 0.001$). Players from best-ranked teams outperformed the ones from intermediate or low-ranked teams in all variables ($p < 0.05$). (ii) However, this effect varied by playing position. (iii) Younger players demonstrated better physical performance compared to older players, especially among FB and CM.

Keywords: Team's quality, Physical Performance, Technical Performance, Professional Football

1. Introduction

The running performance of both professional and amateur soccer players

during matches has been studied extensively over the past three decades. In a typical soccer match, adult male players cover a total



distance of 9 to 14 km. High-intensity running, which occurs at a speed of 6.5–7.4 meters per min, accounts for approximately 8–10% of the total distance covered (Asian-Clemente et al., 2019; Bradley, Lago-Peñas, & Rey, 2014; Chmura et al., 2022; Di Mascio & Bradley, 2013; Mohr, Krstrup, & Bangsbo, 2003). This high-intensity running includes short sprints of 10–20 m lasting 2–3 seconds (Kawamori, Nosaka, & Newton, 2013). In the case of an elite international player, they perform approximately 1330 activities during a match, of which approximately 220 are high-speed runs of 2.2–2.7 meters per min (Barros et al., 2007; Di Salvo et al., 2007; Mohr et al., 2005; Rampinini et al., 2007). However, it appears that running performance during a match is influenced by several factors, including fatigue, pacing, contextual elements, tactical considerations, possession of the ball, team formation and possibly several other factors (Fernández-Navarro et al., 2018, 2020; Maneiro & Amatria, 2018; Maneiro, Amatria & Anguera, 2019, 2020; Rein & Memmert, 2016).

Nevertheless, it remains unclear how a team ability affects match running performance. Do players run more or less distance at different speeds depending on the team's strength? Previous research suggests that the success of a team may be related to the superior individual physical and technical-tactical performance of its players. However, these findings are still inconclusive, likely because some very relevant variables were not considered. In our opinion, there are two variables that should be considered, as they could modulate the effect of team ability on physical and technical-tactical performance: the playing position and the age of the

players. Formats of numbers and units and all other style matters should follow the APA Manual of Style, 6th edition.

For example, it has been shown that higher level teams spend more time in ball possession and adopt a more offensive style of play than lower-level teams and this fact may affect match running performance. Lorenzo-Martínez et al. (2021) found that ball possession is associated with the team's overall activity profile and that position-specific changes in physical profiles during matches are evident for teams depending on the time spent in possession of the ball. However, attackers (CM, EM, and F) in teams with a very high percentage of ball possession (>65%) covered fewer meters per min at each speed than their counterparts in teams with lower possession values. Conversely, the match-running performance of defenders (CD and FB) in teams with a very low percentage of ball possession (<45%) was lower, indicating that the degree of ball possession affects the physical demands of defenders differently than more offensive players. In fact, one of the most robust findings in the research literature is the relationship between playing position and match running performance in elite players (Mohr et al. 2003; Bradley et al. 2009; Di Salvo et al. 2007; Kubayi, 2019). For example, midfielders have been found to run longer total distance than the other playing positions; and that central defenders (CD) and central midfielders (CM) have been found to run shorter distances in high-intensity running and sprinting than Fullbacks (FB), external midfielders (EM) and Forwards (F) (Di Salvo et al. 2007; Gregson et al. 2010; Carling, 2011). Grande

In addition, several studies have found that the peak age of performance in major important soccer leagues varies between 25 and 27 years, depending on the position (Rey et al., 2023; Sal de Rellán et al., 2019). F peak earlier (around 25 years) than midfielders and defenders (at approximately 27 years). Additionally, recent studies of match physical performance have shown that players over the age of 30 years have significantly lower performance in terms of total distance covered, high-intensity activities, sprint distance, and the number of accelerations and decelerations (Lorenzo-Martínez et al., 2021; Rey et al., 2022). It seems that the age of the players should be considered in order to better understand how the ability of the teams influences the match running performance.

Therefore, the current manuscript aims to verify whether team ability influences the distance covered at different speeds in elite soccer using a large sample data. We hypothesize that: (i) team ability influences the distance covered at various speeds and the technical-tactical performance of the players; (ii) younger players have better physical performance than older players; however, there are no differences in technical-tactical performance; (iii) the effect of the aforementioned variables varies depending on the playing position of the players. This information could provide useful information in terms of informing our expectations about when soccer players are likely to perform at their maximum level and may assist coaches in decisions regarding recruitment and player roster management within professional soccer clubs.

2. Materials and Methods

Subjects — Physical and technical performance data from all matches played in the Spanish LaLiga during the 2018–2019 season were analysed. The sample consisted of 4,011 individual match observations from 412 outfield players. Data were only collected from the outfield players (goalkeepers were excluded) who completed the entire match (i.e., 90 min). In addition, matches in which a player was sent off (red card) were excluded from the final sample. In line with previous studies (Di Salvo et al. 2007), players were classified into five positions: Central Defenders (CD; match observations = 1,179), Fullbacks (FB; match observations = 980), Central Midfielders (CM; match observations = 1,000), External Midfielders (EM; match observations = 440), and Forwards (F; match observations = 412). Playing position classification was done based on players' activity on the pitch and the primary area where this activity was performed (Di Salvo et al., 2007). The players' ages were calculated by subtracting each player's date of birth from the date of the match. Data were obtained from the Spanish Professional Football League (LaLiga), which authorised the use of the variables included in this investigation. All data were anonymised in accordance with the Declaration of Helsinki to ensure player and team confidentiality.

Variables and procedure — Match-running performance was examined considering the total distance covered (TD) by players, as well as their distance covered at high intensity (HIR; $>24.0 \text{ km} \cdot \text{h}^{-1}$). The number of efforts made at high-intensity running (N of HIR) and the Average Speed (AvSpeed, $\text{km} \cdot \text{h}^{-1}$) were also gathered. Absolute values of these physical variables were

normalized to relative values per unit of time in order to account for the possible differences in the total playing time of matches. Players' technical-tactical performance was analysed considering the following variables: (i) Offensive Volume (Off Vol): sum of passes, shots, and dribbles executed by the player; (ii) Defensive Volume (Def Vol): sum of recoveries, clearances, opponent attack interruptions, and blocked shots executed by the player; and (iii) Game Volume (Game Vol): sum of offensive actions and defensive actions. All these data were recorded using the multicamera computerized optical tracking system TRACAB (Chyronhego, New York, USA), managed from the Mediacoach software (LaLiga, Madrid, Spain). The validity and reliability of Tracab® and Mediacoach® system have been recently described (Felipe et al., 2019; Linke et al., 2020). According to Felipe et al. (2019), the level of agreement between variables estimated by the multicamera tracking system (Mediacoach®) and the Apex® GPS system (STATSports™, Newry, N. Ireland) was consistently strong ($r > 0.80$). Similarly, Linke et al. (2020) found that the TRACAB optical player tracking system showed only trivial differences in the accuracy of position, speed, and acceleration measurements when compared to the VICON motion capture system. The variable team quality was established by running an automatic clustering model (two-step) that identified 4 groups of teams (Silhouette measure=0.74): Best teams (ranked from 1st to 6th position), intermediate-higher ranked (from 7th to 11th position), intermediate-lower ranked (from 12th to 15th position), and lower ranked teams (from 16th to 20th position).

Statistical Analysis— First, descriptive statistics were presented as mean and standard deviation (SD) for all variables of the five playing positions and all players combined. Second, separate Mixed linear models for repeated measures were run for all players and each playing position (CD, FB, CM, EM, and F). The fixed factor was the team quality (Better, Intermediate higher, Intermediate lower, and Lower teams), the covariate was the player's age, and the random factor controlling the individual variability was the player ID. The ICC, conditional R², and the effect of change (%) of each variable were calculated. The effect size was calculated for all the race comparisons using Cohen's d considering the following ranges of interpretation: 0.2 small, 0.5 moderate, and 0.8 or large (Cohen, 1988). The model identified the collinearity of continent, (VIF=8.11), then the second variable was omitted from the models. All analyses were run using the statistical software Jamovi Project (version 2.3) and the statistical significance was set at $p < 0.05$.

3. Results

The descriptive results for the four physical and three technical-tactical variables are presented in Table 1 for all players and each playing position.

The results of the mixed linear model for all players showed that the team quality affected the performance in all variables (all $p < 0.001$). The post hoc test showed that players from best-ranked teams outperformed the ones from intermediate or low-ranked teams in all variables ($p < 0.05$). In addition, players from intermediate-higher ranked teams showed lower values than intermediate-lower ranked ones in TD, HIR, N of HIR, and AvSpeed ($p < 0.05$), and lower values than lower-ranked teams in Off Vol,

and Game Vol ($p < 0.05$). Lastly, the players from intermediate-lower ranked teams showed significant differences ($p < 0.05$) with players from lower-ranked teams in TD, HIR, N of HIR, Off Vol, and Def Vol. The covariate age was significant for all the physical variables ($p < 0.05$) showing negative estimates that indicate that as older the player as lower his performance.

The mixed linear model was run for each playing position identifying different trends. For FB, the results showed that team quality was statistically significant for TD, AvSpeed, and Def Vol ($p < 0.01$). The pairwise comparisons reflected higher performances in TD and AvSpeed, and lower Def Vol for players in the best-ranked teams than intermediate-higher ranked teams. In addition, the players from the best-ranked teams showed better performance in TD and AvSpeed than players from intermediate-lower-ranked teams. Lastly, the players from intermediate-higher ranked teams showed lower values than players from intermediate-lower ranked teams in these three variables. On the other hand, the age covariate was significant for 3 physical variables showing negative estimates pointing out lower performances the older the player.

For CD, the results showed that team quality was statistically significant for all variables ($p < 0.05$), except the N of HIR ($p = 0.054$). The pairwise comparisons reflected significant differences between players from best-ranked teams with intermediate-ranked teams (higher performances in TD, HIR, and AvSpeed), intermediate-lower ranked teams (higher performance in AvSpeed and Game Vol, and lower performance in Def Vol), and lower-ranked teams (higher performance in TD, AvSpeed, and Off Vol, and lower performance in Def Vol). Additionally, the players from intermediate-higher ranked teams were different than players from intermediate-lower ranked teams (lower performance in TD and AvSpeed) and lower-ranked teams (lower performance in

AvSpeed and Game Vol). Lastly, the age covariate was significant for mean velocity showing negative estimates pointing out lower performances the older the player.

For CM, the model showed significant differences in team quality with the age covariate as significant (negative estimator), for the four physical variables. In particular, the pairwise comparisons showed differences between best-ranked teams with intermediate-higher ranked teams (higher values for TD and AvSpeed), intermediate-lower ranked teams (higher performance in TD and AvSpeed), and lower-ranked teams (higher performances in TD, HIR, N of HIR, and AvSpeed). Additionally, the intermediate lower-ranked teams were significantly different than lower-ranked teams (higher values in TD, HIR, and N of HIR).

For EM, the model only was statistically significant for the AvSpeed ($p < 0.001$) showing differences between best-ranked and intermediate-higher ranked teams, with higher values in the best teams. The age covariate was not statistically significant for this playing position.

For F, TD and AvSpeed were different between players from best-ranked teams and players from intermediate-higher ranked teams and lower-ranked teams (lower values in the players of best teams). In addition, HIR and the N of HIR were significantly different between players from intermediate-lower ranked teams and players from lower-ranked teams (lower performance for players of lower ranked teams). The age covariate was significant for the TD and AvSpeed pointing out a negative estimate showing a decrease of performance the older the player

Table 1. Descriptive statistics for all players and each playing position.

ALL PLAYERS								
Variable	Better (n=1230)		Intermediate higher (n=1022)		Intermediate lower (n=819)		Lower (n=940)	
	M	SD	M	SD	M	SD	M	SD
TD	10365.33	942.19	10054.89	821.58	10203.23	816.34	10163.20	820.61
HIR	568.99	231.80	548.99	224.52	562.27	219.46	538.50	212.85
N of HIR	33.89	11.67	33.23	11.67	33.54	11.19	32.22	10.86
AvSpeed	6.47	0.59	6.21	0.52	6.33	0.53	6.32	0.52
Off vol	53.84	21.04	45.52	17.89	47.50	18.02	47.70	18.34
Def vol	9.80	4.70	10.23	4.99	10.40	5.33	10.16	5.13
Game vol	63.64	21.86	55.74	19.31	57.90	19.60	57.86	19.68
FULL BACK								
Variable	Better (n=308)		Intermediate higher (n=239)		Intermediate lower (n=204)		Lower (n=229)	
	M	SD	M	SD	M	SD	M	SD
TD	10401.65	645.71	10072.28	519.15	10249.08	632.32	10150.16	631.62
HIR	731.77	206.87	690.12	199.34	706.14	198.06	673.45	193.18
N of HIR	41.44	9.75	39.14	9.43	40.19	9.28	38.42	9.37
AvSpeed	6.49	0.37	6.23	0.34	6.35	0.41	6.32	0.39
Off vol	60.59	19.43	54.10	15.42	54.63	15.62	54.31	16.33
Def vol	10.02	3.73	11.07	3.90	11.10	3.98	10.70	4.10
Game vol	70.61	19.49	65.17	15.75	65.73	15.97	65.00	16.74
CENTRAL DEFENDER								
Variable	Better (n=356)		Intermediate higher (n=304)		Intermediate lower (n=240)		Lower (n=279)	
	M	SD	M	SD	M	SD	M	SD
TD	9666.71	560.99	9285.57	499.43	9524.62	502.05	9548.43	535.41
HIR	405.62	120.69	369.03	112.14	404.70	129.40	395.48	113.80
N of HIR	25.28	6.46	23.76	6.50	25.29	6.89	24.92	6.31
AvSpeed	6.02	0.34	5.73	0.32	5.90	0.35	5.93	0.34
Off vol	52.05	21.21	45.31	17.56	47.57	18.11	48.49	19.59
Def vol	12.88	4.28	13.36	4.61	14.20	5.09	13.73	4.56
Game vol	64.94	21.47	58.67	17.90	61.78	18.84	62.22	19.92
CENTRAL MIDFIELDER								
Variable	Better (n=339)		Intermediate higher (n=238)		Intermediate lower (n=197)		Lower (n=226)	
	M	SD	M	SD	M	SD	M	SD
TD	11203.69	709.25	10794.46	583.42	10926.71	645.35	10870.15	656.26
HIR	514.61	209.30	487.95	187.62	480.20	173.28	456.54	185.30
N of HIR	31.88	11.25	30.83	10.52	29.38	9.29	28.22	9.97
AvSpeed	7.00	0.45	6.67	0.38	6.76	0.44	6.77	0.45
Off vol	58.82	20.00	48.09	20.01	51.50	18.05	51.14	17.37
Def vol	9.58	4.05	10.04	4.32	9.71	4.31	9.95	4.07
Game vol	68.40	20.13	58.13	20.70	61.21	18.37	61.09	17.36
WING MIDFIELDER								
Variable	Better (n=117)		Intermediate higher (n=134)		Intermediate lower (n=94)		Lower (n=95)	
	M	SD	M	SD	M	SD	M	SD
TD	10562.25	769.78	10413.99	717.57	10379.67	699.20	10525.77	678.30
HIR	763.09	227.33	751.87	193.27	709.86	202.44	716.72	197.23
N of HIR	43.76	10.48	44.21	10.34	41.86	9.95	41.64	9.52
AvSpeed	6.60	0.46	6.43	0.44	6.47	0.44	6.54	0.41
Off vol	41.93	12.00	39.69	10.93	40.13	13.00	38.63	12.33
Def vol	6.44	3.38	6.76	3.58	6.59	3.25	6.36	3.58
Game vol	48.37	12.70	46.46	11.45	46.71	13.64	44.99	12.87
FORWARD								
Variable	Better (n=110)		Intermediate higher (n=107)		Intermediate lower (n=84)		Lower (n=111)	
	M	SD	M	SD	M	SD	M	SD
TD	9731.45	1178.43	10107.01	827.27	10136.61	844.90	9985.65	889.81
HIR	603.08	184.81	626.75	174.65	690.44	183.68	633.89	181.60
N of HIR	36.28	9.75	38.58	8.88	41.40	9.14	37.84	9.35
AvSpeed	6.10	0.73	6.23	0.51	6.30	0.53	6.21	0.56
Off vol	37.97	21.10	28.49	10.21	28.86	11.24	32.87	13.83
Def vol	3.48	2.01	4.22	2.38	3.70	2.28	3.77	2.40
Game vol	41.45	20.79	32.71	10.67	32.56	11.14	36.64	13.81

Table 2. Results of the mixed linear model for all players. wide midfielder. and forward players.

ALL PLAYERS								
Variable	Team Quality		Age		Pairwise comparison	ICC	R2 cond	BIC
	F	p	F	p				
TD	39.33	<0.001	5.59	0.018	1 vs 2-3-4; 2 vs 3; 3 vs 4	0.693	0.70	61728.8
HIR	9.02	<0.001	13.67	<0.001	1 vs 2-4; 2 vs 3; 3 vs 4	0.657	0.66	51448.7
N of HIR	9.10	<0.001	12.01	<0.001	1 vs 2-4; 2 vs 3; 3 vs 4	0.666	0.67	27594.4
AvSpeed	64.9	<0.001	36.2	<0.001	1 vs 2-3-4; 2 vs 3-4;	0.669	0.69	3022.1
Off vol	6.39	<0.001	3.47	0.063	1 vs 2-3-4; 2 vs 4; 3 vs 4	0.545	0.55	32996.3
Def vol	8.45	<0.001	0.667	0.415	1 vs 2-3-4	0.441	0.44	22809.8
Game vol	9.19	<0.001	3.77	0.053	1 vs 4; 2 vs 4	0.572	0.58	33349.6
FULL BACKS								
Variable	Team Quality		Age		Pairwise comparison	ICC	R2 cond	BIC
	F	p	F	p				
TD	6.69	<0.001	3.37	0.069	1 vs 2-4; 2 vs 3	0.479	0.49	14947.8
HIR	1.88	0.132	5.85	0.017	-	0.435	0.45	12738.7
N of HIR	2.45	0.062	5.24	0.024	-	0.429	0.44	6816.3
AvSpeed	10.63	<0.001	9.19	0.003	1 vs 2-4; 2 vs 3	0.422	0.46	633.17
Off vol	0.466	0.706	2.53	0.115	-	0.419	0.43	8061.8
Def vol	3.95	0.008	1.65	0.202	1 vs 2-3	0.062	0.07	5487.3
Game vol	0.775	0.508	3.31	0.072		0.391	0.40	8116.4
CENTRAL DEFENDERS								
Variable	Team Quality		Age		Pairwise comparison	ICC	R2 cond	BIC
	F	p	F	p				
TD	10.94	<0.001	0.31	0.581	1 vs 2-4; 2 vs 3	0.445	0.46	17696.3
HIR	3.75	0.011	0.00	0.983	1 vs 2	0.266	0.27	14441.0
N of HIR	2.55	0.054	0.14	0.708	-	0.287	0.29	7598.1
AvSpeed	17.95	<0.001	7.51	0.007	1 vs 2-3-4; 2 vs 3-4	0.394	0.44	486.35
Off vol	5.59	<0.001	0.02	0.898	1 vs 4	0.386	0.39	10013.1
Def vol	4.78	0.003	1.92	0.170	1 vs 3-4	0.047	0.06	6980.8
Game vol	8.37	<0.001	0.00	0.929	1 vs 3; 2 vs 4	0.375	0.38	10066.1
CENTRAL MIDFIELDERS								
Variable	Team Quality		Age		Pairwise comparison	ICC	R2 cond	BIC
	F	p	F	p				
TD	39.33	<0.001	5.59	0.018	1 vs 2-3-4; 3 vs 4	0.455	0.69	61728.8
HIR	5.29	0.001	6.13	0.015	1 vs 4; 3 vs 4	0.561	0.57	12791.1
N of HIR	5.04	0.002	7.15	0.009	1 vs 4; 3 vs 4	0.574	0.59	6938.6
AvSpeed	27.63	<0.001	6.68	0.011	1 vs 2-3-4	0.425	0.47	886.63
Off vol	1.21	0.304	2.10	0.149	-	0.588	0.59	8182.3
Def vol	2.11	0.097	0.19	0.668	-	0.306	0.31	5491.2
Game vol	1.39	0.245	2.30	0.132	-	0.545	0.55	8281.8
EXTERNAL MIDFIELDERS								
Variable	Team Quality		Age		Pairwise comparison	ICC	R2 cond	BIC
	F	p	F	p				
TD	1.95	0.122	0.33	0.566	-	0.551	0.55	6849.8
HIR	0.29	0.836	3.55	0.063	-	0.503	0.52	5763.8
N of HIR	0.43	0.729	3.70	0.058	-	0.539	0.55	3128.6
AvSpeed	5.83	<0.001	0.57	0.452	1 vs 2	0.522	0.54	436.81
Off vol	0.94	0.423	0.16	0.686	-	0.390	0.39	3392.6
Def vol	0.14	0.935	0.82	0.369	-	0.238	0.24	2344.1
Game vol	0.96	0.409	0.374	0.543		0.378	0.38	3436.3
FORWARDS								
Variable	Team Quality		Age		Pairwise comparison	ICC	R2 cond	BIC
	F	p	F	p				
TD	39.33	<0.001	5.59	0.018	1 vs 2-4	0.660	0.70	61728.8
HIR	2.65	0.048	2.99	0.089	3 vs 4	0.460	0.48	5281.0
N of HIR	2.67	0.048	2.46	0.122	3 vs 4	0.437	0.46	2873.7
AvSpeed	8.33	<0.001	4.63	0.035	1 vs 2-4	0.632	0.65	418.79
Off vol	1.05	0.368	6.09	0.016	-	0.548	0.57	3025.5
Def vol	0.28	0.840	0.37	0.545	-	0.198	0.20	1850.6
Game vol	0.956	0.413	5.72	0.019	-	0.512	0.53	3968.9

4. Discussion

The current manuscript aims to verify if the team ability influences the distance covered at various speeds and the technical-tactical performance in elite soccer.

Existing literature consistently shows a strong relationship between playing position and match-running performance among elite players (Mohr et al. 2003; Bradley et al. 2009; Di Salvo et al. 2007). Our findings align with prior studies, confirming that midfielders cover greater total distances than other positions and that CD and CM cover less distance in high-intensity running and sprinting compared to FB, EM, and F. CM typically cover more total distance because they combine both offensive and defensive responsibilities, necessitating constant movement (Di Salvo et al., 2009). On the other hand, EM and FB tend to cover the most HIR and sprinting distances, which is likely due to their roles in penetrating the opposing team's defense (Di Salvo et al., 2009).

In both the scientific community and the media, it is frequently asserted that high-level match running performance is crucial for the success of professional soccer teams (Hoppe et al., 2015). Overall, the findings of the current study suggest that the team ability influences the distance covered at various speeds and the technical-tactical performance in elite soccer. Players from the best-ranked teams outperformed those from intermediate or low-ranked teams in all variables. These results suggest that the success of the teams may be related to better individual physical and technical-tactical performance of the players. These results are similar to those reported in other studies that have analyzed Spanish LaLiga (Errekagorri et al., 2023, 2024; Oliva et al., 2023). For example, Errekagorri et al. (2024) found that teams ranked from first to sixth positions had significantly higher values in passes, shots, successful passes, goals, and corners compared to other teams during the 2011–12 to 2018–19 period. Rampinini et al (2009) observed that players from the most

successful teams in the Italian Serie A league, particularly those ranked in the top 5 positions, exhibited greater total distance covered, high-intensity running bouts, and ball involvements. Additionally, these players completed more short passes, successful passes, tackles, dribbles, shots, and shots on target compared to players from less successful teams, emphasizing the link between team quality and enhanced physical and technical performance on the field. Furthermore, Longo et al. (2021) showed that during the 2017-2018 "Serie A" season, the teams that reached the first four positions had a lower percentage of running and a higher percentage of jogging and sprinting activities, concluding that the match statistics between the first four teams seem to be statistically different from the other teams. More recently, Chmura et al. (2022) found a significant association between running with ball possession and team success, with higher-ranked teams covering more distance while in possession of the ball compared to lower-ranked teams. This further supports the notion that team quality plays a crucial role in determining match running performance and overall success in elite soccer competitions.

While previous literature has examined the influence of team quality on performance outcomes, there exists a notable gap in analyzing how different playing positions within the team contribute to this relationship. Addressing this gap, our study reveals that the effect of a soccer team's quality on individual player performance varies significantly based on the specific positional roles occupied by players. It does not affect all players in the same way. CDs from the best-ranked teams have better physical and technical-tactical performance than those from other teams in almost all variables. In this sense, Castañer et al. (2017) suggest that expert players are capable of creating conditions in time and space to evade pressure from opponents in goal-scoring situations or near the goal. Recent

studies by Bush et al. (2015) and Rey et al. (2022) have indicated a significant evolution in the performance profile of CDs over the past decade, suggesting an increased involvement in the offensive organization of the game. This shift implies that CDs are now required to possess not only exceptional defensive skills but also high passing proficiency, reflecting the changing demands of modern soccer that emphasize increased passing responsibilities in this positional role. Similarly, CMs from top-ranked teams demonstrate enhanced physical performance relative to CMs from other teams. It is likely that in these top teams, both CDs and CMs are expected to contribute significantly to both offensive and defensive aspects of the game compared to players in lower-ranked teams. Thus, according to Casal et al. (2017), the most successful teams are able to maintain longer ball possessions in the opponent's half, while the less successful teams tend to have longer possessions in their own half (Casal et al., 2019). This dual role necessitates a versatile skill set that enables these players to excel in various facets of the game, aligning with the dynamic and multifaceted nature of modern soccer strategies.

Conversely, the performance of EMs does not seem to be significantly affected by the team's level, as indicated by the lack of notable differences in physical and technical-tactical performance between top-ranked teams and others. This suggests that the role of EMs may be less influenced by the overall quality of the team compared to other positions. For Fs from top-ranked teams, superior physical performance and increased volume of play have been observed, possibly due to the heightened offensive demands placed on them by these teams (Kovács et al., 2020). This emphasizes the importance of offensive participation for Fs in top teams, reflecting the strategic emphasis on attacking play in modern soccer (Amatria, Maneiro & Anguera, 2019a, 2019b). In the case of FBs, team quality has been found to have a

statistically significant impact on TD, AvSpeed, and Def Vol. This highlights the role of team quality in influencing the physical performance of FBs in specific metrics, indicating that the level of the team can affect the defensive contributions and overall physical output of FBs on the field.

As scientific interest in soccer performance has increased, numerous recent studies have focused on the relationship between age and match performance among elite soccer players (Rey et al., 2022; Rey et al., 2023). These studies indicate that players over the age of 30 tend to have significantly lower physical performance, particularly in terms of total distance covered, high-intensity activities, sprint distance, and the number of accelerations and decelerations. A recent study (Rey et al., 2022), which analyzed data from 154 players in Spain's LaLiga between the 2012–13 and 2019–20 seasons, found that: (i) the total distance covered by players decreased by an average of 0.56% per year as they aged; and (ii) high-intensity efforts and distance covered at high-intensity running decreased by 1.80% and 1.42% per year, respectively. These findings are consistent with prior research, suggesting that younger players tend to exhibit better physical performance metrics, such as high-intensity running, the number of high-intensity runs, and average speed, compared to older players. This age-related decline in physical performance appeared to be more pronounced among FBs and CMs. Physiologically, the decrease in total distance covered could be due to the reduction in aerobic capacity that tends to occur in the third decade of life, as indicated by Botek et al. (2016) in their study, which reported significant age-related declines in relative VO₂max in elite soccer players. The reduction in high-intensity efforts during a player's early-to-mid 20s could also be linked to a decrease in soccer-specific physical abilities and age-related changes in neuromuscular and mechanical properties, such as decreased muscle strength, cross-sectional area, and a

reduction in fast-twitch type II muscle fibers (Wu et al., 2020). However, these studies also highlight a contrasting trend: older players (over 30 years) were found to have a higher number and percentage of successful passes compared to younger players (under 30 years). This observation suggests that players may improve their technical-tactical skills as they age, potentially as a compensatory mechanism for declines in physical performance (Sal de Rellán et al., 2019). The current results support this observation, indicating that the age covariate positively correlated with technical performance.

Considering the limitations of the current study, several key points should be noted: (1) players' positions were determined manually based on their on-field activities, which may introduce some categorization bias; (2) running distances at different intensity levels were not normalized according to individual players' performance; (3) future studies could account for other confounding variables, such as team skill level, the number of games played per season, the quality of the opponent, playing at home or away, the match outcome, or the effect of coaching changes on physical and technical-tactical performance; and (4) finally, these findings should be validated in other countries with different levels of competitive balance and soccer culture..

5. Practical Applications.

These findings may have a great deal of practical implications and may help coaches and strength and conditioning specialists to better understand match running performance in elite soccer. In addition, the current findings may provide useful information to assist with recruitment and roster player management decisions within professional soccer clubs, as it highlights the multifaceted nature of athletic performance in soccer.

6. Conclusions

In conclusion, the current results suggest that the team ability influences the distance covered at various speeds and the technical-tactical performance in elite soccer. Players from the best-ranked teams outperformed those from intermediate or low-ranked teams in all variables. However, this effect varied by playing position. Although no differences were observed in match physical performance between players depending on the teams' ability for CD and EM positions, FB, CM, and F players from the best-ranked teams exhibited better physical performance than their counterparts from intermediate or low-ranked teams in all physical variables. Finally, younger players demonstrated better physical performance compared to older players, with age-related declines in physical performance being more pronounced among FB and CM. This information could guide coaches in making decisions regarding individualized training and may assist in player selection processes.

Conflicts of Interest: The authors declare no conflict of interest.

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