Central European Journal of Sport Sciences and Medicine | Vol. 50, No. 2/2025: 69–78
ISSN (print): 2300-9705 | ISSN (online): 2353-2807 | DOI: 10.18276/cej.2025.2-06

DO BETTER RANKED TEAMS RUN MORE IN SOCCER?

Spyridon Plakias

Department of Physical Education & Sports, University of Thessaly, Greece
ORCID: 0000-0002-9511-6940 | e-mail: spyros_plakias@yahoo.gr

Abstract The aim of this study was to determine whether there are differences in running performance (RP) among strong, moderate, and weak teams, and to correlate running variables (RV) with the points the teams achieved in the final standings. The sample consisted of 185 matches (370 observations) of the Turkish League during the 2021/2022 season. K-means cluster analysis was applied to classify the teams into three groups. Kruskal-Wallis and Mann-Whitney tests were employed to search for differences in RV among the three groups. Spearman's correlation was performed to calculate the relationship between the points collected by each team in the championship and performance in the nine RV. The results showed statistically significant differences among the three groups in the variables total distance, walking distance, jogging distance, running distance, high-speed distance, and number of high-speed runs. However, the correlation of these variables with the points of the teams in the final standings was small. These findings show that while RP metrics have some influence, other factors play a more decisive role in achieving higher overall team success.

Key words: football, performance analysis, running performance, team ranking, total distance

Introduction

Performance analysis now plays a significant role in football, as evidenced by the substantial increase in both the number of research studies and the number of analysts within teams' coaching staff (Plakias, Moustakidis et al., 2023). While the traditional method of notational analysis provided limited data concerning running variables (RV) (Barris & Button, 2008), advancements in technology and the use of Electronic Performance and Tracking Systems (EPTS) by football teams have offered a large volume of data (Hands & Janse de Jonge, 2020; Oliva-Lozano et al., 2022). This development simultaneously provides researchers and fitness coaches with the ability to study the running performance (RP) of teams. A prevalent inquiry within this domain is whether the most successful teams are necessarily those that exhibit superior RP, particularly in terms of running distance and intensity during matches. Unravelling this relationship could pivotally influence how coaches structure their training and strategies, potentially leading to optimized player performance and improved outcomes in competitive leagues. For the above reasons, extensive studies have tried to unravel the relationship between team success and RP, with mixed findings.

Many researchers have argued that overall team success is independent of RP. For example, Clemente et al. (2019) and Ju et al. (2023) found no significant differences in RP measures (such as total distance covered and distances at various speed thresholds) between more and less successful teams categorized by their final league ranking in the 2013/2014 Spanish first division and the 2018/2019 English Premier League, respectively.

Similarly, Hoppe et al. (2015) found that the match RP alone was not significantly correlated with the final points accumulated in the 2012/2013 German Bundesliga, while Modric, Versic, Chmura, et al. (2022) found similar RP values regardless of whether teams qualified from the group stage to the UEFA Champions League (UCL) knockout stage (2020/2021 season), and insignificant to small correlations between RV and total points in the group. Studying the same competition, Modric, Versic, Stojanovic, et al. (2022) and Modric, Malone, et al. (2022) suggest that general RP in terms of distance covered and high-intensity running does not necessarily affect match outcome.

Other researchers argue that RV, such as total distance covered and sprint activities, have some influence on achieving better match outcomes and overall team success. However, this effect is small, in contrast to the effect of technical-tactical variables, which seem to play a more decisive role. Such conclusions have been drawn for example in the research of Andrzejewski et al. (2022) in the German Bundesliga (seasons 2017/2018 and 2018/2019), in the research of Morgans et al. (2023) in the Russian Premier League (2016/2017 to 2020/2021 seasons), but also at UCL level (Modric, Gabrilo, et al., 2022; Modric et al., 2021).

Contrastingly, many researchers have found a significant relationship between RP and team success. For example, Aquino et al. (2021) found that the top-ranked teams covered more total distance and high accelerations than the bottom-ranked teams in the Brazilian National 2nd Division League, while (Pranjic et al., 2022) found that the UEFA club coefficient was positively and negatively associated with sprinting and jogging distance covered, respectively. Regarding match outcome, several studies have found differences in RP between winners and losers (Aquino et al., 2020; Barrera et al., 2021; Chmura et al., 2018; Moalla et al., 2018; Radziminski et al., 2022; Zhou et al., 2021). Additionally, significant differences in RP have also been found by studies that took match status into account. In particular, Lago-Peñas (2012) reviewing the relevant literature concluded that players exert less high-intensity effort when winning compared to when the match is tied or they are losing, while Klemp et al. (2022) found that there is great predictive power for the 1st goal from RP and mainly from the total distance in the 2011/2012 German Bundesliga.

This divergence in research findings highlights the need for further studies across different competitions, employing rigorous methodology and ample sample sizes, with the aim of elucidating the relationship between RP and team success. This will provide coaches and sports scientists with valuable insight. Aiming to contribute new insights to the international literature on this controversial topic, we conducted this study in one of the strongest European leagues, the Turkish Super League. Beyond our rigorous methodology, the major advantage of our research is the availability of RP data from a large number of matches, allowing us to analyze a sample that is rarely found in similar studies. We hypothesized that differences in RP would exist among teams in the Turkish League, depending on their overall quality. Therefore, the purpose of this study was to determine whether there are differences in RV among strong, moderate, and weak teams in the Turkish League during the 2021/2022 season, and to correlate RV with the points the teams achieved in the final standings. Although the Turkish League has been used for studies on the RP of teams (Plakias & Michailidis, 2024; Plakias et al., 2025; Plakias, Tsatalas, et al., 2023), it has not been used for this specific purpose.

Material and methods

Selection criteria and study sample

The study utilized match data from the 2021/2022 season of the Turkish first division, which included 20 teams competing across 38 matchdays, resulting in a total of 10 matches each matchday. Instatscout provided data for

the initial 24 matchdays, totaling 240 matches. However, data for two matches were missing, and an additional 53 matches were excluded due to red card incidents, leaving a final sample of 185 matches, or 370 observations (with each team in a match providing one observation).

Procedure

Data was collected using optical tracking technology from InStat Fitness (https://football.instatscout.com/), a system certified by FIFA and noted for its high accuracy and reliability, as documented on the FIFA website (FIFA, 2021) and referenced in previous research (Morgans et al., 2023; Plakias, Tsatalas et al., 2023). For the 2021–2022 season, InStat's system was recognized as the official EPTS for the league (Plakias, Tsatalas et al., 2023).

Ethics

The research was approved by the ethics committee of the local University (details of which are kept confidential for reasons of document anonymity). InStat Ltd. provided written consent on November 8, 2022, for the use of the data in this study, ensuring all ethical standards for research and publication were met.

Running variables

In the present study, nine running variables were used, which along with their abbreviations are presented in Table 1. One variable concerns the total distance covered by the team players, six pertain to distances covered in six different intensity zones, and two involve the number of sprints in the two highest intensity zones. The intensity zones were defined based on thresholds used in previous studies (Modric, Versic, Stojanovic et al., 2022; Plakias, Tsatalas et al., 2023; Rampinini et al., 2007).

Table 1. Running variables (RV) and their abbreviations.

Running variables	Abbreviations
Total distance	TD
Distance on speed up to 0,2 m/sec (standing)	ST
Distance on speed 0,21–2 m/sec (walking)	WALK
Distance on speed 2,01–4 m/sec (jogging)	JOG
Distance on speed 4,01–5,5 m/sec (running)	RUN
Distance on speed 5,51–7 m/sec (high-speed running)	HS
Distance on speed over 7 m/sec (sprint)	SPR
Number of high speed runs (5,5–7 m/sec)	NHS
Number of sprints (>7 m/sec)	NSPR
Maximal speed	MAX

Statistical analysis

K-means cluster analysis was applied to classify the teams into three groups using their points accumulated in the final league standings as the variable. Our aim was to create an ordinal variable related to the quality of the teams. Subsequently, a normality test of the distributions in the three groups for the nine running variables was conducted using the Kolmogorov-Smirnov test. It was found that in several cases the data did not follow a normal distribution. Therefore, the Kruskal-Wallis Test was applied to check for differences among the three groups in any of thenine RV. For the variables where differences were found, Mann-Whitney Tests were subsequently conducted to identify pairs (among the three groups) where there was a statistically significant difference. Finally, Spearman Correlation was performed to calculate the relationship between the points collected by each team

in the championship and the performances in the nine RV. All statistical analyses and the creation of graphical representations were performed using the IBM SPSS statistical package (version 29.00), with a significance level set at $p < 0.05$. Correlation coefficients were interpreted as follows: 0–0.1 zero, 0.1–0.3 weak, 0.3–0.6 moderate, 0.6–0.9 strong, 0.9–1 perfect (Akoglu, 2018).

Results

K-means cluster

Teams that finished in the top 5 positions of the league table with 81 to 64 points were classified in the 1st group, teams that finished in positions 6 to 16 with 59 to 45 points were classified in the 2nd group, while teams that finished in the last four positions (17–20) with 36 to 20 points were classified in the 3rd group. This created an ordinal variable named Team Quality which categorized the teams into three groups (high/medium/low).

Descriptive statistics

Table 2 presents the descriptive statistics for the nine RV. The table displays separately for each of the three groups the number of cases (observations), the mean, the median, the standard deviation, the minimum, and the maximum value. In Figure 1, the nine RV are represented in box plots for each group.

Table 2. Descriptive statistics

Quality	Measures	TD	ST	WALK	JOG	RUN	HS	SPR	NHS	NSPR
High	Cases	94	94	94	94	94	94	94	94	94
	Mean	115804.43	327.87	41340.29	44623.40	19550.85	8394.39	1588.38	555.07	90.79
	Median	116139.50	328.00	41168.50	44692.50	19447.50	8438.00	1558.00	553.00	91.00
	SD	3875.473	54.944	1650.159	2675.251	1400.975	681.219	343.621	47.898	16.962
	MIN	102838	209	37626	37758	15482	6399	818	445	55
	MAX	124977	473	46234	50915	22716	10020	2498	690	126
Med	Cases	203	203	203	203	203	203	203	203	203
	Mean	113706.17	345.86	41220.35	43409.78	18875.05	8236.25	1640.17	542.95	94.49
	Median	113762.00	346.00	41189.00	43297.00	18790.00	8255.00	1619.00	542.00	94.00
	SD	4096.614	56.339	1630.423	2348.374	1593.611	884.177	380.657	59.185	19.405
	MIN	103979	216	37264	38117	15395	6006	816	404	51
	MAX	129429	480	46425	51587	24311	11134	3006	771	155
Low	Cases	73	73	73	73	73	73	73	73	73
	Mean	112473.03	340.23	42168.14	42445.75	18010.92	7921.23	1604.18	528.05	92.12
	Median	112156.00	340.00	41944.00	42268.00	17985.00	8050.00	1570.00	528.00	90.00
	SD	4614.980	64.885	1707.433	2539.795	1704.865	1161.175	468.016	65.379	23.376
	MIN	101507	215	38861	36874	13139	5284	660	388	45

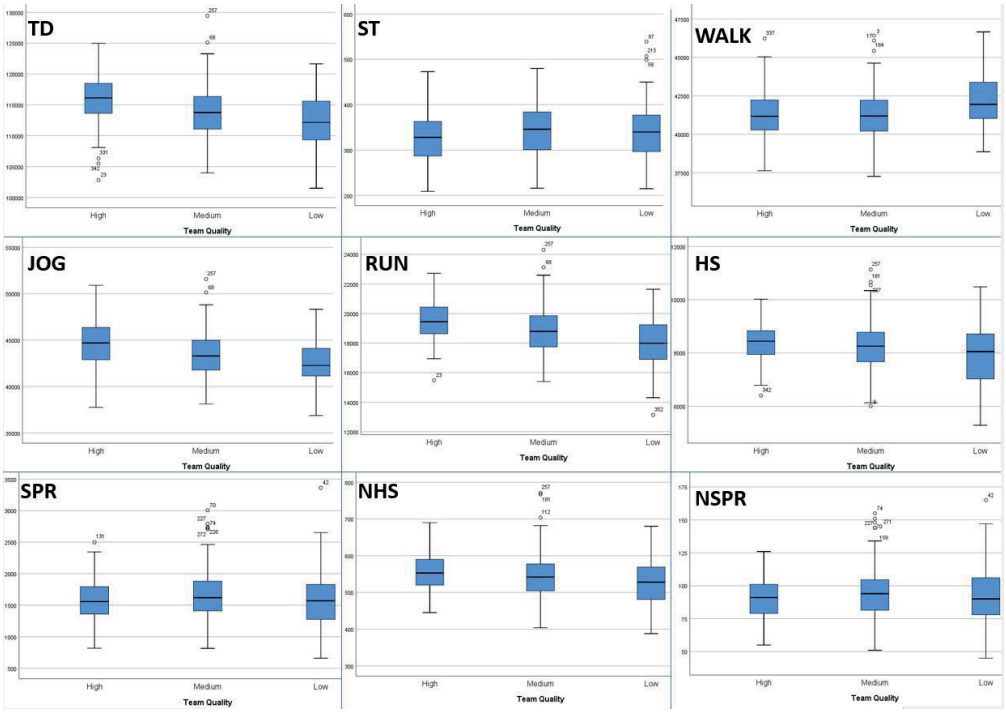

Figure 1. Box plots representing the values in the 9 running variables in relation to Team Quality.

Kruskal-Wallis Test

From Table 3, it is evident that the Kruskal-Wallis Test showed statistically significant differences among the three groups in the variables TD ($p < 0.001$), WALK ($p = 0.001$), JOG ($p < 0.001$), RUN ($p < 0.001$), HS ($p = 0.014$), NHS ($p = 0.015$).

Table 3. Kruskal-Wallis Test

	TD	ST	WALK	JOG	RUN	HS	SPR	NHS	NSPR
Kruskal-Wallis H	29.006	5.948	14.720	29.083	33.694	8.568	1.470	8.422	2.035
df	2	2	2	2	2	2	2	2	2
Asymp. Sig.	0.000	0.051	0.001	0.000	0.000	0.014	0.479	0.015	0.361

Mann-Whitney Tests – pairwise comparisons

From Table 4 and based on the median values, it appears that: a) The High group shows statistically significantly higher values than the Medium group in the variables TD ($p < 0.001$), JOG ($p < 0.001$), RUN ($p < 0.001$); b) The High group shows statistically significantly higher values than the Low group in the variables TD

(p < 0.001), JOG (p < 0.001), RUN (p < 0.001), HS (p = 0.005), NHS (p = 0.004), and lower values in the variable WALK (p = 0.003); c) The Medium group shows statistically significantly higher values than the Low group in the variables JOG (p = 0.006), RUN (p = 0.001), and lower values in the variable WALK (p < 0.001). The Bonferroni correction was applied for the pairwise comparisons, and therefore the adjusted significance level was 0.05/3 = 0.017.

Table 4. The Asymptotic Significance that emerged from the Mann-Whitney Tests

		TD	WALK	JOG	RUN	HS	NHS
Asymp. Sig. (2-tailed)	High – Medium	0.000	0.783	0.000	0.000	0.078	0.059
	High – Low	0.000	0.003	0.000	0.000	0.005	0.004
	Medium – Low	0.050	0.000	0.006	0.001	0.063	0.114

Spearman correlation

From Table 5, it appears that the team's points have a small positive correlation with TD (rho = 0.241, p < 0.001), JOG (rho = 0.259, p < 0.001), RUN (rho = 0.2495, p < 0.001), HS (rho = 0.126, p = 0.016), NHS (rho = 0.113, p ≤ 0.03), but a small negative correlation with WALK (rho = –0.174, p = 0.001).

Table 5. Spearman's correlation results

		TD	ST	WALK	JOG	RUN	HS	SPR	NHS	NSPR
Team points	Correlation Coefficient	0.241	–0.039	–0.174	0.259	0.295	0.126	–0.016	0.113	–0.015
	Sig. (2-tailed)	0.000	0.458	0.001	0.000	0.000	0.016	0.764	0.030	0.772
	N	370	370	370	370	370	370	370	370	370

Discussion

Our study contributes novel insights into the complex dynamics between RP and overall team performance in the 1st division of the Turkish League, providing valuable information for coaches and sports scientists. In particular, in the present study it was found that stronger teams demonstrated higher values in TD, JOG, RUN, HS, and the NHS, while weaker teams showed lower values in these variables and higher values in WALK. However, when examining the correlation between RV and the points accumulated by the teams in the league, it was found that, although statistically significant, the correlation was small.

Our finding that high-ranked teams cover greater TD compared to medium- and low-ranked teams aligns with Aquino et al. (2021) in the Brazilian National 2nd Division League during the 2020 season, where top-ranked teams covered more TD than bottom-ranked teams. Similarly, Barrera et al. (2021) found that players covered greater distances in matches that were won or drawn compared to those lost during the 2019/2020 season of the Portuguese league. Radziminski et al. (2022), analyzing three seasons (2017/2018, 2018/2019, and 2019/2020) of the Polish Ekstraklasa, also found that winning teams covered more TD than losing teams. Additionally,

Zhou et al. (2021), covering the 2012 to 2017 seasons in the Chinese Soccer Super League, and Chmura et al. (2018), over three seasons (2014/2015, 2015/2016, and 2016/2017) in Germany's Bundesliga, found that high-speed distances significantly impacted match results. This is consistent with our finding that high-ranked teams cover greater distances in HS and engage in more HS efforts than low-ranked teams do.

In contrast, our study did not find differences in the distances or the number of efforts covered with sprints, which contradicts the findings of Pranjic et al. (2022) and Radziminski et al. (2022). Pranjic found that the UEFA club coefficient was positively associated with sprinting distance covered, while Radziminski found that winning teams covered more sprinting distances than losing teams.

However, our Spearman correlation analysis revealed that even for RV where there was a statistically significant difference among high, medium, and low-ranked teams, the correlation between these variables and the points accumulated by the teams in the final standings was small. This finding is consistent with the research by Andrzejewski et al. (2022), Modric, Gabrilo et al. (2022), Morgans et al. (2023), and Modric et al. (2021), who found that while RP metrics have some influence, technical skills and tactical executions play a more decisive role in achieving higher rankings and overall team success.

These findings (including ours) contrast with other studies that found overall team success to be independent of RP (Clemente et al., 2019; Hoppe et al., 2015; Ju et al., 2023; Modric, Malone et al., 2022; Modric, Versic, Chmura et al., 2022; Modric, Versic, Stojanovic et al., 2022). This demonstrates that each competition has its own characteristics and requirements. Therefore, coaches, fitness coaches, and sports scientists should not rely on general assumptions but should study the performance profiles specific to the competition in which they participate. Additionally, it should be considered that RP can be influenced by other factors such as match location (Gonçalves et al., 2022; Modric, Versic, Stojanovic et al., 2022), quality of opposition (Gonçalves et al., 2022), pitch size (Caldeira et al., 2022), weather conditions (Chmura et al., 2021; Draper et al., 2023), game strategy (Morgans et al., 2014; Vilamitjana et al., 2021), effective time (Jerome et al., 2023; Lago-Peñas et al., 2012), fatigue from congested matches (Djaoui et al., 2022), etc.

Although our study offers significant contributions, there are several limitations that must be considered. Firstly, the sample was limited to the 2021/2022 season of the Turkish League, which may restrict the generalizability of the findings to other leagues and seasons. Secondly, the fact that we only had matches from the first 24 matchdays available and additionally excluded the matches with red card incidents could have impacted the representativeness of the sample. Last but not least, we employed a static method, as the data were gathered at the end of the matches. This approach does not consider the changes that occur during a match (match status) (Pratas et al., 2018). Conversely, the dynamic method provides a more thorough understanding of the match context (Prieto et al., 2015). Nevertheless, the static method is commonly used in performance analysis and offers valuable information (Plakias, Tsatalas et al., 2023; Pratas et al., 2018).

Conclusions

This study examined the relationship between RP and team success in the Turkish League during the 2021/2022 season. We found that high-ranked teams covered greater TD and engaged in more HS efforts compared to medium- and low-ranked teams. Despite these differences, the correlation between RP variables and the final points accumulated by the teams was small, suggesting that other factors play a more decisive role in team success.

The main strength of this study is its comprehensive analysis of RP across different team quality levels within a major football league, providing valuable insights into performance metrics. However, the study is limited by its focus on a single season and league, which may affect the generalizability of the results. Additionally, the static method of data collection does not capture the dynamic changes during matches.

This research is crucial for both the specialized scientific community and football practitioners. By highlighting the nuanced impact of RP on team success, it informs coaches and sports scientists about the limited role of RP metrics in isolation and emphasizes the importance of technical and tactical skills. Coaches and sports scientists can use these findings to develop training programs that prioritize technical and tactical skills over merely increasing running distance. For example, they should create exercises with a ball that not only help to obtain the desired physical condition, but at the same time improve the technical characteristics of the players and decision-making. The study also suggests that specific performance profiles should be tailored to the characteristics of the competition, rather than relying on generalized metrics.

Future studies should expand the sample to include multiple seasons and leagues to enhance the generalizability of the findings. Additionally, incorporating a dynamic method of data analysis would provide a more comprehensive understanding of how match status and in-game adjustments impact team performance. Research should also explore the influence of external factors such as match location, opponent team quality, formations, possession, high press, counterattacks, and effective time on running performance.

References

Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish journal of emergency medicine*, *18*(3), 91–93. https://doi.org/10.1016/j.tjem.2018.08.001

Andrzejewski, M., Oliva-Lozano, J. M., Chmura, P., Chmura, J., Czarniecki, S., Kowalczuk, E., Rokita, A., Muyor, J. M., & Konefał, M. (2022). Analysis of team success based on match technical and running performance in a professional soccer league. *BMC Sports Science, Medicine and Rehabilitation*, *14*(1), 82. https://doi.org/10.1186/s13102-022-00473-7

Aquino, R., Carling, C., Vieira, L. H. P., Martins, G., Jabor, G., Machado, J., Santiago, P., Garganta, J., & Puggina, E. (2020). Influence of situational variables, team formation, and playing position on match running performance and social network analysis in brazilian professional soccer players. *The Journal of Strength & Conditioning Research*, *34*(3), 808–817. https://doi.org/10.1519/JSC.0000000000002725

Aquino, R., Gonçalves, L. G., Galgaro, M., Maria, T. S., Rostaiser, E., Pastor, A., Nobari, H., Garcia, G. R., Moraes-Neto, M. V., & Nakamura, F. Y. (2021). Match running performance in Brazilian professional soccer players: Comparisons between successful and unsuccessful teams. *BMC Sports Science, Medicine and Rehabilitation*, *13*, 1–9. https://doi.org/10.1186/s13102-021-00324-x

Barrera, J., Sarmento, H., Clemente, F. M., Field, A., & Figueiredo, A. J. (2021). The effect of contextual variables on match performance across different playing positions in professional Portuguese soccer players. *International Journal of Environmental Research and Public Health*, *18*(10), 5175. https://doi.org/10.3390/ijerph18105175

Barris, S., & Button, C. (2008). A review of vision-based motion analysis in sport. *Sports medicine*, *38*, 1025–1043. https://doi.org/10.2165/00007256-200838120-00006

Caldeira, R., Gouveia, É. R., Ihle, A., Marques, A., Clemente, F. M., Lopes, H., Henriques, R., & Sarmento, H. (2022). The relationship between different large-sided games and official matches on professional football players' locomotor intensity. *International Journal of Environmental Research and Public Health*, *19*(7), 4214. https://doi.org/10.3390/ijerph19074214

Chmura, P., Konefał, M., Chmura, J., Kowalczuk, E., Zając, T., Rokita, A., & Andrzejewski, M. (2018). Match outcome and running performance in different intensity ranges among elite soccer players. *Biology of sport*, *35*(2), 197–203. https://doi.org/10.5114/biolsport.2018.74196

Chmura, P., Liu, H., Andrzejewski, M., Chmura, J., Kowalczuk, E., Rokita, A., & Konefał, M. (2021). Is there meaningful influence from situational and environmental factors on the physical and technical activity of elite football players? Evidence from the data of 5 consecutive seasons of the German Bundesliga. *PloS one*, *16*(3), e0247771. https://doi.org/10.1371/journal.pone.0247771

Clemente, A. J. A., Requena, B., Jukic, I., Nayler, J., Hernández, A. S., & Carling, C. (2019). Is physical performance a differentiating element between more or less successful football teams? *Sports*, *7*(10), 216. https://doi.org/10.3390/sports7100216

Djaoui, L., Owen, A., Newton, M., Nikolaidis, P. T., Dellal, A., & Chamari, K. (2022). Effects of congested match periods on acceleration and deceleration profiles in professional soccer. *Biology of sport*, *39*(2), 307–317. https://doi.org/10.5114/biolsport.2022.103725

Draper, G., Wright, M. D., Ishida, A., Chesterton, P., Portas, M., & Atkinson, G. (2023). Do environmental temperatures and altitudes affect physical outputs of elite football athletes in match conditions? A systematic review of the 'real world' studies. *Science and Medicine in Football*, *7*(1), 81–92. https://doi.org/10.1080/24733938.2022.2033823

FIFA. (2021). *instat-fifa-epts-report-oct-2019*. Victoria University. Retrieved 4 Jule 2023 from https://digitalhub.fifa.com/m/2fd538ffbae39eb2/original/instat-fifa-epts-report-oct-2019.pdf

Gonçalves, L. G., Nobari, H., Rites, A. A., Nakamura, F. Y., Garcia, G. R., & Aquino, R. (2022). *Can contextual factors affect match running performance in elite youth soccer players? A case study in Brazil*. https://doi.org/https://doi.org/10.21203/rs.3.rs-1950718/v1

Hands, D. E., & Janse de Jonge, X. (2020). Current time-motion analyses of professional football matches in top-level domestic leagues: a systematic review. *International Journal of Performance Analysis in Sport*, *20*(5), 747–765. https://doi.org/0.1080/24748668.2020.1780872

Hoppe, M., Slomka, M., Baumgart, C., Weber, H., & Freiwald, J. (2015). Match running performance and success across a season in German Bundesliga soccer teams. *International journal of sports medicine*, 563–566. https://doi.org/10.1055/s-0034-1398578

Jerome, B. W., Stoeckl, M., Mackriell, B., Seidl, T., Dawson, C. W., Fong, D. T., & Folland, J. P. (2023). The influence of ball in/out of play and possession in elite soccer: Towards a more valid measure of physical intensity during competitive match-play. *European Journal of Sport Science*, *23*(9), 1892–1902. https://doi.org/10.1080/17461391.2023.2203120

Ju, W., Hawkins, R., Doran, D., Gómez-Díaz, A., Martín-García, A., Evans, M., Laws, A., & Bradley, P. (2023). Tier-specific contextualised high-intensity running profiles in the English Premier League: more on-ball movement at the top. *Biology of sport*, *40*(2), 561–573. https://doi.org/10.5114/biolsport.2023.118020

Klemp, M., Memmert, D., & Rein, R. (2022). The influence of running performance on scoring the first goal in a soccer match. *International Journal of Sports Science & Coaching*, *17*(3), 558–567. https://doi.org/10.1177/17479541211035382

Lago-Peñas, C. (2012). The role of situational variables in analysing physical performance in soccer. *Journal of Human kinetics*, *35*(1), 89–95. https://doi.org/10.2478/v10078-012-0082-9

Lago-Peñas, C., Rey, E., & Lago-Ballesteros, J. (2012). The influence of effective playing time on physical demands of elite soccer players. *The Open Sports Sciences Journal*, *5*(1). https://doi.org/10.2174/1875399X01205010188

Moalla, W., Fessi, M. S., Makni, E., Dellal, A., Filetti, C., Di Salvo, V., & Chamari, K. (2018). Association of physical and technical activities with partial match status in a soccer professional team. *The Journal of Strength & Conditioning Research*, *32*(6), 1708–1714. https://doi.org/10.1519/JSC.0000000000002033

Modric, T., Gabrilo, G., & Peric, M. (2022). Match Outcome and Running Performance Among UEFA Champions League Soccer Players. *Studia sportiva*, *16*(2), 24–31.

Modric, T., Malone, J. J., Versic, S., Andrzejewski, M., Chmura, P., Konefał, M., Drid, P., & Sekulic, D. (2022). The influence of physical performance on technical and tactical outcomes in the UEFA Champions League. *BMC Sports Science, Medicine and Rehabilitation*, *14*(1), 1–9. https://doi.org/10.1186/s13102-022-00573-4

Modric, T., Versic, S., Chmura, P., Konefał, M., Andrzejewski, M., Jukic, I., Drid, P., Pocek, S., & Sekulic, D. (2022). Match running performance in UEFA champions league: Is there a worthwhile association with team achievement? *Biology*, *11*(6), 867. https://doi.org/10.3390/biology11060867

Modric, T., Versic, S., Drid, P., Stojanovic, M., Radzimiński, Ł., Bossard, C., Aftański, T., & Sekulic, D. (2021). Analysis of running performance in the offensive and defensive phases of the game: is it associated with the team achievement in the UEFA Champions League? *Applied Sciences*, *11*(18), 8765. https://doi.org/10.3390/app11188765

Modric, T., Versic, S., Stojanovic, M., Chmura, P., Andrzejewski, M., Konefał, M., & Sekulic, D. (2022). Factors affecting match running performance in elite soccer: Analysis of UEFA Champions League matches. *Biology of sport*, *40*(2), 409–416. https://doi.org/10.5114/biolsport.2023.116453

Morgans, R., Adams, D., Mullen, R., & Williams, M. D. (2014). Changes in physical performance variables in an English Championship League team across the competitive season: the effect of possession. *International Journal of Performance Analysis in Sport*, *14*(2), 493–503. https://doi.org/10.1080/24748668.2014.11868738

Morgans, R., Orme, P., & Michele, R. D. (2023). Impact of technical and physical performance on match outcome over five elite European soccer seasons. *The Journal of sports medicine and physical fitness*, *63*(3), 417–429. https://doi.org/10.23736/S0022-4707.22.14018-1

Oliva-Lozano, J. M., Martín-Fuentes, I., Granero-Gil, P., & Muyor, J. M. (2022). Monitoring Elite Soccer Players Physical Performance Using Real-Time Data Generated by Electronic Performance and Tracking Systems. *Journal of Strength and Conditioning Research*, *36*(11), 3224–3228. https://doi.org/10.1519/JSC.0000000000004082

Plakias, S., & Michailidis, Y. (2024). Factors Affecting the Running Performance of Soccer Teams in the Turkish Super League. *Sports*, *12*(7), pp. 196. https://doi.org/10.3390/sports12070196

Plakias, S., Moustakidis, S., Kokkotis, C., Papalexi, M., Tsatalas, T., Giakas, G., & Tsaopoulos, D. (2023). Identifying Soccer Players' Playing Styles: A Systematic Review. *Journal of Functional Morphology and Kinesiology*, *8*(3), pp. 104. https://doi.org/10.3390/jfmk8030104

Plakias, S., Tasoulis, S., Kyranoudis, A. E., Kokkotis, C., & Moustakidis, S. (2025). The Limited Impact of Running Performance on Football Success in the Turkish Super League. *Applied Sciences*, *15*(2), 637. https://doi.org/10.3390/app15020637

Plakias, S., Tsatalas, T., Moustakidis, S., Kalapotharakos, V., Kokkotis, C., Papalexi, M., Giakas, G., & Tsaopoulos, D. (2023). Exploring the influence of playing styles on physical demands in professional football. *Human Movement*, *24*(4), 36–43. https://doi.org/10.5114/hm.2023.133919

Pranjic, T., Modric, T., & Uljevic, O. (2022). Match Running Performance in UEFA Champions League: Do More Successful Teams Really Run Less? *Sport Mont*, *20*(3), 9–13. https://doi.org/10.26773/smj.221002

Pratas, J. M., Volossovitch, A., & Carita, A. I. (2018). Goal scoring in elite male football: A systematic review. *Journal of Human Sport and Exercise 13*(1), 218–230. https://doi.org/10.14198/jhse.2018.131.19

Prieto, J., Gómez, M.-Á., & Sampaio, J. (2015). From a static to a dynamic perspective in handball match analysis: A systematic review. *The Open Sports Sciences Journal*, *8*(1). https://doi.org/10.2174/1875399X01508010025

Radziminski, L., Szwarc, A., Jastrzebski, Z., & Rzeszutko-Belzowska, A. (2022). Relationships between technical and physical match performance in elite soccer. *Baltic Journal of Health and Physical Activity*, *14*(4), 1. https://doi.org/10.29359/BJHPA.14.4.01

Rampinini, E., Coutts, A. J., Castagna, C., Sassi, R., & Impellizzeri, F. (2007). Variation in top level soccer match performance. *International journal of sports medicine*, *28*(12), 1018–1024. https://doi.org/10.1055/s-2007-965158

Vilamitjana, J., Heinze, G., Verde, P., & Calleja González, J. M. (2021). High-intensity activity according to playing position with different team formations in soccer. *Acta Gymnica*, *51*. https://doi.org/10.5507/ag.2021.003

Zhou, C., Calvo, A. L., Robertson, S., & Gómez, M.-Á. (2021). Long-term influence of technical, physical performance indicators and situational variables on match outcome in male professional Chinese soccer. *Journal of sports sciences*, *39*(6), 598–608. https://doi.org/10.1080/02640414.2020.1836793

Cite this article as: Plakias, S. (2025). Do better ranked teams run more in soccer? *Central European Journal of Sport Sciences and Medicine*, *2*(50), 69–78. https://doi.org/10.18276/cej.2025.2-06