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RESEARCH ARTICLE

Situational efficiency of clubs in the group stage of the UEFA Europa League 2023/2024

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Aim: To investigate differences in situational performance parameters in football – specifically, in attack and defense between more successful and less successful clubs during the group stage of the UEFA Europa League in the 2023/2024 season.

Methods: We analyzed 32 clubs divided into eight groups, each consisting of four teams: 16 clubs advanced to the knockout stage (more successful clubs), while the remaining 16 ended their participation after the group stage (less successful clubs). We analyzed key variables of situational efficiency in attack and defense and compared them between clubs using *t*-tests. We set the level of statistical significance at $P < 0.05$.

Results: More successful teams had significantly higher values in the following attacking variables: goals scored ($P < 0.001$), shots on target ($P = 0.012$), shots on goal ($P = 0.002$), shots blocked by opponent ($P = 0.049$), number of passes ($P < 0.001$), number of accurate passes ($P < 0.001$), possession ($P < 0.001$), and percentage of accurate passes ($P < 0.001$). In contrast, less successful teams had significantly higher values in three defensive variables: goals conceded ($P < 0.001$), blocks ($P = 0.031$), and tackles ($P = 0.015$).

Conclusions: Significantly higher average values of attacking variables for the more successful teams highlight the importance of offensive play, which creates more opportunities to score goals and achieve better results. This is further supported by the finding that passing accuracy and possession were significantly higher in the more successful teams. Less successful teams had significantly higher values for three defensive variables (goals conceded, tackles, and blocks), as such teams often defend their goal for a larger part of the game, likely due to a lack of quality both at the individual player and the team level.

Keywords: situational efficiency; ball possession; UEFA Europa League; group stage; attack and defense

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Introduction

Modern football brings numerous innovations, both in tactical terms and in the player's physical preparation, and requires a high level of technical, tactical, physical, and psychological readiness (*1–4*). It is a dynamic and complex game in which players often run up to 8–12 kilometers during 90 minutes (*5*). As football is becoming increasingly demanding for both players and teams, it is constantly changing and evolving, which is reflected in the analysis of data from various leagues and competitions worldwide.

Parameters of situational efficiency in offense and defense are often obtained through notational analysis. This method involves recording events during a sportzs competition and analysing them statistically (*6*). It can be used to compare the effectiveness of different tactical approaches and to minitor individual player development (*7*). Such analysis enables coaches, professional staffs and players to identify the strengths and weaknesses of opposing teams (*8*). Situational efficiency is typically described using offensive and defensive variables. The defensive phase sbegins when a team loses possession, while the offensive phase starts when possession is regained, either through an opponent's error or ball recovery. Various researchers have studied situational efficiency to determine which indicators contribute most to a team's victories or defeats. By analyzing the matches of the 2006 FIFA World Cup, the authors concluded that most goals are scored from organized attacks (47.1%), followed by set pieces (32.6%), and the least from counterattacks (20.3%) (*2*). Lago-Peñas and colleagues (*9*) analyzed the variables that differentiated clubs of different success levels in the group stages of the UEFA Champions League from 2007 to 2010. They found that winning teams had significantly higher average values for the total number of shots, shots on goal, efficiency, passes, successful passes, and ball possession. A study of three consecutive World Cups (2002, 2006, 2010) concluded that the attacking variables that most differentiated winning from losing teams were goals scored, total shots, shots on target, and ball possession (*10*).

Knowledge and understanding of certain parameters can assist coaches when planning and programming the training process, as it provides insight into the variables that distinguish more successful teams from less successful ones, both in attack and defense. Therefore, we aimed to determine the parameters of situational performance in attack and defense and analyze the differences between more and less successful clubs by comparing those clubs that advanced and those that did not advance in the group stage of the UEFA Europa League in the 2023/2024 season. By analyzing situational variables such as ball possession, the number of shots on goal, pass accuracy, and defensive actions, we further sought to determine which factors most influence a club's progression to the next stages of the competition.

Methods

Sample

Our sample consisted of football clubs that participated in the group stage of the UEFA Europa League in the 2023/2024 season. We sourced all performance data from UEFA's official match reports and statistical platform (*11*), which employs standardized protocols for event tracking and data collection, ensuring consistency and reliability across all matches. We analyzed 32 clubs divided into eight groups, each with four clubs. Of these 32 clubs, 16 advanced to the knockout stage of the competition and were considered as more successful clubs, while the remaining 16 clubs were labeled as unsuccessful, as they were eliminated after the group stage.

Variables

We analyzed key variables of situational efficiency in attack and defense, which are crucial for the success of football clubs in the group stage of the UEFA Europa League 2023/2024. This includes parameters that reflect the effectiveness of clubs in offensive and defensive situations (**Table 1**).

Table 1. Offensive and defensive parameters for evaluating the quality of football play (*9*)

Offensive variables	Defensive variables
Number of goals scored	Goals conceded
Shots on goal	Ball recoveries
Shots on target	Tackles
Blocked shots by opponent (in the opponent's half)	Blocks
Corners	Clearances
Offside	Yellow cards
Possession (%)	Red cards
Percentage of accurate passes (%)	Fouls
Number of passes	
Number of accurate passes	

Statistical analysis

We used Statistica 14 (TIBCO Software Inc., Palo Alto, CA, USA) for data analysis, enabling precise analysis of situational efficiency variables in attack and defense of football clubs in the group stage of the UEFA Europa League 2023/2024. Wesummarised the basic characteristics of the offensive and defensive performance variables through descriptive statistics, presenting them as frequencies and percentages or means and standard deviation, and checked the normality of their distribution using the Kolmogorov-Smirnov test. We analyzed for statistically significant differences between clubs that advanced and those that did not pass the group stage of the competition using an independent samples *t*-test. The level of statistical significance was set at $P < 0.05$.

Results

Statistically significant differences were found in several attacking variables (**Table 2**). More successful teams scored more goals, had more shots on goal and shots on target, and achieved better results in possession and passing metrics (P < 0.001). Less successful teams recorded a higher number of blocked shots (P = 0.049). Differences in the number of corners and offsides were not statistically significant.

Table 2. Comparison of offensive variables between more successful and less successful teams in the UEFA Europa League 2023/2024 season

Variables	Outcome for teams, mean (standard deviation)		*P*
	Successful	Less successful	
Number of goals scored	2.00 (0.63)	1.05 (0.48)	<0.001
Shots on goal	13.60 (2.09)	11.30 (2.71)	0.012
Shots on target	5.13 (1.08)	3.77 (1.19)	0.002
Shots blocked by opponent	16.06 (5.47)	20.13 (5.71)	0.049
Corners	5.07 (2.33)	4.28 (1.21)	0.103
Offside	9.44 (3.50)	10.88 (5.10)	0.360
Possession (%)	53.28 (4.80)	46.57 (4.23)	<0.001
Number of passes	502.58 (72.54)	405.91 (53.92)	<0.001
Number of accurate passes	426.19 (76.37)	321.64 (56.74)	<0.001
Percentage of accurate passes	83.82 (3.52)	78.85 (4.42)	<0.001

*t-test.

More successful teams conceded significantly fewer goals (1.13 vs. 2.03; $P < 0.001$). Less successful teams recorded higher numbers of tackles ($P = 0.015$) and blocks ($P = 0.031$). We observed no significant differences in ball recoveries, clearances, disciplinary records (yellow/red cards), or fouls committed (**Table 3**).

Table 3. Comparison of defensive variables between more successful and less successful teams in the UEFA Europa League 2023/2024 season

Variables	Outcome for teams, mean (standard deviation)		*P*
	Successful	Less successful	
Number of conceded goals	1.13 (0.44)	2.03 (0.57)	<0.001
Ball recoveries	38.45 (4.17)	39.00 (2.80)	0.464
Tackles	69.63 (13.31)	81.63 (13.07)	0.015
Blocks	16.06 (5.47)	20.75 (6.20)	0.031
Clearances	16.66 (3.38)	19.28 (5.34)	0.107
Yellow cards	2.08 (0.67)	2.43 (0.89)	0.229
Red cards	0.81 (2.23)	0.69 (0.95)	0.838
Fouls	11.75 (1.53)	12.06 (1.91)	0.613

*t-test.

Discussion

Success in football depends on various technical, tactical, and physiological factors, but one of the key elements that distinguishes winning teams from losing ones is effectiveness in the final third of attack phase and the number of goals conceded. The main predictor of success in football is effectiveness in the final third, defined as the ratio of goals scored to the total number of shots on goal. Offensive efficiency can also be further analyzed through the number of shots on goal, shots on target, and the percentage of conversion of chances. Previous research (*12*) identified indicators that significantly differentiated between winning and losing teams, including goals scored, headers, right-footed shots, corner kicks, and open play situations. Regarding passing sequences, there was a significant difference between the two teams in short passing sequences. Here we found that teams that advanced past the group stage had a significantly higher number of goals scored, which was associated with a higher total number of shots and shots on target compared to teams that did not progress. A higher number of goals scored may indicate the tendency of more successful teams towards a more offensive style of play.

In addition to offensive metrics, a significant factor in determining team success is ball possession. The results show that teams that advanced had a significantly higher percentage of possession compared to teams that did not (53.28% vs. 46.57%; $P < 0.001$). Furthermore, research suggests that higher level teams had significantly higher possession than intermediate and low-level teams (*13*). Moreover, the greater the difference in possession percentage between two teams, the higher the likelihood of the team with greater possession winning. An analysis of three World Cups (Korea/Japan 2002, Germany 2006, South Africa 2010) showed that possession was one of the main variables distinguishing winning teams from losing teams (*10*).

Another important factor for team success is passing accuracy. Our results show that more successful teams had significantly higher passing accuracy compared to less successful ones (83.82±3.52% vs. 78.85±4.42%). Additionally, a higher number of total passes suggests a greater potential for creating key passes that can break the opponent's defensive lines and create goal-scoring opportunities. Besides offensive factors, a key indicator of team success is the number of goals conceded. More successful teams concede significantly fewer goals than less successful ones, indicating their technical and tactical superiority. A good defensive performance can result in fewer defensive actions and allow for better control of the game through ball possession.

Analysis of defensive parameters reveals significant differences between more successful and less successful teams. As expected, less successful teams recorded significantly higher average values in defensive indicators. This suggests a more pronounced defensive tendency in such teams, which are often forced to make more defensive interventions due to their inferior position on the field. Their tactical orientation is conditioned by the superior play of the opposing team, leading to a greater need for defensive actions and more time spent defending. Among the analyzed variables, the more successful and less successful teams did not differ significantly in their number of offsides. However, as the latter had a higher number of offsides, this might indicate a lack of coordination and synchronization

in offensive actions, although it could also be the result of the opposing team having successfully organized their defensive lines.

Additionally, less successful teams recorded higher values for parameters such as tackles and blocks, confirming their predominantly defensive style of play. This suggests that they were more frequently in situations where they had to react to opposing attacks, forcing them to opt for more defensive interventions. Analysis of disciplinary parameters showed that, although less successful teams had a higher average number of yellow cards, the differences between them were not statistically significant. This may indicate that aggressiveness in duels is not a key factor in determining the success of a team. We observed a similar trend with red cards, where more successful teams had slightly higher values, but again, there were no significant differences. This data suggests that individual exclusions due to "undesirable aggression" were not decisive for the final outcome of the competition.

This analysis has several important implications for the success of football clubs both in the UEFA Europa League and other competitions. Regarding the attacking characteristics of teams, successful teams should focus on controlling the game through passing to create more efficient attacks and better goal-scoring opportunities. Moreover, improving defensive structures through better organization, coordination, and anticipation of the opponent's moves could reduce the need for urgent interventions and ensure better defensive stability.

The limitations of this study primarily relate to the sample size, which includes only one season of the UEFA Europa League. For more adequate conclusions, a longer period should be monitored to identify a trend in changes in both attacking and defensive play. Key factors for determining success should also include the quality of the opponent and the location of the matches played. We recommend more controlled studies on how soccer-related fatigue affects technical skills, fitness, and cognition separately (*14*). Additionally, UEFA Europa League is the second strongest club competition after the UEFA Champions League, and future research could focus on comparing the efficiency of clubs between these two competitions. Such data could provide parameters that differentiate clubs playing in the two most prestigious competitions in Europe. Based on this data, coaches could gain insights into variables they can influence through the training process and, in doing so, raise the level of play both individually and as a team.

Conclusions

The results of this study confirm the importance of several key factors in determining the success of football teams in the group stage of the 2023/2024 UEFA Europa League. Efficiency in finishing attacks, ball possession, and passing accuracy proved to be crucial elements differentiating successful teams from less successful ones. Teams with a higher number of goals scored, a higher percentage of ball possession, and better passing accuracy were more likely to progress to the next stage of the competition. While ball possession remains a significant predictor of success, its importance decreases in matches between teams of similar quality, suggesting that the quality difference between teams is a key feature in such situations. Conversely, less successful teams showed a greater defensive

orientation, evidenced in higher values of indicators such as blocked shots, sliding tackles, fouls, and lost balls. Although differences in disciplinary parameters such as yellow and red cards appeared, they were not statistically significant, indicating that aggressiveness, at least in the context of this study, was not a key factor significantly affecting team success. These findings can help coaches and analysts shape tactics and strategies that maximize the chances of winning, as well as focus on key aspects of the game that lead to success in competitions like the UEFA Europa League.

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References

1. Araújo SS, Mesquita TRR, Santos RM, Oliveira JEL, Alves ARA. Anthropometric, functional, and metabolic profiles of soccer players. J Exerc Physiol Online. 2012;15(6):37–48.
2. Armatas V, Yiannakos A. Analysis and evaluation of goals scored in 2006 World Cup. J Sport Health Res. 2010;2(2):119–28.
3. Bangsbo J. Fitness training in football: a scientific approach. Bagsvaerd (Denmark): HO + Storm; 1994.
4. Barišić V. Kineziološka analiza taktičkih sredstava u nogometnoj igri [dissertation]. Zagreb (Croatia): Sveučilište u Zagrebu, Kineziološki fakultet; 2007.
5. Sporiš G, Jukić I, Ostojić SM, Milanović D. Fitness profiling in Soccer: Physical and physiologic characteristics of elite players. J Strength Cond Res. 2009;23(7):1947–53. doi: 10.1519/JSC.0b013e3181b3e141
6. Hughes M. Notational analysis. In: Reilly T, editor. Science and soccer. 2nd ed. London (UK): Routledge; 2003. p. 253–272.
7. Sarmento H, Martinho DV, Gouveia ÉR, Afonso J, Chmura P, Field A, et al. The influence of playing position on physical, physiological, and technical demands in adult male soccer matches: a systematic scoping review with evidence gap map. Sports Med. 2024;54(11):2841–64. doi: 10.1007/s40279-024-02088-z
8. Carling C, Bloomfield J, Nelsen L, Reilly T. The role of motion analysis in elite soccer: contemporary performance measurement techniques and work rate data. Sports Med. 2008;38:839–62. doi: 10.2165/00007256-200838100-00004

9. Lago-Peñas C, Lago-Ballesteros J, Rey E. Differences in performance indicators between winning and losing teams in the UEFA Champions League. J Hum Kinet. 2011;27:135–46. doi: 10.2478/v10078-011-0011-3

10. Castellano J, Casamichana D, Lago C. The use of match statistics that discriminate between successful and unsuccessful teams in the FIFA World Cup. J Hum Kinet. 2012;31:139–47. doi: 10.2478/v10078-012-0015-7

11. UEFA. Season 2023/24 | UEFA Europa League 2023/24 [Internet]. UEFA.com. 2023 [cited 2025 Jul 26]. Available from: https://www.uefa.com/uefaeuropaleague/history/seasons/2024/

12. Safiq M, Sulaiman N, Adnan R. Differences in goal scoring and passing sequences between winning and losing team in UEFA-EURO Championship 2012. Int J Soc Behav Educ Econ Manage Eng. 2013;7(2):224–9. Available from https://www.researchgate.net/profile/Muhamad-Safiq/publication/281031993

13. Liu H, Yi Q, Giménez JV, Gómez MA, Lago-Peñas C. Performance profiles of football teams in the UEFA Champions League considering situational efficiency. Int J Perform Anal Sport. 2015;15(1):371–90. doi: 10.1080/24748668.2015.11868799

14. Rampinini E, Impellizzeri F. Technical performance during soccer matches of the Italian Serie A league: Effect of fatigue and competitive level. J Sci Med Sport. 2009;12(1):227–33. doi: 10.1016/j.jsams.2007.10.002