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Defending cutback scenarios in the 2023-24 English Premier League Season: The importance of defensive positioning and spatial organisation

Bradley Perrett^{a, b}, Julia West^a and John William Francis^{a*}

^a*School of Sport and Exercise Science, University of Worcester, UK;* ^b*Wrexham Football Club, Wrexham, UK*

*John William Francis – j.francis@worc.ac.uk / drjwfrancis@gmail.com

This study examines how the number and spatial distribution of players in defensive roles influence the success of defending cutback scenarios during match play in the English Premier League. A total of 563 cutback-related shot events from the 2023/24 season were analysed from Wyscout video footage using event-level coding in Hudl SportsCode, focusing on delivery areas and defensive organisation. Chi-Square tests and logistic regression were used to examine the influence of variables on defensive success. Results indicated that the number of defenders inside the penalty area did not significantly influence shot outcomes, challenging the assumption that defensive volume alone provides security. Instead, defensive effectiveness was strongly associated with player positioning, with two to three defenders located between the ball and the goal resulting in few goals conceded and more defensive interventions. While the delivery location had limited direct impact on defensive success, it influenced the likelihood of central shot creation, with near and central deliveries more frequently producing high-conversion opportunities. Overall, findings highlight that defensive success in cutback scenarios is driven by coordinated spatial organisation, anticipatory positioning, and collective decision-making rather than numerical superiority. These insights highlight the importance of central space protection and structured defensive coordination in elite football.

Keywords: cutback scenarios, defensive strategies, goalkeeping, football analysis, performance analysis

Word Count 5,339

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Introduction

Scoring goals remains the fundamental aspect of association football (henceforth football), serving as the ultimate objective of the game and a key determinant of success. Goals can be scored through a variety of methods, including through balls, crosses, cutbacks, and various passes into dangerous areas ¹. Yet, the interaction between attacking intentions, defensive organisation, and tactical structures employed by both teams plays a decisive role in shaping the likelihood of scoring ^{2,3}. Understanding the mechanisms through which goals are created, therefore, provides valuable insight into how to optimally organise players performing defensive duties to prevent them.

Recent research in the English Premier League and other European competitions has shown that between 68-70% of goals were scored with a one-touch finish ⁴. Crosses and passes into the penalty area create these unique opportunities by allowing attackers to move closer to the goal, reducing defensive reaction time and ultimately increasing the likelihood of scoring ⁵. Furthermore, deliveries originating from shorter distances and within the box increase further the probability of scoring ⁵. From a defensive perspective, these actions substantially reduce the time available for defenders and goalkeepers to perceive the threat, reorganise their positioning, and effectively intervene before a shot is taken.

Building on the offensive advantages associated with short-distance deliveries, cutbacks represent a distinct and increasingly prevalent mechanism of chance creation. FIFA defined a cutback as “A ball that is played diagonally backwards from any crossing zone, from close to the

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byline, and is aimed at a team-mate inside the penalty area”⁶. In practice, this scenario typically emerges when an attacker drives towards the byline and to one side of the goal before delivering the ball back into central areas such as the penalty spot or the edge of the 6-yard box. The prime target area consists of an 18.32-meter-wide rectangular area covering 7.32 meters (8 yards) from the penalty spot to within 2-yards inside the goal area, representing the key origin in which these deliveries are most often received⁷. With the pass originating from close proximity to the goal, the receiving attacker is often facing play and approaching the ball with forward momentum, increasing the likelihood of a quick one-touch finish. **These characteristics not only enhance attacking efficiency but also create a particularly demanding defensive environment, where players must rapidly coordinate their positioning while protecting central scoring spaces.** The FIFA Technical Study Group has highlighted that such deliveries create substantial defensive challenges, as the reduced ball travel time demands coordinated and collective defensive behaviours from both defenders and the goalkeeper⁸.

Effective defending, therefore, requires clarity over who covers which spaces, with the goalkeeper’s starting position at the front post considered crucial for enabling rapid reactions to the backwards pass, and for providing a reference for defenders to occupy the remaining angles and central lanes. These characteristics align with the prime target area described by Mitrotasios et al.⁵ and the spatial definitions proposed by Yamada and Hayashi⁷, who highlight that passes delivered from within the penalty area are harder to defend due to shorter distances and more favourable receiving conditions for attackers than longer distance crosses, where the ball is travelling across the body, often in the air and likely to be behind the oncoming player.

Given these spatial and temporal constraints, the effectiveness of defensive responses to cutbacks is likely to depend less on the mere presence of defenders and more on how effectively

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defensive players organise and occupy key spaces around the goal. Cutback actions place significant demands on defensive structures, often exposing underlying vulnerabilities in how defenders maintain compactness and manage rapid changes in attacking direction. Welch et al.⁹ found that attackers frequently ‘prey on the gaps generated by fragmenting the opposing defence’ (p. 14), highlighting how sudden changes of direction can compromise defensive organisation. Whilst teams generally display greater defensive structure and positional organisation when out of possession, rapid changes in the direction of attacking play may still disrupt defensive arrangements and create exploitable gaps⁹. Successful defensive play is typically characterised by a level of compactness^{10,11}, which is critical among the five nearest defenders responsible for protecting central zones. However, the nature of a cutback scenario can draw multiple defenders toward the byline, inadvertently exposing the central and wider spaces approximately 4-12 yards away from the goal. Similarly, studies applying tracking data have shown that disruptions to defensive structure reduce spatial control and increase the likelihood of high-quality shots being conceded¹². Plakias et al.¹³ found that goals at the elite level frequently originate from central areas close to goal, reinforcing the importance of protecting these spaces during defensive phases of play. The cutback, therefore, functions as a hybrid action, initiated from a wide position but designed to deliver the ball into central zones where goal-scoring likelihood is greatest.

Beyond spatial organisation, defensive behaviour may also be influenced by temporal and contextual factors that evolve throughout a match. Physical and tactical demands of football fluctuate across match periods, with evidence suggesting changes in player movement patterns, recovery behaviours, and decision-making as fatigue accumulates and match context develops¹⁴. Defensive organisation is not solely determined by tactical intentions but also by players’ ability

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to repeatedly recover positions and maintain compactness under physical and cognitive pressure¹⁵. Furthermore, match situations often become increasingly consequential during the latter stages of play, leading teams to adapt their tactical behaviours in response to scoreline, perceived risk, and game management¹⁴. Consequently, the number and positioning of players performing defensive duties during cutback situations may vary across match periods, particularly during the closing stages of the match when both attacking urgency and defensive recovery demands may be heightened.

Despite the established attacking value of cutbacks and the recognised organisational challenges they pose, limited research has examined how players performing defensive duties collectively organise to reduce the likelihood or quality of the resulting shot. Despite the prevalence of cutback actions and their recognised impact on goal-scoring likelihood, no empirical work has systematically examined how Premier League teams arrange defensive players in these moments, nor how variations in defensive numbers, spatial configurations, or match-contextual factors influence defensive success.

Based on the existing knowledge surrounding defensive compactness, spatial organisation, central space protection, and defensive adaption under pressure, the following hypotheses were proposed:

- (H1) A greater number of defenders positioned inside the penalty area will be associated with a higher likelihood of defensive success during cutback scenarios.
- (H2) A greater number of defenders positioned between the ball and the goal will be associated with increased likelihood of the shot being blocked, saved or otherwise successfully defended.

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- (H3) Cutback deliveries originating from wider and more distant locations will result in greater defensive success than cutbacks delivered from more central locations.
- (H4) The number of defenders positioned between the ball and the goal will vary across different match time periods.
- (H5) A greater number of defenders will be positioned between the ball and the goal during the final 15 minutes of play compared with earlier match periods.

The objective of this study was to investigate the relationship between defensive organisation and defensive success during cutback scenarios in the 2023/24 English Premier League season. Specifically, the study examined (a) the number of defenders positioned inside the penalty area, (b) the number of defenders positioned between the ball and the goal, (c) cutback delivery location, and (d) match time period, and their association with defensive outcomes following cutback situations. In doing so, this study extends current understanding of the defensive demands of cutback situations and generates actionable insights for practitioners seeking to optimise defensive organisation against one of the most tactically challenging forms of chance creation in modern football.

Methods

A retrospective observational design study was used, situated within a post-positivist research stance. Match footage was analysed to explore tactical and contextual factors associated with cutback scenarios. Findings are presented as context-specific patterns of associations rather than causal explanations. Access to the match footage and event data was granted through an institutional licence agreement by Hudl (Lincoln, NE), acting as the gatekeeper for the Hudl Wyscout (Hudl, Lincoln, NE) platform, and institutional ethical approval was granted before

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data collection.

Sample

The sample consisted of 380 matches from the 2023-2024 English Premier League season, including all home and away fixtures involving the leagues' 20 teams. Initially, video footage and event data of all shot attempts ($n = 9,727$) occurring during the sampled matches were extracted from Hudl Wyscout software (<https://wyscout.hudl.com/app/>) and imported into Hudl SportsCode (Hudl, Lincoln, NB). Each shot attempt was subsequently reviewed, and only those shot attempts that followed a ball delivery from a predefined cutback delivery zone and shots that were taken directly from this designated cutback zone¹ were retained for further analysis ($n = 563$). Shot attempts were excluded if the preceding action did not originate from the designated cut-back delivery area, or if the video footage or associated event data lacked sufficient visual clarity or completeness for accurate analysis. Due to the study examining all cutback scenarios occurring across a full Premier League season, the sample size was determined by ecological constraints rather than a priori power estimation.

Validity and reliability process

Drawing on established validity and reliability guidelines for developing a data collection system¹⁶, an initial list of performance variables was generated by the first author based on applied

¹ Cutback delivery zone - the wide area between the outer edge of the six-yard box and the edge of the penalty area, extending from the byline to the top of the six-yard box, from which a low backward pass is played.

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performance analysis experience (5+ years' experience) and a review of relevant literature ^{7,11,17}. These variables were subsequently refined through expert consultation. The panel comprised an English Premier League coach with over 10 years of professional coaching experience and a UEFA-A goalkeeping licence; a former professional goalkeeper who is now working as a UEFA-B qualified goalkeeper coach working within a Premier League academy with over five years of professional coaching experience; and the second author, a UEFA B licensed coach, FA Level 2 Goalkeeping Coach and a member of a Football Association-led Goalkeeper Programme with over 20 years of coaching experience. The process generated wider discussions around a largely unexplored research area, resulting in the identification of 52 action variables grouped into 14 performance categories. Through these discussions, clear operational definitions were established for each variable and performance category to strengthen both the content and construct validity, acknowledging that the selected variables and definitions reflect the experts' perspectives applied within this study. **A comprehensive list of operational definitions for the action variables and performance categories is provided in Supporting Document 1 to support transparency, replication, and interpretation of the findings.**

For this study, a cutback was operationally defined as 'an attacking pass delivered low from near the byline, within the wide area between the outer edge of the six-yard box and the edge of the penalty area, played back towards the centre of the penalty area'. A cutback does not include traditional crosses played beyond or across the defensive lines, pull-backs delivered from outside the penalty area, and recycling passes aimed at possession retention rather than chance creation. **The receiving player was not required to be located within a predefined target zone. Rather, all direct shots resulting from eligible cutback deliverers were retained for analysis, with shot location subsequently classified as a separate analytical variable.** Only the immediate action

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preceding the shot attempt was considered when identifying cutback deliveries. Cutbacks that had a single deflection, not characterised as a conscious action by the defender, on the way to the attacker were also included.

The agreed action variables and performance indicators were used to create a custom code window (Figure 1) in Hudl SportsCode (Hudl, Lincoln, NA). The first and last authors undertook approximately 15 hours of system familiarisation over two weeks to ensure knowledge and proficiency in data collection procedures before undertaking the reliability assessment.

Intra-observer and inter-observer reliability assessments were undertaken using a sample of 66 shots from three different teams. Intra-observer testing was undertaken by the first author, with a re-test four weeks later to minimise recall bias. Inter-observer testing was conducted independently by the final author, using the first author's agreed observation as the reference data set. Cohen Kappa Coefficient thresholds¹⁸ were used to aid the interpretation of the accuracy of the first and final authors' data collection. All intra-observer and inter-observer Kappa values ranged from 0.94 to 1.00, indicating almost perfect agreement across all performance categories. The research team reviewed minor disagreements to gain clarification and address the source of disagreement.

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Delivery Location			
Near	Centre	Far	
Shot Location			
Near	Centre	Far	Cutback Delivery Location
Shot Outcome			
Goal	Saved	Off Target	Blocked
Outcome Location			
Near	Centre	Far	N/A
Strike Height			
Low	Middle	High	N/A
Shot Distance			
0-6 yards	7-12 yards	13-18 yards	Cutback area
Game Status			
Winning	Drawing	Losing	
Game Time			
1-15	16-30	31-45+	
45-60	61-75	76-90+	

Attacking Numbers									
1	2	3	4	5	6	7	8	9	10
Defending Numbers									
1	2	3	4	5	6	7	8	9	10
Players Between Ball and Goal									
1	2	3	4	5	6	7	8	9	10
Body Part									
One Hand - Inside	One Hand - Outside		Two Hands		Body				
Feet	Diving One Hand Inside		Diving One Hand Outside		No Save				
Parried Outcome									
Second Shot		Cleared		Held		Deflected			
Defending Team Retained			In Possession Team Retained			No Save			
Save Type									
Reactive			Proactive			No Save			
Defensive Success									
Successfully Defended					Unsuccessfully Defended				

Figure 1: Hudl SportsCode code window.

Table 1: Intra- and inter-rater observer reliability results expressed as Kappa values.

Performance	Intra-Rater Observer	Inter-Rater Observer
Attacking Numbers	1.00	1.00
Body Part	0.93	1.00
Defending Numbers	1.00	1.00
Delivery Location	1.00	1.00
Game State	1.00	1.00
Game Time	1.00	0.98
Outcome Location	0.97	0.97
Parried Outcome	1.00	1.00
Players Between Ball & Goal	1.00	1.00
Save Type	1.00	1.00
Shot Location	0.98	1.00
Shot Outcome	0.98	1.00
Strike Distance	0.98	1.00
Strike Height	0.94	1.00

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Procedure

Using the assessed coding template, each cutback-related shot attempt was manually coded in Hudl SportsCode (Hudl, Lincoln, NA) using Labels Mode by the first author. Operational definitions were accessible and reviewed throughout the process to maintain consistency, and no changes were made. Randomised shot attempt checks were undertaken by all members of the research team once each team's attempts had been coded. Any identified discrepancies were discussed and resolved before continuing the data collection. Upon completion, all coded data were exported from Hudl SportsCode (Hudl, Lincoln, NA) as a CSV file via the Sorter view and stored securely for further data analysis.

Data handling and analysis

All data handling and analysis were conducted in RStudio (version 2026.01.1+403, RStudio, PBC, Boston, MA), using the following packages: tidyverse, janitor, ggplot2, MASS, car, pROC and performance. Analyses were conducted at the event level, with individual cutback shot attempts serving as the unit of analysis. All variables were analysed as categorical or discrete predictors. Initial descriptive analyses, using frequencies and percentage distributions, were calculated to describe patterns of occurrence and contextual variation. Bivariate associations were examined using chi-square tests of independence to examine associations between performance variables and shot outcome or defensive success. Monte Carlo simulation (2,000 replications) was used, where chi-squared assumptions were violated due to sparse cells. Effect sizes were calculated using Cramér's V, interpreted as small (≈ 0.10), moderate (≈ 0.30), and large (≥ 0.50)¹⁹. To identify independent predictors of defensive success, a binary logistic regression model was fitted. A full model was initially specified using all candidate predictors

and Defensive Success (Yes/No). Backward stepwise selection based on Akaike’s Information Criterion (AIC) was then applied, resulting in a reduced, focused final model that retained only predictors meaningfully associated with defensive success. Model estimates are reported as log-odds coefficients with positive values indicating increased likelihood of defensive success. Model performance was evaluated using the Receiver Operating Characteristic (ROC) curve analysis, with the Area Under the Curve (AUC) used to assess discriminatory capability. Multicollinearity was assessed using generalised variance inflation factors (GVIF). Statistical significance was set at $p < .05$ for all analyses.

Results

Distribution of Cutback Situations

Across the 2023/24 Premier League season, 563 cutback situations were taken by the 20 competing teams, with the proportion of cutbacks taken by teams showing a relatively narrow spread, but with clear variations between clubs (Table 2). Bournemouth ($n = 41$), Aston Villa ($n = 36$), West Ham ($n = 36$), and Burnley ($n = 35$) took the highest share of cutback situations. Whilst Manchester City ($n = 16$), Brentford ($n = 17$) and Arsenal ($n = 20$) took the lowest, most other teams clustered between 21 and 34, reflecting broadly similar exposure levels across the league.

Table 2: Frequency and proportion of cutback shots taken by each team during the 23/24 Premier League season.

Team	Total Shots Taken	Cutback Shots	Cutback as % of Total Shots Taken
Arsenal	612	20	3.27%
Aston Villa	475	36	7.58%
Bournemouth	506	41	8.10%
Brentford	430	17	3.95%

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Brighton	526	31	5.89%
Burnley	403	35	8.68%
Chelsea	515	30	5.83%
Crystal Palace	414	31	7.49%
Everton	473	25	5.29%
Fulham	467	21	4.50%
Liverpool	737	22	2.99%
Luton Town	397	34	8.56%
Manchester City	658	16	2.43%
Manchester United	517	34	6.58%
Newcastle United	513	24	4.68%
Nottingham Forest	418	26	6.22%
Sheffield United	337	27	8.01%
Tottenham Hotspur	551	27	4.90%
West Ham United	412	36	8.74%
Wolverhampton Wanderers	401	30	7.48%
Total	9762	563	5.77%

Cutback situations occur relatively consistently across match periods, but with a clear increase in the final 15 minutes (23.3%; Figure 2) and lower incidences appearing in the opening 15 minutes (14.2%). Nearly half of all cutbacks originated from the “Near” zone (48%), with substantially fewer delivered from central areas (30.2%) and wider or deeper “Far” locations (21.8%; Figure 2). Game state also shapes the occurrence of cutbacks, with the highest proportion arising when teams are drawing (41.2%) compared with lower rates when winning (26.3%) or losing (32.5%, Figure 2).

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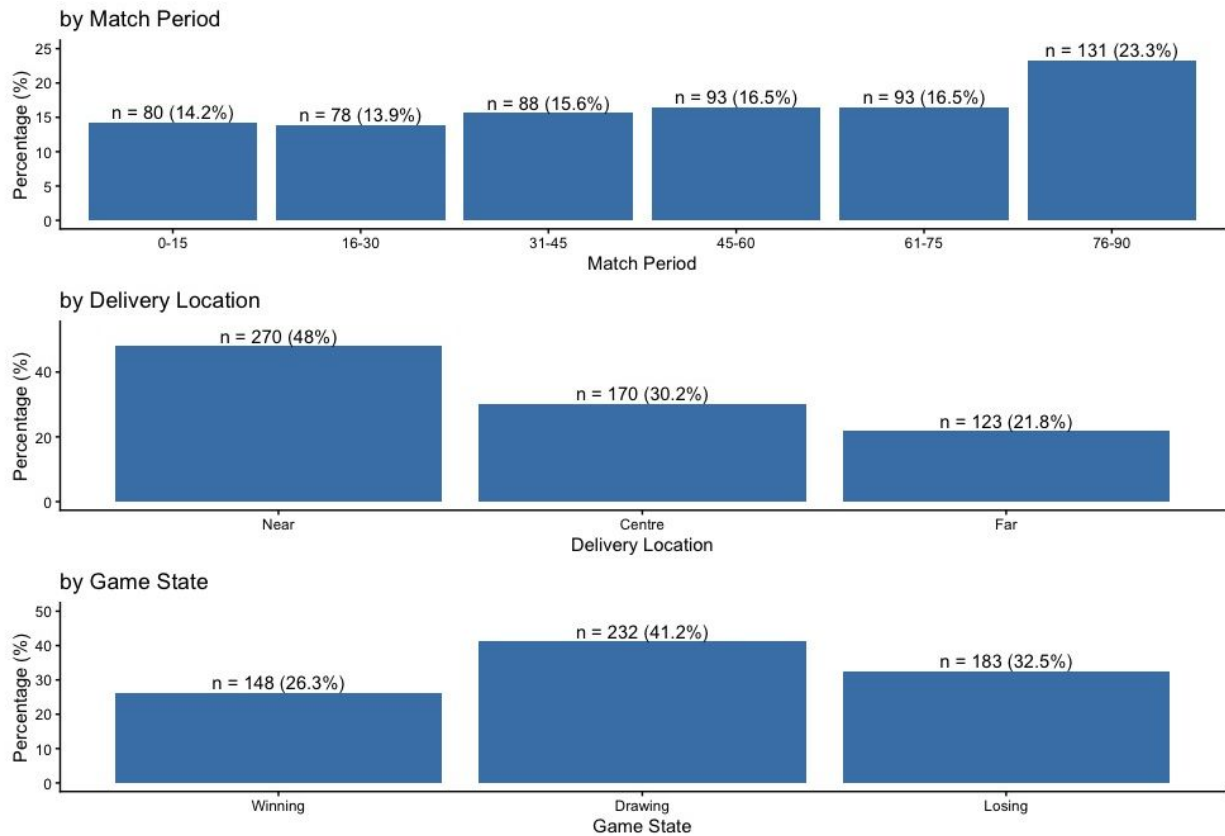


Figure 2: Percentage distribution trends of cutback situations by match period, delivery location and game state.

Defensive Density and Shot Outcome

The distribution of defensive numbers inside the box across shot outcomes shows a broadly similar pattern, with the highest densities occurring when six to eight defenders are present (Figure 3). Shots that were blocked (26.0%) or saved (27.1%) most commonly occurred under heavier defensive pressure. Goals also tended to occur in situations with substantial defensive presence, with 21.0-25.0% occurring at the six to eight range, indicating no obvious concentration of goals in low-density defensive scenarios. Statistical analysis supported this pattern, with a chi-square test using Monte Carlo simulation (2000 replicates) revealing no

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significant relationship between defensive numbers in the box and the resulting shot outcome ($\chi^2 = 33.36$, $p = .082$, $V = 0.141$). This indicates that differences in defensive density were not strongly related to whether a shot was blocked, missed, saved, or resulted in a goal.

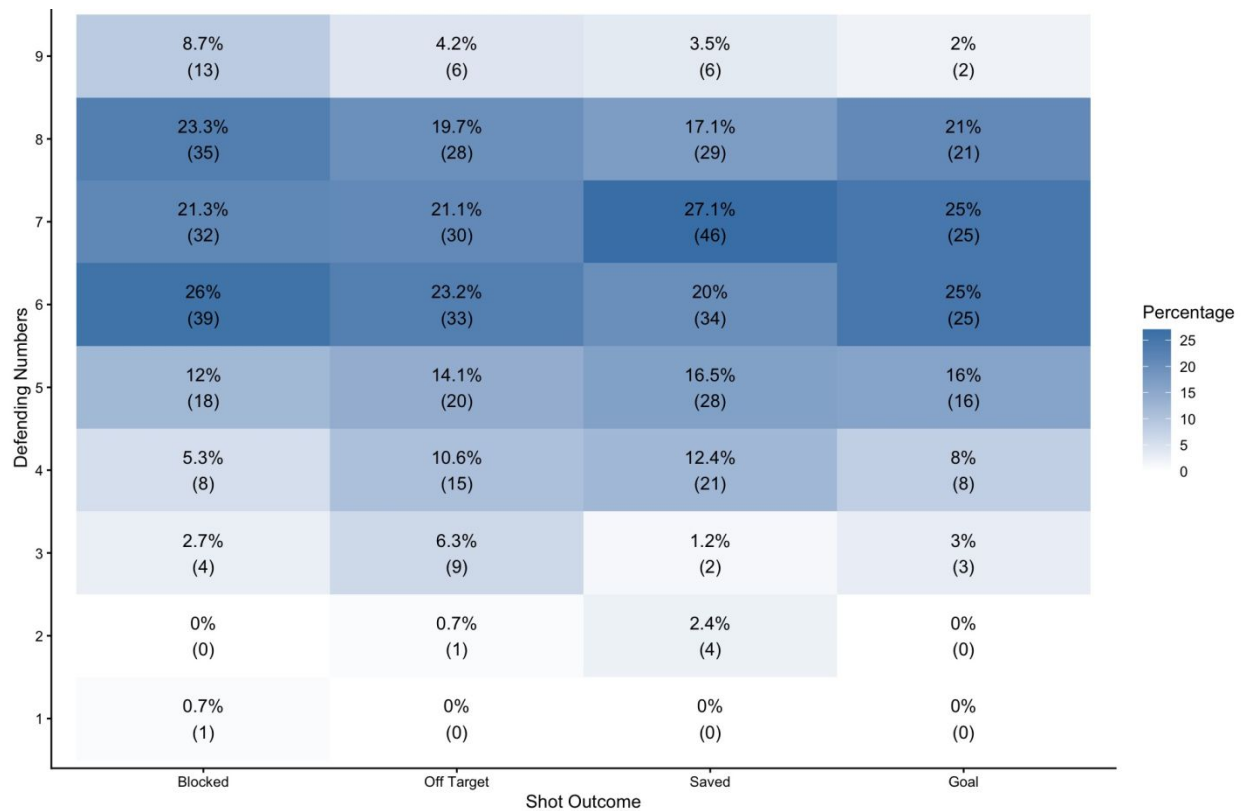


Figure 3: Percentage distribution of defensive numbers inside the box, excluding the goalkeeper, by shot outcomes.

Bodies between the shot and Shot Outcome

A clear pattern emerges in how shot outcomes change as additional bodies are positioned between the shooter and the goalkeeper (Figure 4). When no bodies are present, shots result in goals far more frequently (67.6%), whereas even one or two bodies shift outcomes toward saved or off-target attempts. With three or more bodies, blocked shots dominate, and goals become

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relatively rare. This association was statistically significant with a moderate effect size outcome ($\chi^2_{(12)} = 138.33, p < .001, V = 0.286$).

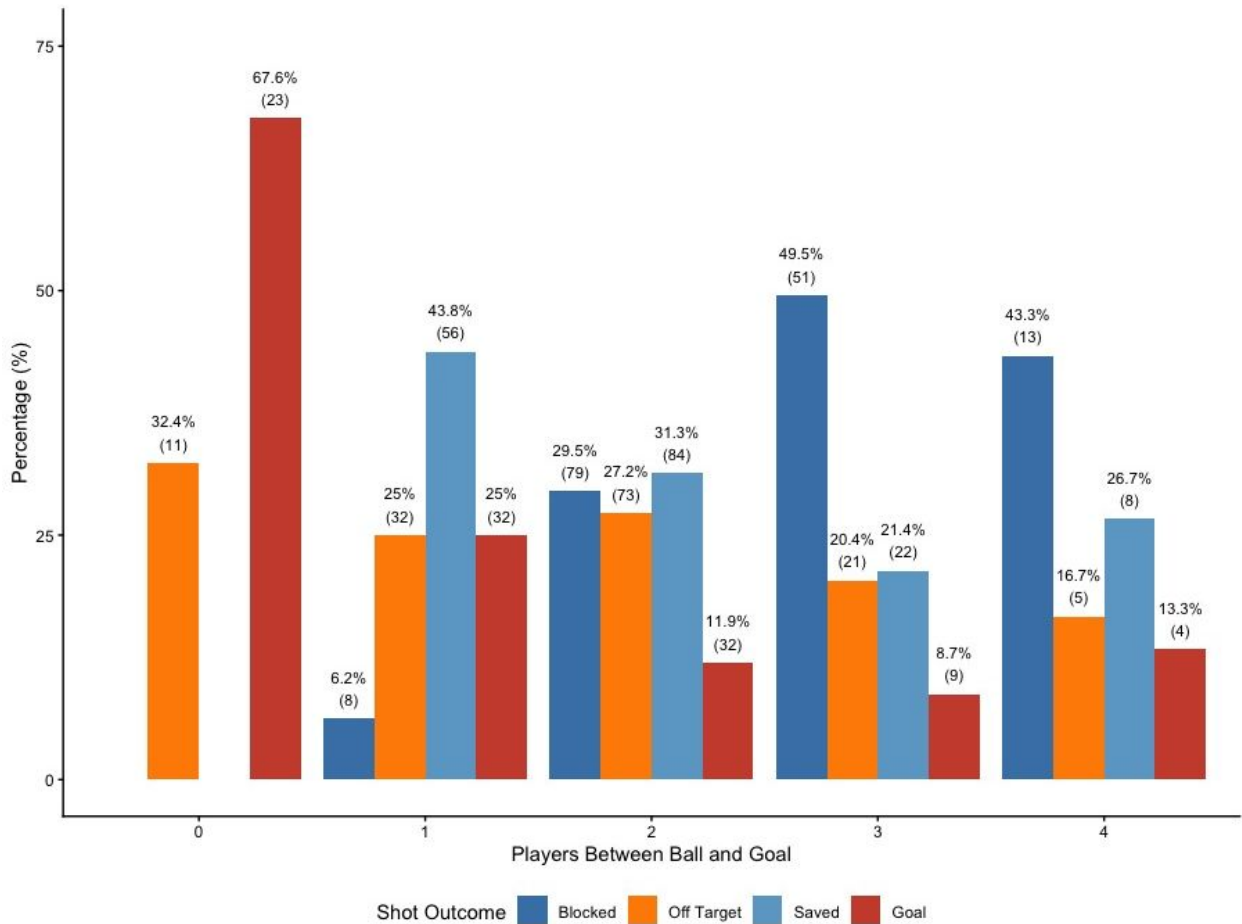


Figure 4: Percentage distribution of shot outcome by the number of players between the ball and goal at the point of a shot being taken.

Cutback Delivery Location, Shot Location and Defensive Effectiveness

Minor variations in defensive success were observed across cutback delivery location (Figure 5). Cutbacks delivered from near areas were successfully defended in 83.0% of cases, compared with a slightly lower rate of 78.2% for central deliveries. In contrast, deliveries from far areas

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resulted in the highest defensive success rate (86.2%). However, these differences were not significant, with no meaningful association identified between delivery location and defensive success ($\chi^2 = 3.27$, $df = 2$, $p = .195$; Cramér's $V = 0.080$).

Defensive success varied considerably across shot locations (Figure 6). Central shots showed the lowest defensive success rate, with 38.1% resulting in unsuccessful outcomes (goalkeeper saved or goal), whereas shots from far areas (86.4% defended) and the cutback delivery area (93.8% defended) were more effectively managed. Near attempts showed a more balanced but still defence-favouring profile. These distinct differences highlight how spatial context influences defensive success. This relationship was confirmed with a chi-square analysis, which showed a highly significant association and a moderate effect between shot location and defensive success ($\chi^2 = 68.68$, $df = 3$, $p < .001$; Cramér's $V = 0.350$), indicating that location meaningfully influences defensive outcomes.

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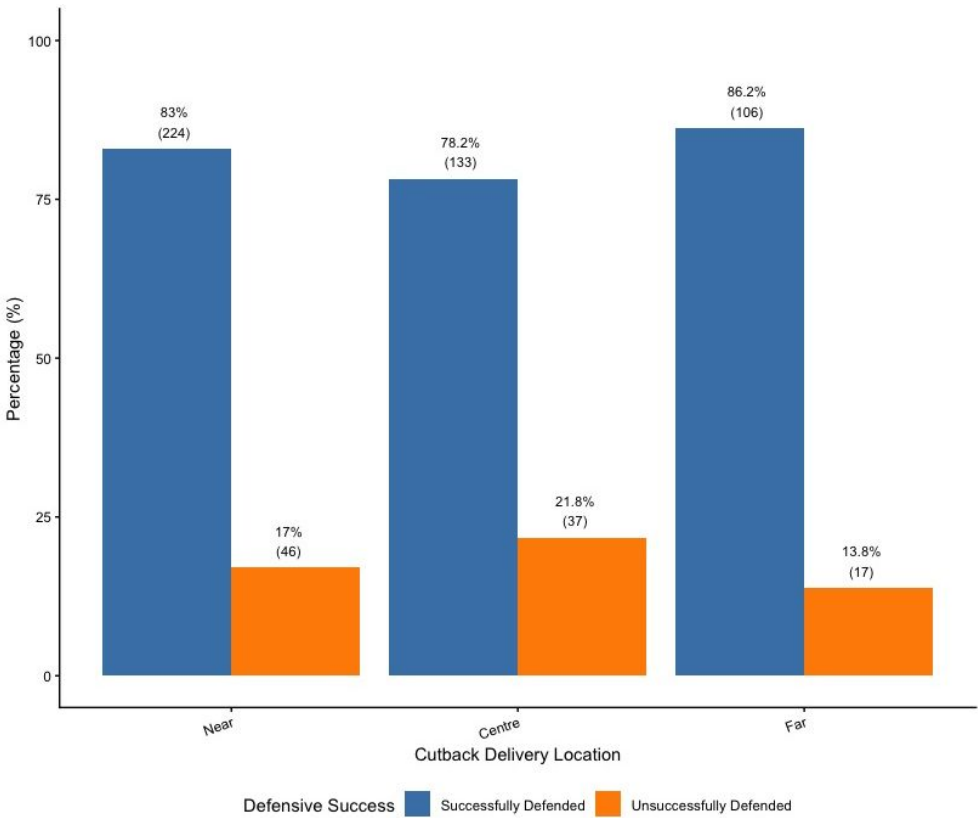


Figure 5: Percentage distribution of defensive success by cutback delivery location.

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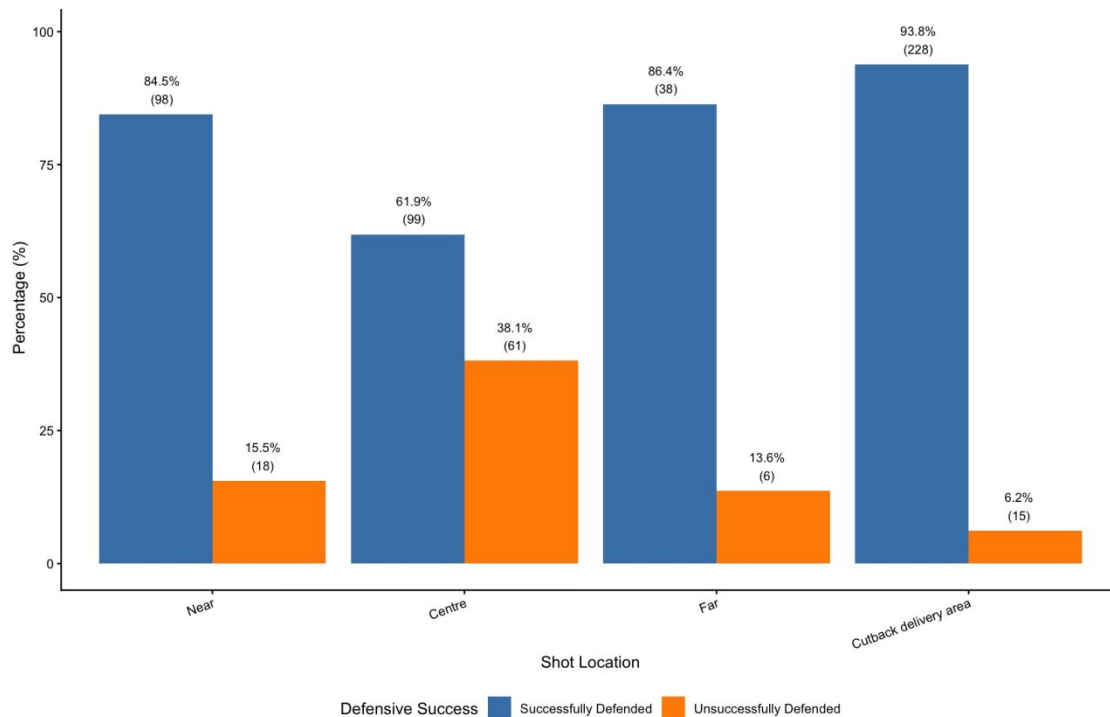


Figure 6: Percentage distribution of defensive success by shot location.

Temporal Changes in Defensive Organisation

The number of defensive players between the ball and the goal across match time period showed no meaningful variation (Figure 7). The proportion of shots featuring zero to four defensive players remained broadly consistent from the opening 15 minutes through to the final period (e.g., two defensive players: 40.0-42.0% across all but the final period; three defensive players: 12.0-22.0% across all periods). An interesting observation was that a slightly higher frequency of shot attempts against zero defensive players was found in the final 15-minute period (29.4%). These observations were non-significant ($\chi^2 = 15.28$, $p = .76$; Cramér's $V = 0.080$), indicating that defensive numbers between the ball and the goal were maintained consistently across all phases of the match.

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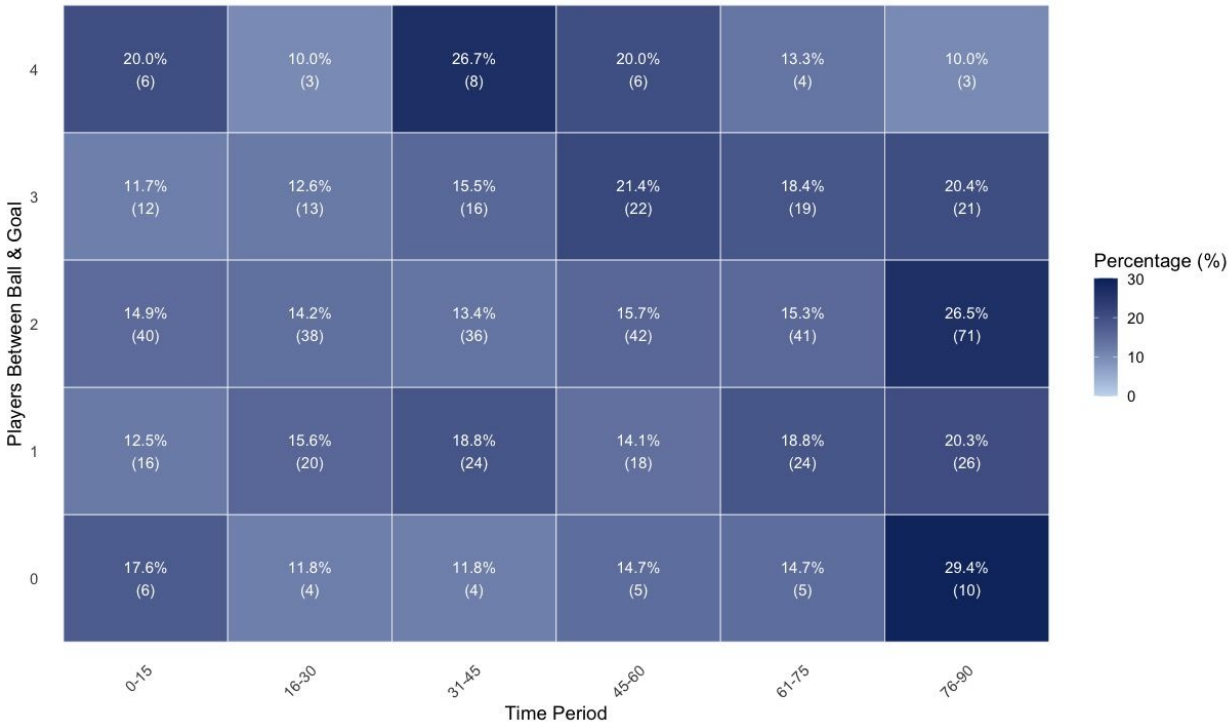


Figure 7: Percentage distribution of the number of players between the ball and the goal based on game period time.

Multivariate Predictors of Defensive Success

The final binary logistic regression model (Table 3) identified three key predictors of defensive success from cutbacks: shot location, outcome location and the number of players between ball and goal (Defensive Density). Shots from the cut back delivery area were substantially more likely to be defended (Estimate = 2.79, $p < .001$), with far (Estimate = 1.74, $p = .018$) and near locations (Estimate = 1.35, $p = .002$) also showing significantly higher odds of successful defence relative to central shots. Shots ending in the far outcome location were associated with reduced defensive success (Estimate = 1.51, $p = .003$). Additionally, each additional player between the ball and the goal significantly increased the likelihood of defensive success

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(Estimate = 0.82, $p < .001$). The model demonstrated strong overall predictive performance (AUC = .863) and showed no evidence of problematic multicollinearity, with all $GVIF^{1/(2 \cdot Df)}$ values remaining below accepted thresholds (all < 1.25), indicating stable and well-conditioned estimates.

Table 3: Final binary logistic regression model identifying the predictors of defensive success in cutback scenarios, including shot location, outcome location, and the number of players between the ball and goal.

		Estimate	Std. Error	z value	p-value
Intercept		-3.004	0.655	-4.591	< .001
Shot Location	Cutback delivery area	2.793	0.441	6.335	< .001
	Far	1.741	0.736	2.366	.018
	Near	1.353	0.431	2.138	.002
Outcome Location	Far	-1.512	0.503	-3.008	.003
	Near	0.207	0.402	0.514	.607
Players Between Ball and Goal		0.824	0.199	4.147	< .001

Discussion

The key finding of this study was that defensive success in cutback situations was influenced more by the spatial positioning of defenders than by the overall number of defenders occupying the penalty area. Specifically, the number of defenders positioned between the ball and the goal was strongly associated with defensive success, whereas the total number of defenders inside the penalty area showed no meaningful association with shot outcome. Shot location also emerged as an important determinant of defensive success, whilst defensive organisation remained relatively stable across match periods. Collectively, these findings suggest that effective defending against cutbacks is driven primarily by coordinated positioning and protection by key central spaces rather than numerical superiority alone.

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The findings showed that increasing defensive numbers inside the 18-yard box did not consistently improve defensive outcomes during cutback scenarios. Cutback deliveries are typically played into the central areas of the penalty box, often referred to as the ‘golden zone’²⁰, where attacking players can finish quickly under minimal pressure. Welch et al.⁹ demonstrated that rapid changes in attacking direction can momentarily disrupt defensive organisation, creating short but critical spatial gaps. Although elite-level teams are capable of reorganising quickly, the prevalence of one-touch finishes in these situations^{4,5} significantly reduces the time available for defenders to establish effective positioning and influence the outcome. This reflects the transitional and reactive nature of cutback defending, where limited time constrains effective defensive organisation. This can often lead to suboptimal defensive actions, including mistimed interventions, own goals, or penalty kick events²¹. These findings suggest that simply increasing the number of defenders within the penalty box is insufficient to improve defensive success, as the effectiveness of defensive actions is constrained by time, space, and the ability to achieve coordinated positioning within these high-pressure moments.

Importantly, these findings should not be interpreted as suggesting that defensive numbers are unimportant. Rather, the findings indicate that the effectiveness of defensive density depends on where defenders are positioned. Whilst the total number of defenders inside the penalty area showed no meaningful relationship with shot outcome, the presence of defenders occupying space directly between the ball and the goal was strongly associated with defensive success. Consequently, defensive density appears to be most effective when concentrated within key blocking and shooting lanes rather than distributed broadly throughout the penalty area. This distinction may explain why the number of defenders positioned between the ball and the goal emerged as a significant predictor of defensive success, whereas overall defensive numbers

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inside the penalty area did not. Therefore, the findings suggest that functional defensive positioning is more important than numerical presence alone.

This was particularly evident when two or three defenders occupied the space between the ball and the goal, a configuration associated with significantly fewer goals and a greater frequency of blocks and saves, indicating that defensive effectiveness was driven by how effectively players occupy key spaces that directly intervene with the shot trajectory. This aligns with research emphasising the importance of protecting central scoring areas and anticipating final delivery locations ⁷. These behaviours reflect moments of rapid, functional organisation in response to the cutback threat, where defenders proactively occupy central spaces, restrict shooting angles, apply immediate pressure to the attacker, and disrupt the final action.

From a tactical perspective, this pattern may reflect the use of hybrid defensive strategies that combine zonal and man-marking strategies of key attackers. Evidence from set-piece contexts supports this interpretation, with mixed marking strategies shown to achieve more favourable defensive outcomes and lower goal concession rates than zonal systems alone ²². However, unlike set-piece situations where defensive structures are pre-planned and stable, cutback scenarios occur within open play and are often preceded by rapid directional changes. When play moves away from an initially compact defensive structure, uncertainty around defensive responsibilities increases, reducing the ability to effectively clear the ball and increasing the likelihood of conceding shots ²². This is particularly relevant in cutback situations, where defenders and attackers are often moving towards the goal at speed, limiting the time available to establish clear marking responsibilities ¹². The role of the goalkeeper may also be important within this dynamic. During cutbacks, goalkeepers are typically positioned at the front post and must rapidly adjust across the goalmouth in anticipation of a close-range shot ²³. As

such, the wider literature suggests that defensive success may depend not only on occupying key blocking positions but also on coordinated interactions between defenders and the goalkeeper²⁴. Previous research suggests that such coordination may be influenced by the goalkeeper's decision-making, reactions to first-touch finishes, and the area the goal that can be effectively covered^{8,22}. Taken together, these findings reinforce that defensive success is not driven by defensive volume alone, but by the timing, precision, and spatial coordination of defensive actions, aligning with evidence that well-executed and well-timed challenges are more influential than the sheer quantity of defensive actions²⁵.

Building on the importance of coordinated defensive positioning and goalkeeper-defender interactions, delivery location appeared to have a more limited influence on defensive success, with only minor non-significant variations observed across cutback delivery locations. However, the spatial positioning still provides important contextual insight into defensive behaviour. When cutbacks originate from wider or deeper positions, defenders and the goalkeeper have a greater opportunity to anticipate the pass's trajectory and reorganise. In these situations, goalkeepers typically adopt an initial front-post position while retaining the capacity to adjust across the goalmouth in anticipation of the final shot^{8,23,26}. In contrast, deliveries played closer to the byline and at sharper angles are more likely to disrupt defensive structure by reducing the time available for positional readjustment. Previous research has shown that quicker attacking actions increase defensive disruption and force players to reorganise under greater temporal pressure²². While wider deliveries may provide attackers with a broader angle to access the central 'golden zone'²⁰, they are also more likely to allow defenders additional time to recover and establish effective blocking positions, particularly between the ball and the goal. These findings suggest delivery location does not directly determine defensive success but

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instead influences the time available for defensive organisation and positioning. From a constraints-led approach, this reflects how spatial and temporal factors shape player behaviour and decision-making²⁷. This aligns with evidence that anticipatory, well-timed defensive actions are more effective than reactive behaviours under pressure²⁵, reinforcing the importance of temporal and spatial dynamics over the point of delivery itself.

Building on these contextual influences, no meaningful differences were observed in the number of players performing defensive duties across match periods, implying a relatively stable defensive response. This consistency reflects the adaptive nature of defensive behaviour in elite football, where players must respond to evolving, creative and unpredictable situations rather than operate within fixed structures²⁵. Despite attacking disruption, defenders remain capable of rapidly reorganising to protect central spaces. While attacking sequences that bypass defensive lines can generate high-quality opportunities with minimal passes and touches⁴, defending teams are often able to recover effectively within the 18-yard box. From a constraints-led approach, this reflects the ability of expert players to make effective decisions under pressure, with experienced performers selecting higher quality actions as situations unfold²⁸. In this context, English Premier League defenders may be making more efficient decisions to track back to defend under time constraints. Consequently, defensive pressure in cutback situations appears less dependent on match period and more influenced by situational factors such as opponent pressure and available recovery time. This adaptability is shaped through the development of perception-action coupling, whereby players refine their responses to changing game situations through experience²⁹. At a team level, coordinated interactions further enhance this responsiveness, with structured patterns of behaviour emerging to support effective defensive organisation³⁰. As such,

the stable defensive presence observed in this study reflects the capacity of players to continuously adjust their position in response to evolving game constraints.

In addressing whether more players are present in defensive roles during the final 15 minutes, no significant increase was observed. Although physical intensity may rise toward the latter stages of matches ³¹, this does not appear to translate into greater defensive density in cutback scenarios. This likely reflects a balance between increased attacking pressure and corresponding defensive responses. As match time decreases, players may exceed the typical perception of effort ³², increasing both attacking intent and defensive recovery actions. However, these changes occur across teams of similar level ³¹, suggesting that both attacking and defensive behaviours adapt concurrently. Consequently, the findings may reflect a form of tactical equilibrium, where increased attacking activity is offset by equally intensified defensive organisation. Overall, defensive behaviour in cutback scenarios appears driven more by immediate game demands than by match phase, reinforcing that player responses are shaped by dynamic interactions rather than systematic temporal changes.

Future Directions and Limitations

While this study provides insight into defensive organisation during cutback scenarios, several limitations should be acknowledged. The sample was restricted to a single English Premier League season, which may limit the generalisability of findings to other leagues, levels of competition, or differing tactical contexts. Additionally, the event-level design involved repeated observations from the same teams and players, reflecting applied practice but potentially introducing data dependencies. The observational nature of the study also limits causal inference, with findings representing associations rather than definitive explanations. Furthermore, multiple bivariate analyses were conducted without formal adjustment for multiple comparison.

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Consequently, some statistically significant findings may be susceptible to an increased risk of Type 1 error and should therefore be interpreted alongside the reported effect sizes and multivariate analyses. Although high agreement was achieved, manual coding remains subject to interpretive bias. Furthermore, reliance on video-based data restricted the ability to capture detailed spatial and temporal variables such as player speed, distances, and movement synchronisation.

Further research should incorporate tracking data to examine defensive organisation at a deeper, more meaningful level, particularly in relation to player positioning, movement coordination, and goalkeeper-defender interactions. Greater focus on goalkeeper behaviour during cutback scenarios is also warranted, given their central role in defensive outcomes. In addition, extending the line of research to the women's game would provide valuable insights into whether similar defensive patterns and organisational principles are present across different performance environments. Exploring contextual factors such as opposition quality, tactical systems, and match status may further enhance understanding of how defensive strategies adapt under varying conditions.

Practical Implications

Defensive practice should prioritise spatial organisation and coordination over simply increasing the number of defenders within the penalty area. The present findings indicate that overall defensive numbers inside the box were not associated with improved defensive outcomes, whereas defenders between the ball and the goal were strongly associated with defensive success. Consequently, coaches should prioritise ensuring defenders occupy key central blocking positions and shooting lanes during cut back scenarios. Specifically, a hybrid defensive structure combining zonal occupation of central spaces with selective man-marking may be the most

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effective when the ball carrier approaches the byline. Defenders should prioritise positioning in the expected ball delivery zone between the ball and the goal to restrict shooting angles and increase the likelihood of blocks, with interception of the cutback as the primary objective. Goalkeepers should adopt an adaptive positioning strategy, balancing front-post coverage with the ability to adjust quickly across the goalmouth in anticipation of the cutback and subsequent shot. Their positioning should act as a reference point for defenders, supporting coordinated coverage of central spaces. Training should replicate the time pressure and variability of match conditions to develop adaptive responses and decision-making. This should include integrated goalkeeper-defender scenarios, focusing on communication, shared spatial responsibility, and coordinated reactions to one-touch finishes. Clear role understanding is essential, ensuring players recognise the spaces they are responsible for and can occupy positions that limit both the cutback and the ensuing shot.

Conclusion

This study advances the understanding of defensive behaviours in elite male football by examining how Premier League teams in the 2023/24 season organise during cutback scenarios. The findings demonstrate that defensive success is primarily shaped by spatial organisation and positioning rather than numerical presence within the penalty area. Specifically, the presence of defenders positioned between the ball and the goal was associated with greater defensive success, whereas the total number of defenders inside the penalty area showed no meaningful relationship with shot outcomes. These findings highlight the importance of protecting central spaces and restricting shooting lanes, reinforcing that effective defending against cutbacks depends on coordinated positioning, anticipation, and the collective management of space rather than numerical superiority alone.

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Data availability

The data that support the findings of this study are not publicly available. The data were generated through access to proprietary match footage provided by Hudl via Wyscout and are subject to access restrictions imposed by the data owner.

Ethical considerations

This study received institutional ethical approval prior to data collection.

Consent to participate

Not applicable. The study involved analysis of unobtrusive performance footage and did not require individual participant consent.

Consent for publication

Permission to publish the findings was granted by Hudl, which acted as the gatekeeper for access to performance footage.

Delivery Location			
Near	Centre	Far	
Shot Location			
Near	Centre	Far	Cutback area
Shot Outcome			
Goal	Saved	Off Target	Blocked
Outcome Location			
Near	Centre	Far	N/A
Strike Height			
Low	Middle	High	N/A
strike distance			
0-6 yards	7-12 Yards	13-18 Yards	
Game State			
Winning	Drawing	Losing	
Game Time			
1-15	16-30	31-45	
45-60	61-75	76-90	

SAVED				
Body Part				
One Hand-Inside	One Hand - Outside	Two Hands	Body	Feet
Diving One hand Inside	Diving One hand Outside	No Save		
Save Type				
Unconscious	Concious	No Save		
Parried Outcome				
Second Shot	Cleared	Opp Retained	In POs Ret	
Deflected	Held	No Save		
Defending Numbers				
0	1	2	3	4
5	6	7	8	9
Attacking Numbers				
1	2	3	4	
5	6	7	8	
Bodies Between Strike and goal				
0	1	2	3	4

Figure 1: Hudl SportsCode code window.
159x97mm (192 x 192 DPI)

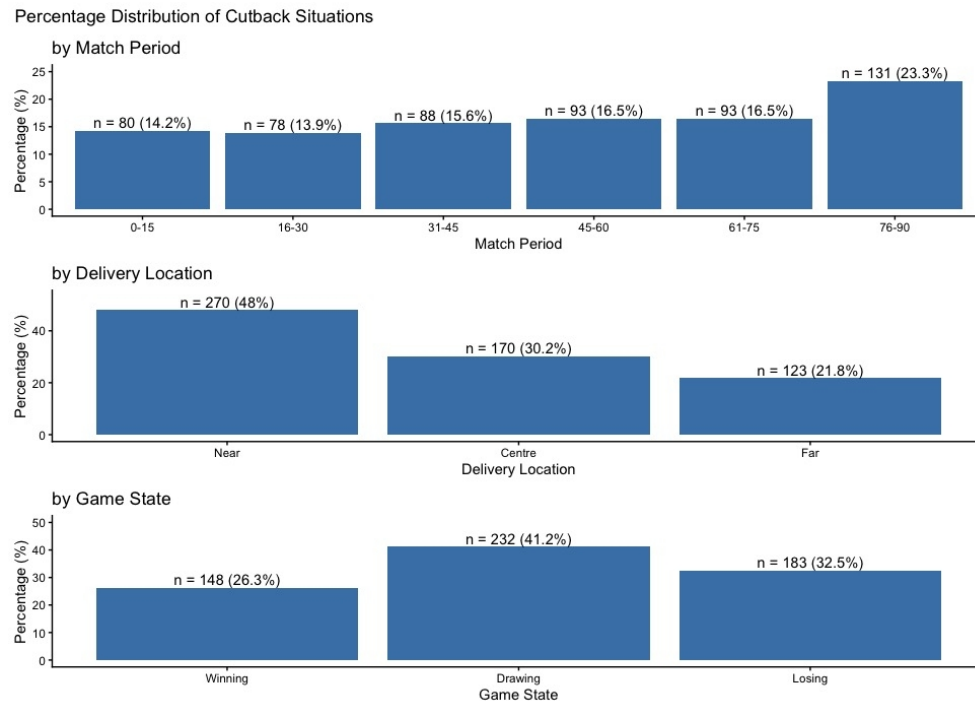


Figure 2: Percentage distribution trends of cutback situations by match period, delivery location and game state.

347x248mm (72 x 72 DPI)

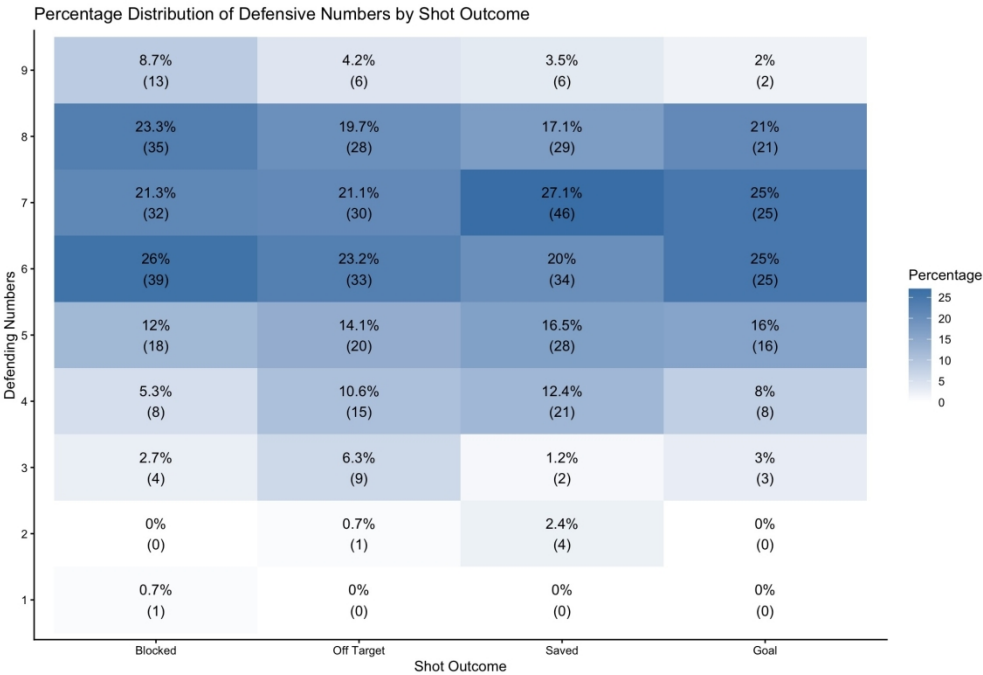


Figure 3: Percentage distribution of defensive numbers inside the box, excluding the goalkeeper, by shot outcomes.

715x487mm (72 x 72 DPI)

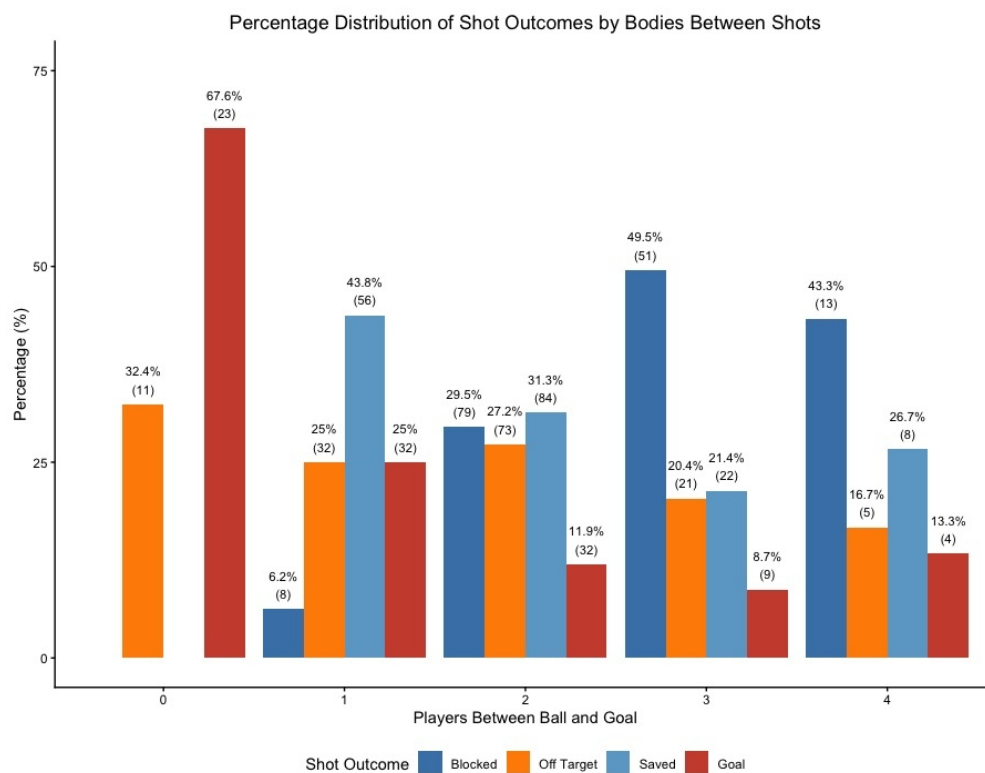


Figure 4: Percentage distribution of shot outcome by the number of players between the ball and goal at the point of a shot being taken.

317x249mm (72 x 72 DPI)

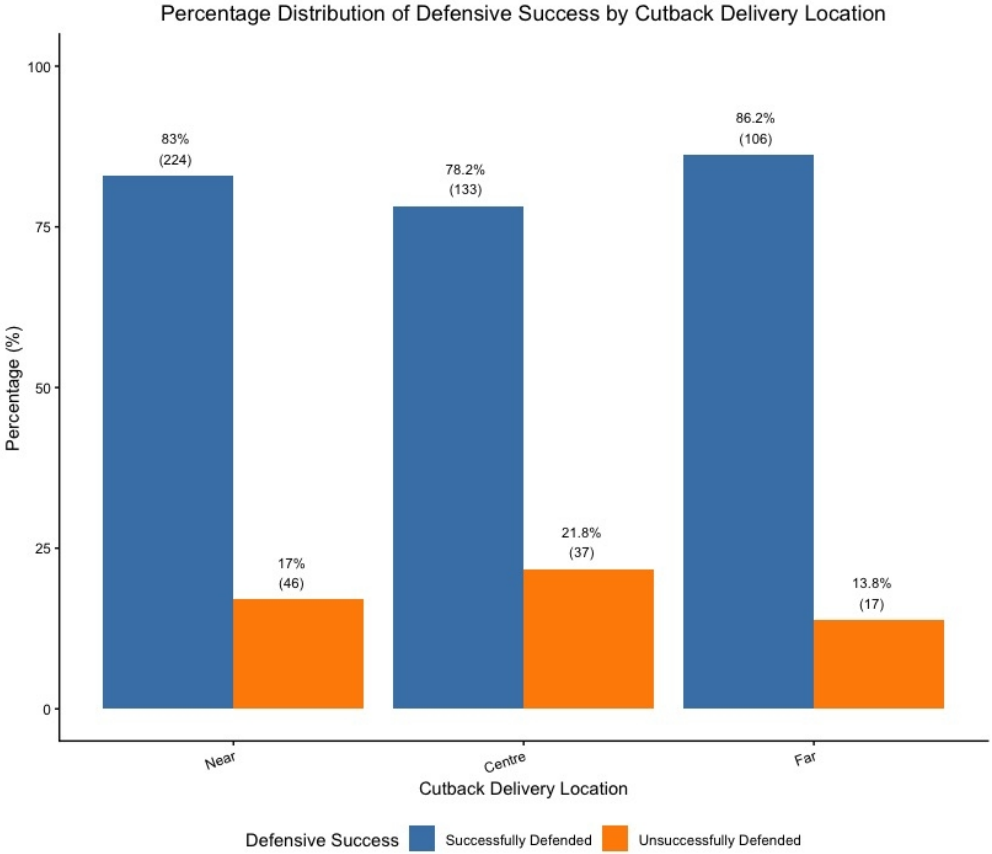


Figure 5: Percentage distribution of defensive success by cutback delivery location.

286x250mm (72 x 72 DPI)

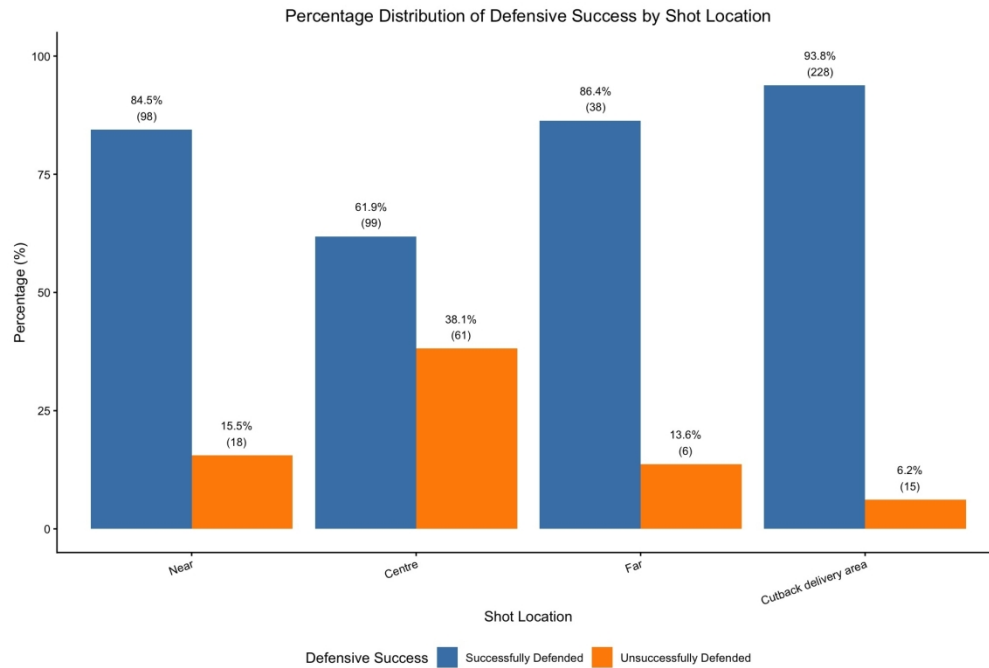


Figure 6: Percentage distribution of defensive success by shot location.

715x487mm (72 x 72 DPI)

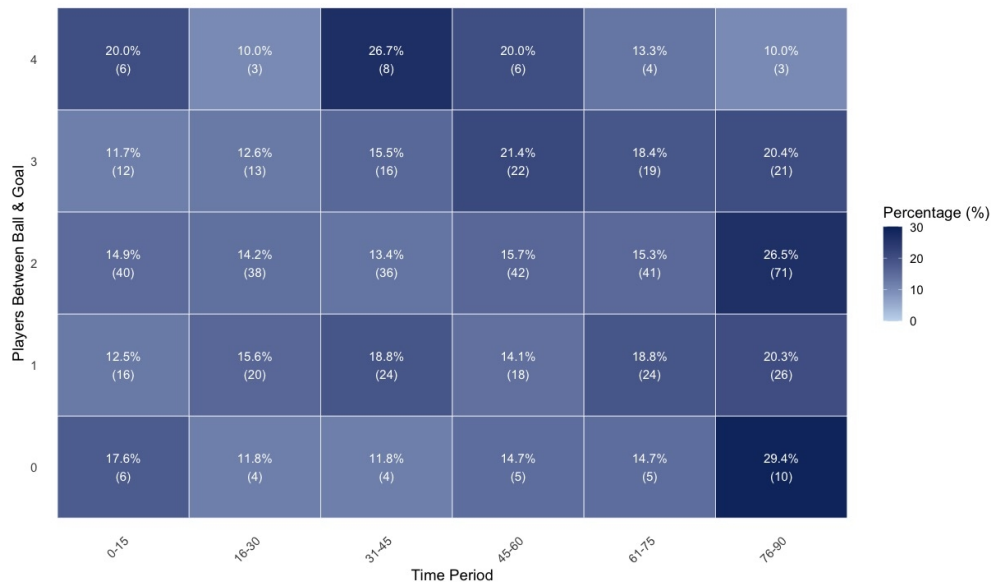


Figure 7: Percentage distribution of the number of players between the ball and the goal based on game period time.

429x257mm (72 x 72 DPI)

Table 1: Intra- and inter-rater observer reliability results expressed as Kappa values.

Performance	Intra-Rater Observer	Inter-Rater Observer
Attacking Numbers	1.00	1.00
Body Part	0.93	1.00
Defending Numbers	1.00	1.00
Delivery Location	1.00	1.00
Game State	1.00	1.00
Game Time	1.00	0.98
Outcome Location	0.97	0.97
Parried Outcome	1.00	1.00
Players Between Ball & Goal	1.00	1.00
Save Type	1.00	1.00
Shot Location	0.98	1.00
Shot Outcome	0.98	1.00
Strike Distance	0.98	1.00
Strike Height	0.94	1.00

Table 1: Frequency and proportion of cutback shots taken by each team during the 23/24 Premier League season.

Team	Total Shots Taken	Cutback Shots	Cutback as % of Total Shots Taken
Arsenal	612	20	3.27%
Aston Villa	475	36	7.58%
Bournemouth	506	41	8.10%
Brentford	430	17	3.95%
Brighton	526	31	5.89%
Burnley	403	35	8.68%
Chelsea	515	30	5.83%
Crystal Palace	414	31	7.49%
Everton	473	25	5.29%
Fulham	467	21	4.50%
Liverpool	737	22	2.99%
Luton Town	397	34	8.56%
Manchester City	658	16	2.43%
Manchester United	517	34	6.58%
Newcastle United	513	24	4.68%
Nottingham Forest	418	26	6.22%
Sheffield United	337	27	8.01%
Tottenham Hotspur	551	27	4.90%
West Ham United	412	36	8.74%
Wolverhampton Wanderers	401	30	7.48%
Total	9762	563	5.77%

Table 1: Final binary logistic regression model identifying the predictors of defensive success in cutback scenarios, including shot location, outcome location, and the number of players between the ball and goal.

		Estimate	Std. Error	z value	p-value
Intercept		-3.004	0.655	-4.591	< .001
Shot Location	Cutback delivery area	2.793	0.441	6.335	< .001
	Far	1.741	0.736	2.366	.018
	Near	1.353	0.431	2.138	.002
Outcome Location	Far	-1.512	0.503	-3.008	.003
	Near	0.207	0.402	0.514	.607
Players Between Ball and Goal		0.824	0.199	4.147	< .001