Comparing Attacking Output Between Strikers and Wingers in the 2024–25 English Premier League Season

Abstract

In this study, we examine how positional role and playing time influence attacking performance among forwards in the English Premier League (EPL). Using publicly available player data from the 2024–25 season, we analyze a sample of attacking players classified as either strikers or wingers. Multiple regression, Poisson regression, and efficiency-based comparisons were performed to investigate how position and opportunity interact to shape individual goals and assist production. By controlling variables such as minutes played, we aim to manage the factors that strongly determine offensive contribution and evaluate how positional specialization affects overall attacking efficiency. Through this analysis, we seek to provide a clearer understanding of the statistical differences and overlaps between striker and winger performance in modern football. We find that playing time is the dominant predictor of total attacking output, while positional role shapes the type and consistency of contribution. Strikers maintain higher baseline scoring levels, whereas wingers generate more assists and exhibit greater variability, yet both groups demonstrate similar goal-scoring efficiency when controlling for minutes played.

Introduction

The quantification of on-field performance has become central to tactical evaluation in elite football. Modern analytics increasingly examine how positional role mediates productivity, reframing performance from raw output (e.g., total goals) to efficiency per opportunity (Ambler, 2024). Within the English Premier League (EPL), forward players are typically categorized as strikers, central attackers, and wingers, wide attackers combining creative and scoring functions (Liu et al., 2020).

While traditional metrics favor strikers due to higher goal totals, tactical evolution toward inverted wingers and fluid attacking lines has blurred these distinctions. Previous studies have explored positional differences in passing and defensive work rate (e.g., Rein et al., 2019; et al., 2021), but few have quantitatively modeled how position interacts with opportunity to influence attacking output. Understanding this relationship is important for both player evaluation and tactical optimization, as clubs increasingly rely on data-driven analysis to allocate minutes, identify undervalued roles, and balance creative versus finishing responsibilities in modern attacking systems.

Consequently, a key question arises: To what extent does positional role independently affect attacking output once opportunity, measured by playing time, is controlled? This study investigates that question by modeling relationships among minutes played, positional role, and two outcome variables - goals and assists. Beyond simple correlations, we employ Poisson regression for count modeling and efficiency metrics (Goals per 90) to reflect modern performance analytics better.

Data and Methods

Variable	Type	Description
Goals	Discrete	Total goals scored in the 2024–25 season
Assists	Discrete	Total assists credited
Minutes	Continuous	Total minutes played
Position	Binary	Striker and Winger

Table 1: Description of Key Variables of Interest

For this analysis, the key variables of interest are Goals, Assists, Minutes Played, and Position. Data were collected from FootballCritic's 2024–25 EPL player database, comprising 200 forwards (approximately 100 strikers and 100 wingers). Each row represents a different player, and we assume each player's record is independent of the others. For each player, three continuous variables, Goals, Assists, and Minutes Played**,** were recorded, along with a categorical variable Position (coded 0 = Striker, 1 = Winger). The following models were fitted:

1. Multiple Linear Regression (MLR): MLR was used to estimate the contribution of minutes played and positional role to total goal output:

$$\text{Goals} = \beta_0 + \beta_1(\text{Minutes}) + \beta_2(Position) + \beta_3(\text{Minutes} \times \text{Position}) + \epsilon$$

Assumptions of normality, homoscedasticity, and linearity were evaluated using residual-vs-fit plots, and Q–Q plots. We observed violation in multiple model conditions. Because MLR is not ideal for count outcomes, it was used primarily as a baseline comparison model.

2. Poisson Regression: Since goals and assists are count data, we fit a Poisson regression with a log link to investigate how minutes played and position are associated with scoring, and to explore potential interactions between minutes and position. The model is:

$$ln(E[\text{Goals}]) = \beta_0 + \beta_1(\text{Minutes}) + \beta_2(\text{Position}) + \beta_3(\text{Minutes} \times \text{Position})$$

Overdispersion was assessed using the residual deviance to degrees of freedom ratio. Values above 1.5 should suggest notable overdispersion. Our result indicated mild overdispersion, but not sufficient to justify a negative binomial model (deviance/df = 1.41). A negative binomial model yielded similar conclusions, so we retain the Poisson model for interpretability.

To evaluate per-minute productivity, the following rate statistics were computed:

$$Goals\ Per\ 90 = \left(\frac{Goals}{Minutes}\right) \times 90, \qquad Assists\ Per\ 90\ = \left(\frac{Assist}{Minutes}\right) \times 90$$

Welch's t-test was used to compare mean rates across positions due to unequal variances. Because each player contributes only one observation, the independence required for the test is reasonably satisfied. Distributions were assessed for skewness; no transformation was applied as both rate statistics remained interpretable and approximately variance stabilized given the sample size. All analyses in this paper were conducted in Minitab.

Results and Discussion

The results revealed that playing time is the strongest single predictor of total goals, yet this relationship is significantly moderated by positional role. Strikers exhibit higher baseline scoring rates and lower dispersion, while wingers display greater variability and superior assist production (Figure 1). When normalized by playing time, efficiency measures such as Goals per 90 minutes show no statistically significant mean difference between positions, suggesting convergence in productivity despite role differentiation. Across the sample, forwards averaged 5.8 goals (sd= 6.2) and 2.9 assists (sd = 3.7) across 1,480 minutes (sd= 890). Strikers generally played more minutes (mean = 1,600) than wingers (mean = 1,370) yet recorded fewer assists on average. The distribution of goals was strongly right- skewed, with approximately 70% of players scoring five or fewer goals, and only 5% exceeding twenty. Assists followed a similar pattern, albeit with a narrower range.

Regression analyses further confirmed these trends. In the multiple regression model, both minutes played and positional role significantly predicted total goals. Minutes had the largest effect ($\beta_1 = 0.005$, $p < 0.001$), reinforcing the importance of opportunity in driving output. Position exerted a negative effect on wingers ($\beta_2 = -2.31$, $p < 0.05$), indicating lower baseline scoring than strikers. The interaction term ($\beta_3 = 0.002$, $p < 0.05$) revealed that the marginal scoring benefit of additional minutes was greater for strikers, consistent with their tactical

positioning closer to the goal. The model demonstrated strong explanatory power ($R^2 = 0.68$, $F(3,196) = 144.3$, $p < 0.001$). A Poisson regression produced similar findings. The estimated equation, $\ln(E[Goals]) = -0.91 + 0.00054(Minutes) - 0.26(Position) + 0.0003\ (Minutes \times Position)$, implies that playing time remains an important driver of expected goals, but the effect of additional minutes differs by positional role. For strikers, each additional 90 minutes is associated with an approximate 5.6% increase in expected goals. For wingers the marginal return is larger about 8.8% per 90 minutes because of the positive interaction. Thus, while raw position differences appear to favor strikers at face value, the interaction shows that additional minutes disproportionately increase wingers' expected goal totals. In contrast, assists were more strongly influenced by position than by playing time. Wingers recorded on average 0.002 more assists per minute ($p < 0.01$), equivalent to approximately one additional assist every 450 minutes. The assist model exhibited moderate explanatory power ($R^2 = 0.49$), indicating higher variability in creative output across players.

Efficiency-based comparisons help contextualize these positional dynamics. When standardized by playing time, mean GoalsPer90 values did not differ significantly between strikers (0.34) and wingers (0.31; $t(198) = 1.17$, $p = 0.24$). However, variance in winger productivity was notably higher ($p = 0.016$), suggesting heterogeneity within the group. Some elite wingers (e.g., Mohamed Salah) far exceed positional averages, while others operate primarily as facilitators. In contrast, AssistsPer90 clearly favored wingers (0.19 vs. 0.10; $p < 0.01$), confirming their greater involvement in chance creation and playmaking.

The efficiency analysis refines this interpretation: despite raw totals favoring strikers, the lack of a significant difference in goals scored per 90 minutes of play suggests comparable per-minute productivity across positions. This convergence highlights a structural evolution in modern football, where attacking responsibilities are increasingly shared across the front line. Consequently, positional distinctions in output are less about inherent ability than tactical deployment and system design, underscoring the growing fluidity of offensive roles in elite football (Liu et al., 2020).

Conclusion

In this paper, we used regression and statistical analysis to explore how positional roles influence attacking performance in the English Premier League. The findings suggest that while opportunity, measured by minutes played, is the strongest determinant of total output, positional role meaningfully shapes both the type and consistency of contribution. The modern EPL forward, therefore, embodies tactical hybridity: strikers remain the most reliable goal scorers, whereas elite wingers increasingly match them in overall attacking value through creativity and variability. From an applied perspective, clubs seeking to optimize offensive structure may benefit from pairing high-volume strikers with dynamic, high-variance wingers to balance consistency with creativity. Statistically, future analyses could incorporate expected-goal data, team strength, and chance-creation metrics to better capture tactical context. Limitations of this study include the omission of in-match situational factors (such as opponent quality and formation) and the assumption of stable positional classification across the season. Extending the analysis through mixed-effects modeling or data envelopment analysis (DEA) would allow for a clearer separation of player efficiency from opportunity effects.

References

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Appendix

Multiple Linear Regression:

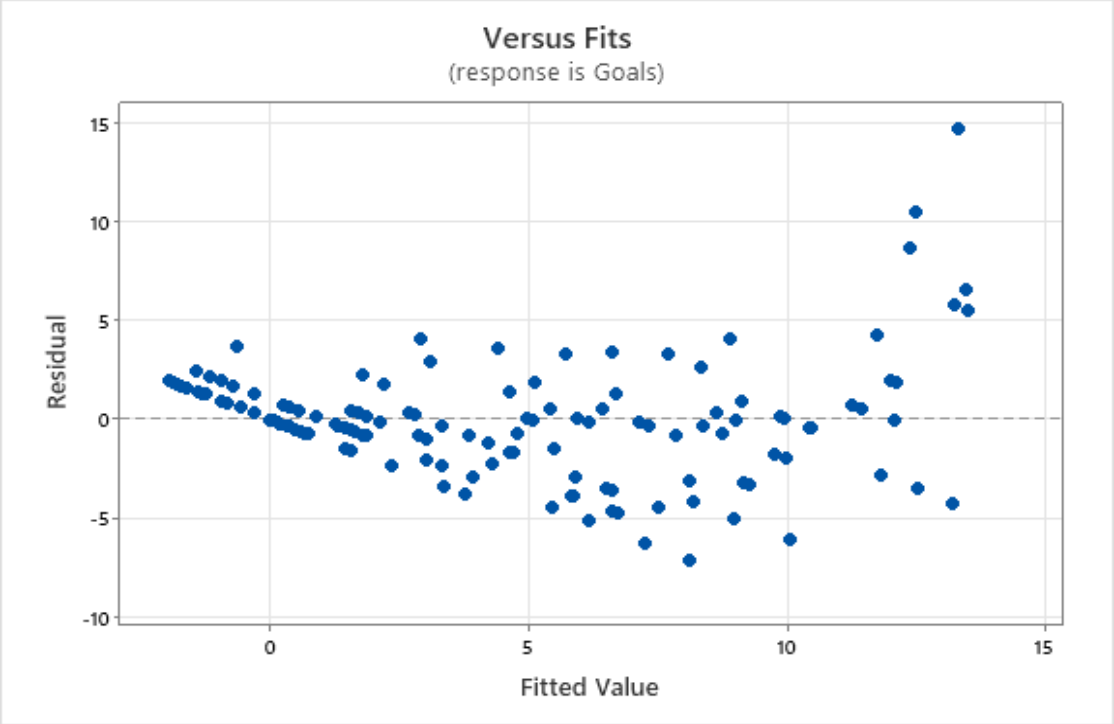

Figure 1: Residuals versus Fits

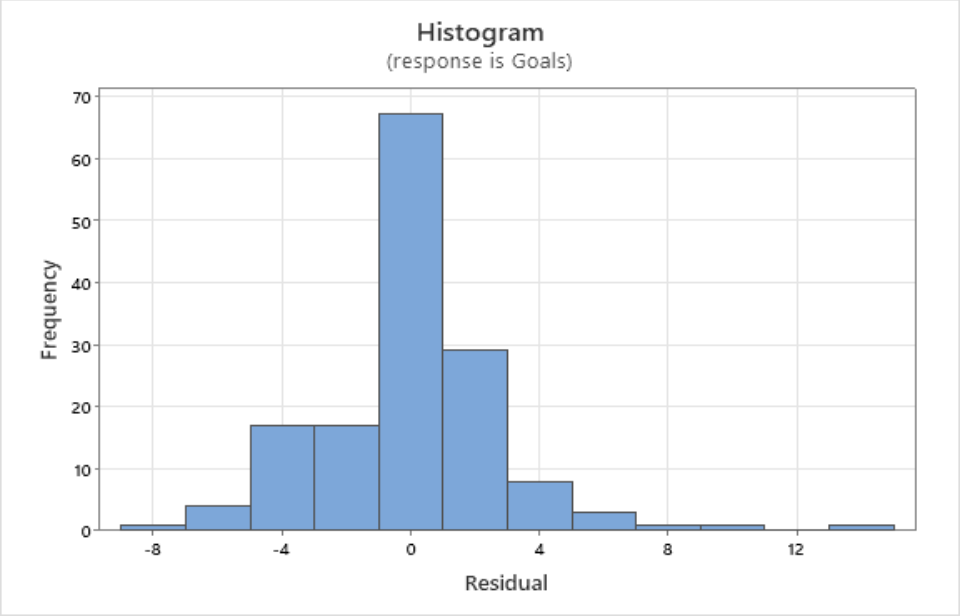

Figure 2: Histogram of Residuals

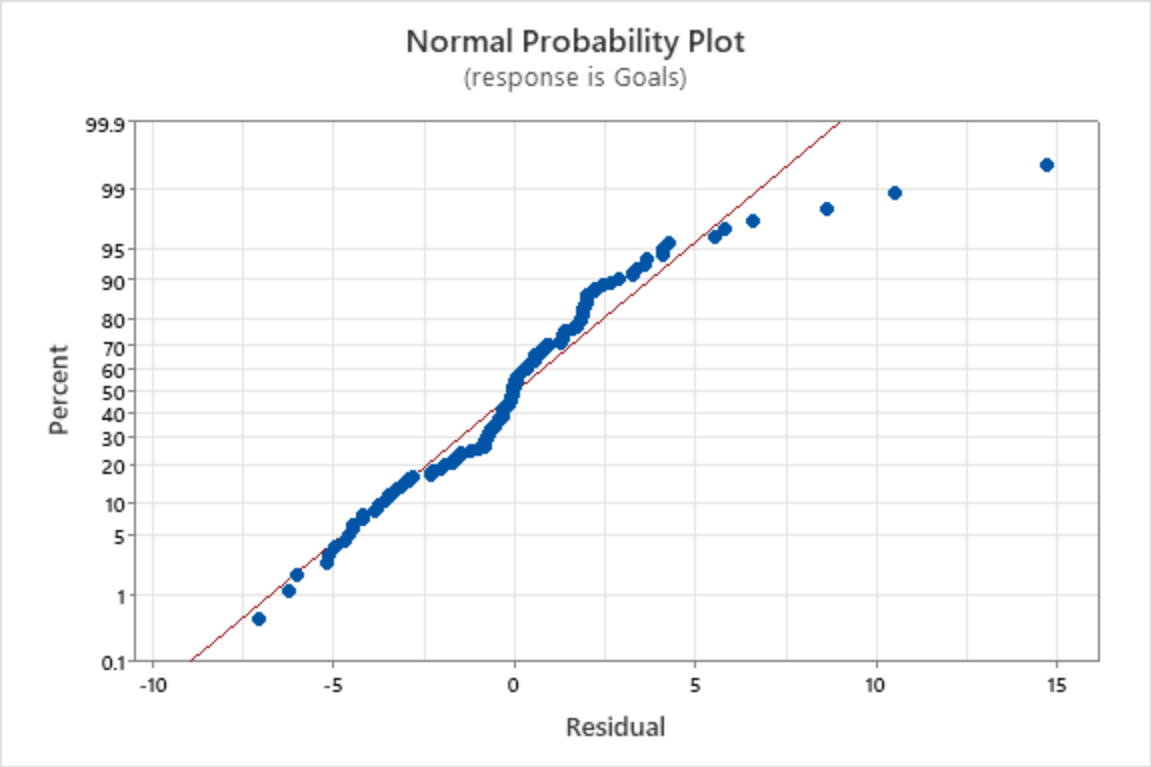

Figure 3: Normal Plot of residuals

Efficiency Comparison:

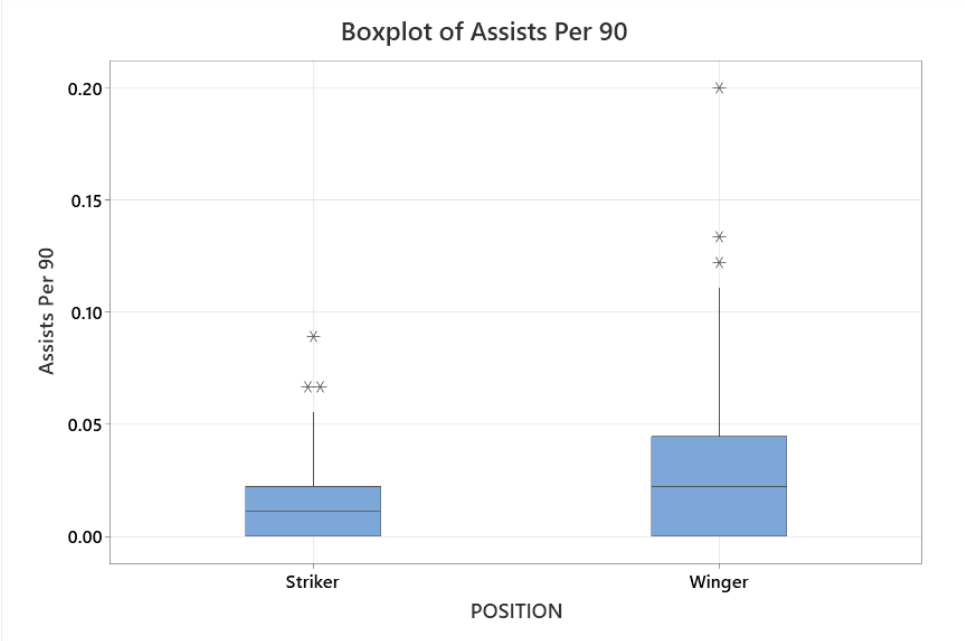

Figure 4: Boxplot of Assists per 90

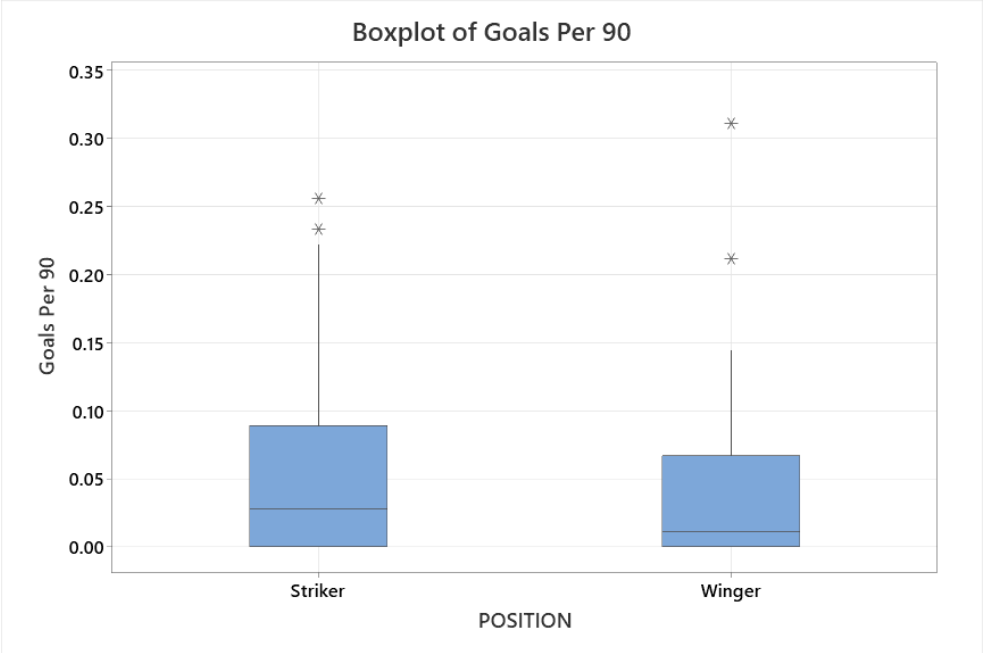

Figure 5: Boxplot of Goals Per 90