Manchester City 2022/2023 Performance Analysis

Objective

The objective of this analysis is to study Manchester City's performance during the historic 2022/2023 season, with a particular focus on offensive and defensive metrics. The analysis also examines the key players and how they influenced the team's overall performance.

Data Loading and Preparation

We use data from FBRef to obtain the full statistics of Manchester City players during the 2022/2023 season. The data is extracted directly from the FBRef website using `pandas.read_html()`.

67

```
Index(['Jugador', 'País', 'Posc', 'Edad', 'Tiempo Jugado_PJ',
       'Tiempo Jugado_Titular', 'Tiempo Jugado_Mín', 'Tiempo Jugado_90 s',
       'Rendimiento_Gls.', 'Rendimiento_Ass', 'Rendimiento_G+A',
       'Rendimiento_G-TP', 'Rendimiento_TP', 'Rendimiento_TPint',
       'Rendimiento_TA', 'Rendimiento_TR', 'Expectativa_xG',
       'Expectativa_npxG', 'Expectativa_xAG', 'Expectativa_npxG+xAG',
       'Progresión_PrgC', 'Progresión_PrgP', 'Progresión_PrgR',
       'Por 90 Minutos_Gls.', 'Por 90 Minutos_Ast', 'Por 90 Minutos_G+A',
       'Por 90 Minutos_G-TP', 'Por 90 Minutos_G+A-TP', 'Por 90 Minutos_xG',
       'Por 90 Minutos_xAG', 'Por 90 Minutos_xG+xAG', 'Por 90 Minutos_npxG',
       'Por 90 Minutos_npxG+xAG', 'Partidos'],
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```

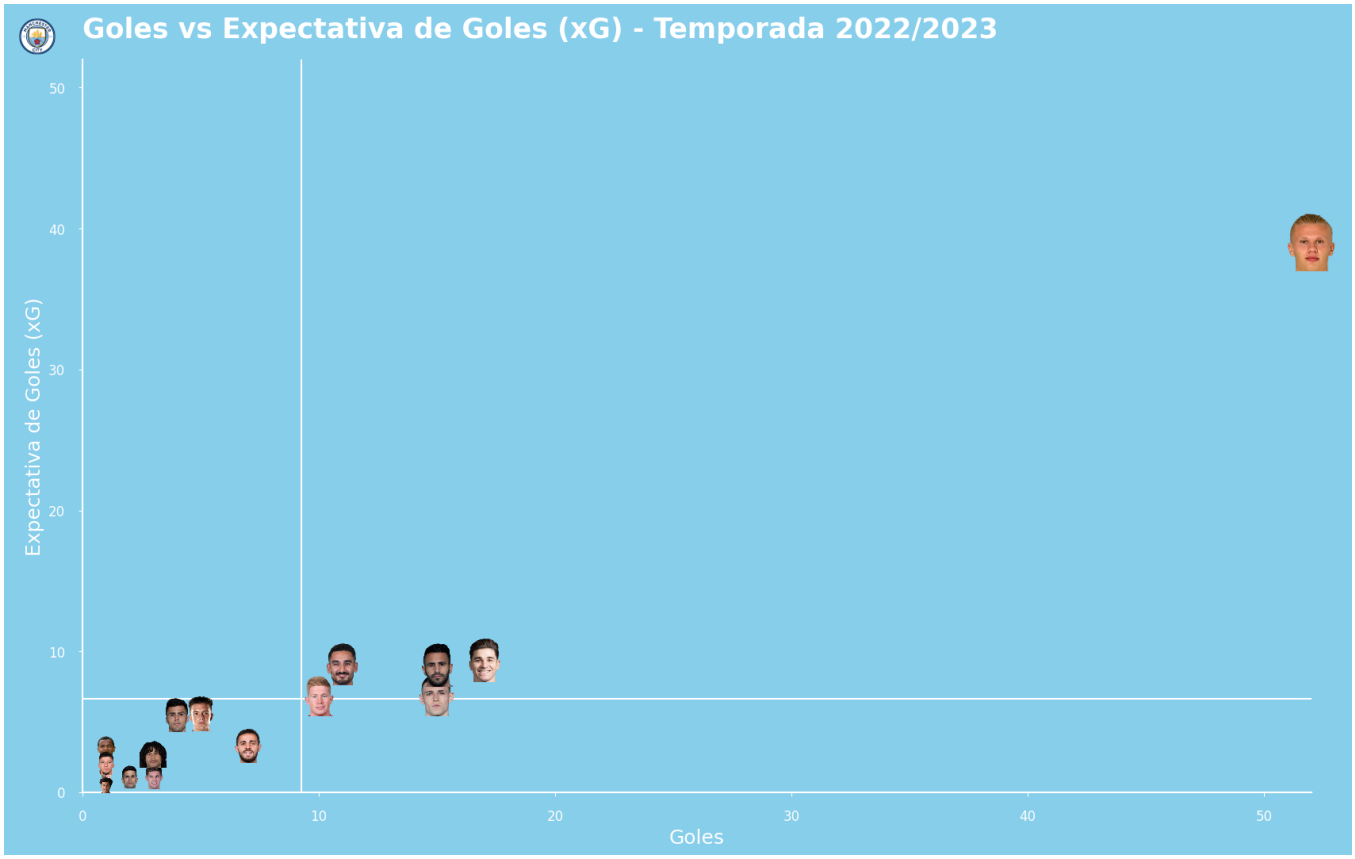
Analysis: Goals vs Expected Goals (xG)

In this section, we compare the actual goals scored by each player with their expected goals (xG). This allows us to identify which players outperformed expectations and which players fell short.

	Jugador	Rendimiento_Gls.	Expectativa_xG
6	Bernardo Silva	7.0	3.3
20	Cole Palmer	1.0	1.5
2	Erling Haaland	52.0	39.0
7	Jack Grealish	5.0	5.6
12	John Stones	3.0	1.1
15	João Cancelo	2.0	1.1
14	Julián Álvarez	17.0	9.4
5	Kevin De Bruyne	10.0	6.8
4	Manuel Akanji	1.0	2.2
10	Nathan Aké	3.0	1.7
13	Phil Foden	15.0	6.9
17	Rico Lewis	1.0	0.5
9	Riyad Mahrez	15.0	9.0
0	Rodri	4.0	5.5
8	Rúben Dias	1.0	3.1
3	İlkay Gündoğan	11.0	9.1

Visualization: Goals vs Expected Goals

The scatter plot below illustrates the goals scored by Manchester City players against their expected goals for the 2022/2023 season.



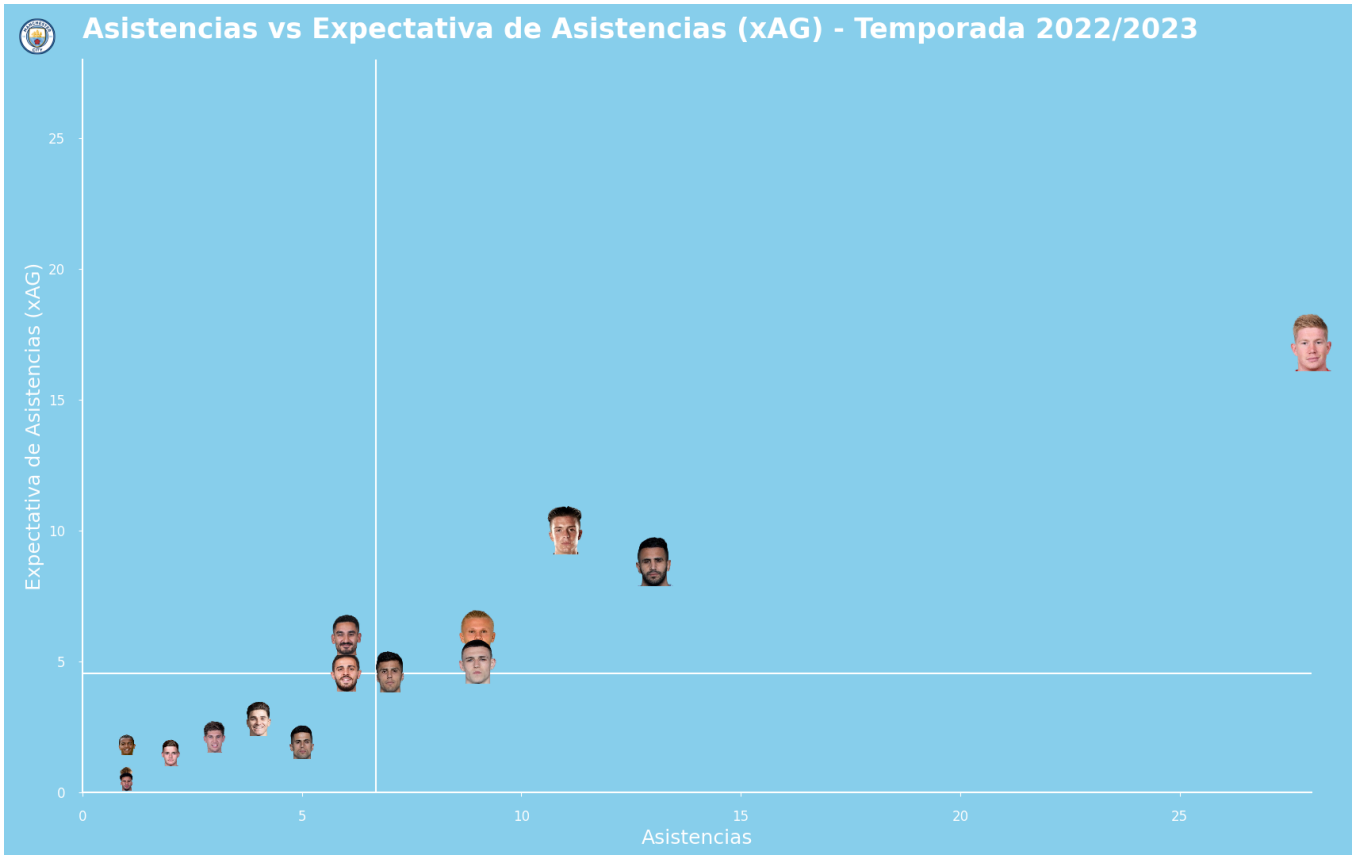
Analysis: Assists vs Expected Assists (xAG)

In this section, we analyze the assists provided by players and compare them to their expected assists (xAG). This will help determine which players were more efficient in creating scoring opportunities.

	Jugador	Rendimiento_Ass	Expectativa_xAG
6	Bernardo Silva	6.0	4.6
20	Cole Palmer	1.0	0.6
1	Ederson	1.0	0.2
2	Erling Haaland	9.0	6.1
7	Jack Grealish	11.0	10.0
12	John Stones	3.0	2.1
15	João Cancelo	5.0	1.9
14	Julián Álvarez	4.0	2.8
5	Kevin De Bruyne	28.0	17.2
11	Kyle Walker	1.0	0.4
4	Manuel Akanji	1.0	0.8
13	Phil Foden	9.0	6.0
9	Riyad Mahrez	13.0	8.8
0	Rodri	7.0	4.6
19	Sergio Gómez	2.0	1.5
3	İlkay Gündoğan	6.0	5.0

Visualization: Assists vs Expected Assists

The following scatter plot visualizes the assists versus expected assists (xAG) for Manchester City players.



Results and Observations

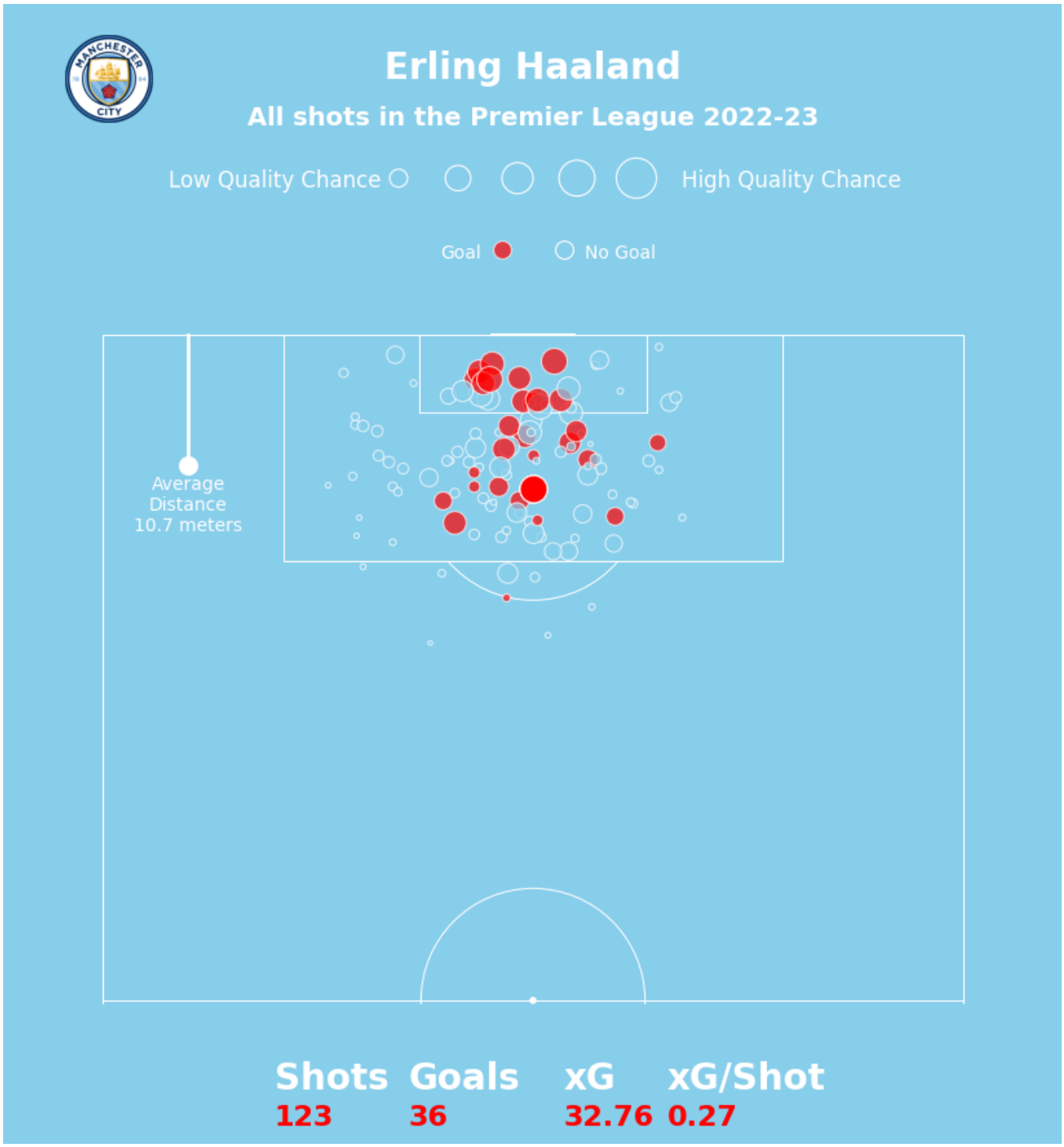
- **Erling Haaland** had an outstanding season, scoring **52 goals**, far exceeding his expected **39 xG**.
- **Kevin De Bruyne** not only contributed with goals but also excelled at creating scoring opportunities, generating a high number of expected assists for his teammates.

Erling Haaland: Shot Data Extraction

For this task, we use the Understat API, which provides data on every match played in the Premier League.

	id	minute	result	X	Y	xG	player	h_a
205	479846	20	MissedShots	0.9359999847412109	0.5029999923706054	0.48408499360084534	Erling Haaland	a
206	479847	35	Goal	0.885	0.5	0.7611690163612366	Erling Haaland	a
207	479854	64	Goal	0.8640000152587891	0.405	0.32805299758911133	Erling Haaland	a
208	479855	69	MissedShots	0.9530000305175781	0.5520000076293945	0.5266079902648926	Erling Haaland	a
209	479856	75	BlockedShot	0.894000015258789	0.71	0.06644280254840851	Erling Haaland	a

```
90.2333329983843 10.74333370177726
```



Match Analysis Throughout the Season

We extract every match played during the 2022/2023 season for further analysis.

	Fecha	Hora	Comp	Ronda	Día	Sedes	Resultado	GF	GC	Adversario	xG	xGA	Pos.
0	2022-07-30	17:00	Community Shield	FA Community Shield	Sáb	Neutral	D	1	3	Liverpool	NaN	NaN	57
1	2022-08-07	16:30	Premier League	Semana 1 de partido	Dom	Visitante	V	2	0	West Ham	2.2	0.5	75
2	2022-08-13	15:00	Premier League	Semana 2 de partido	Sáb	Local	V	4	0	Bournemouth	1.7	0.1	67
3	2022-08-21	16:30	Premier League	Semana 3 de partido	Dom	Visitante	E	3	3	Newcastle Utd	2.1	1.8	69
4	2022-08-27	15:00	Premier League	Semana 4 de partido	Sáb	Local	V	4	2	Crystal Palace	2.2	0.1	74
...	...	...	...	...	...	...	...	...	...	...	...	...	...
56	2023-05-21	16:00	Premier League	Semana 37 de partido	Dom	Local	V	1	0	Chelsea	1.2	1.2	64
57	2023-05-24	20:00	Premier League	Semana 32 de partido	Mié	Visitante	E	1	1	Brighton	1.8	2.2	60
58	2023-05-28	16:30	Premier League	Semana 38 de partido	Dom	Visitante	D	0	1	Brentford	1.6	1.3	65
59	2023-06-03	15:00	FA Cup	Final	Sáb	Neutral	V	2	1	Manchester Utd	NaN	NaN	60
60	2023-06-10	22:00	Champions Lg	Final	Sáb	Neutral	V	1	0	it Inter	1.0	1.7	55

61 rows × 20 columns

1. Home vs Away Performance Analysis

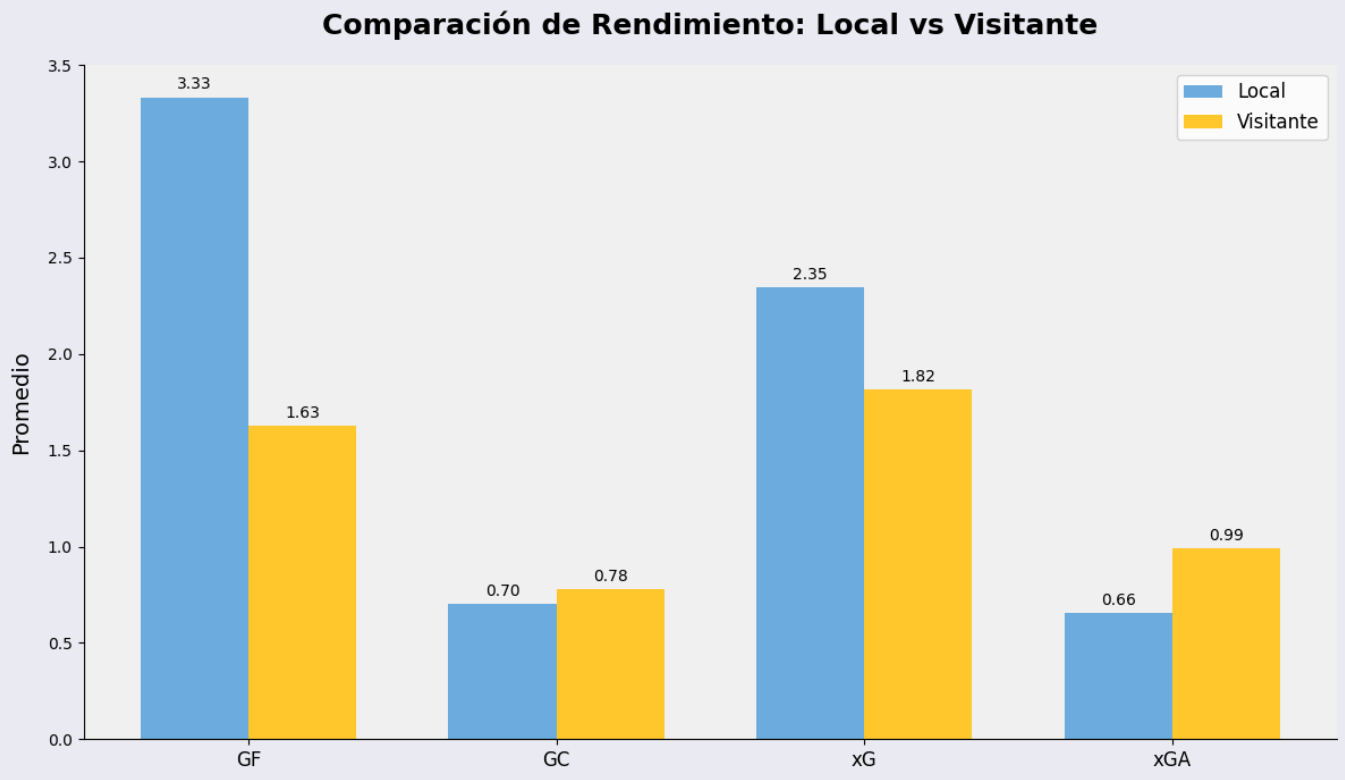
Description: Compare Manchester City's performance when playing at home vs. away. Analyze key metrics like goals for (GF), goals against (GA), and expected goals (xG) based on the venue.

Relevant columns: 'Sedes' (venue), 'GF' (goals for), 'GC' (goals against), 'xG' (expected goals), 'xGA' (expected goals against).

- Does Manchester City score more goals or have a better xG at home than away?

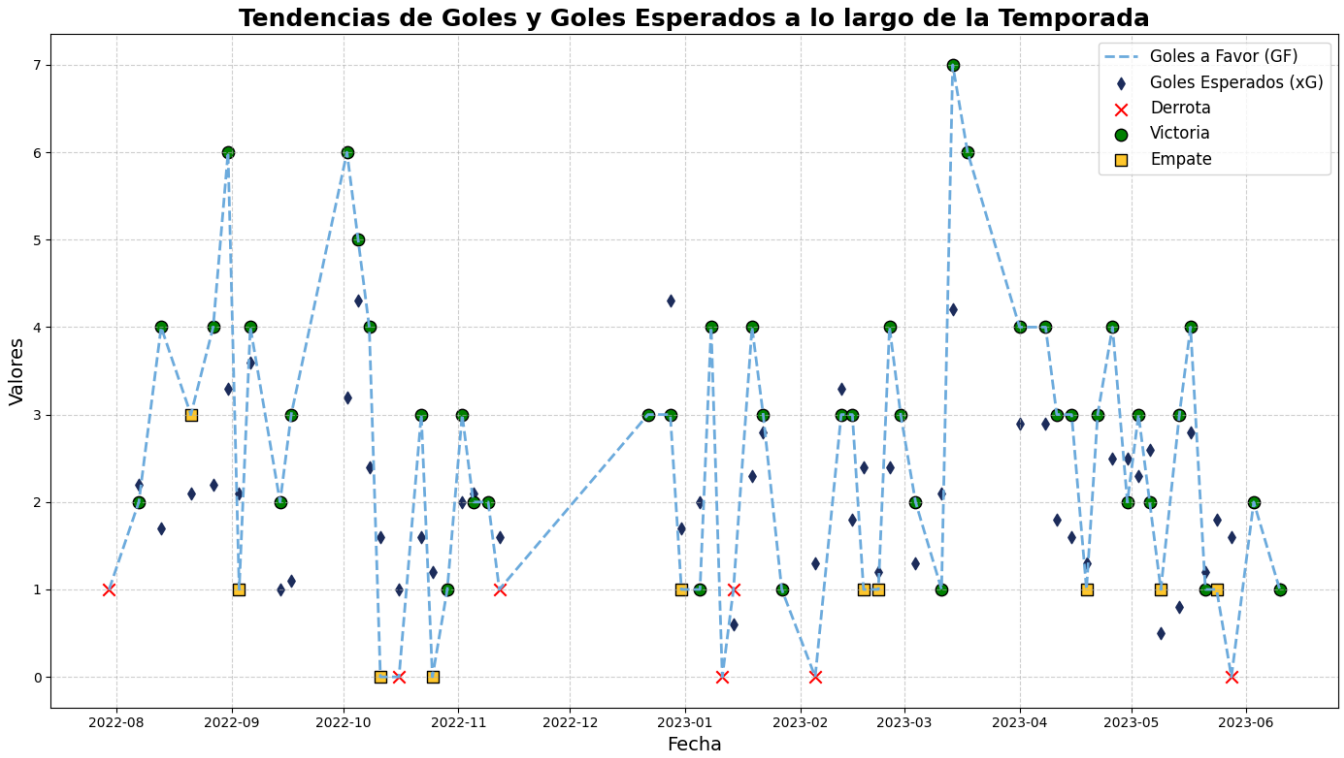
```
Promedio de GF en casa: 3.3333333333333335
Promedio de GC en casa: 0.7
Promedio de xG en casa: 2.3480000000000003
Promedio de xGA en casa: 0.6560000000000001

Promedio de GF fuera: 1.6296296296296295
Promedio de GC fuera: 0.7777777777777778
Promedio de xG fuera: 1.8159999999999998
Promedio de xGA fuera: 0.9920000000000002
```



2. **Season Trends**

- **Description**: Analyze the team's performance trends throughout the season. You can observe how metrics such as goals scored (GF), expected goals (xG), and goals conceded (GC) evolve as the season progresses.
- **Relevant columns**: `'Fecha'` (Date), `'GF'` (Goals For), `'GC'` (Goals Conceded), `'xG'` (Expected Goals), `'xGA'` (Expected Goals Against)
- Was there any period during the season where the team's performance significantly dropped or improved?

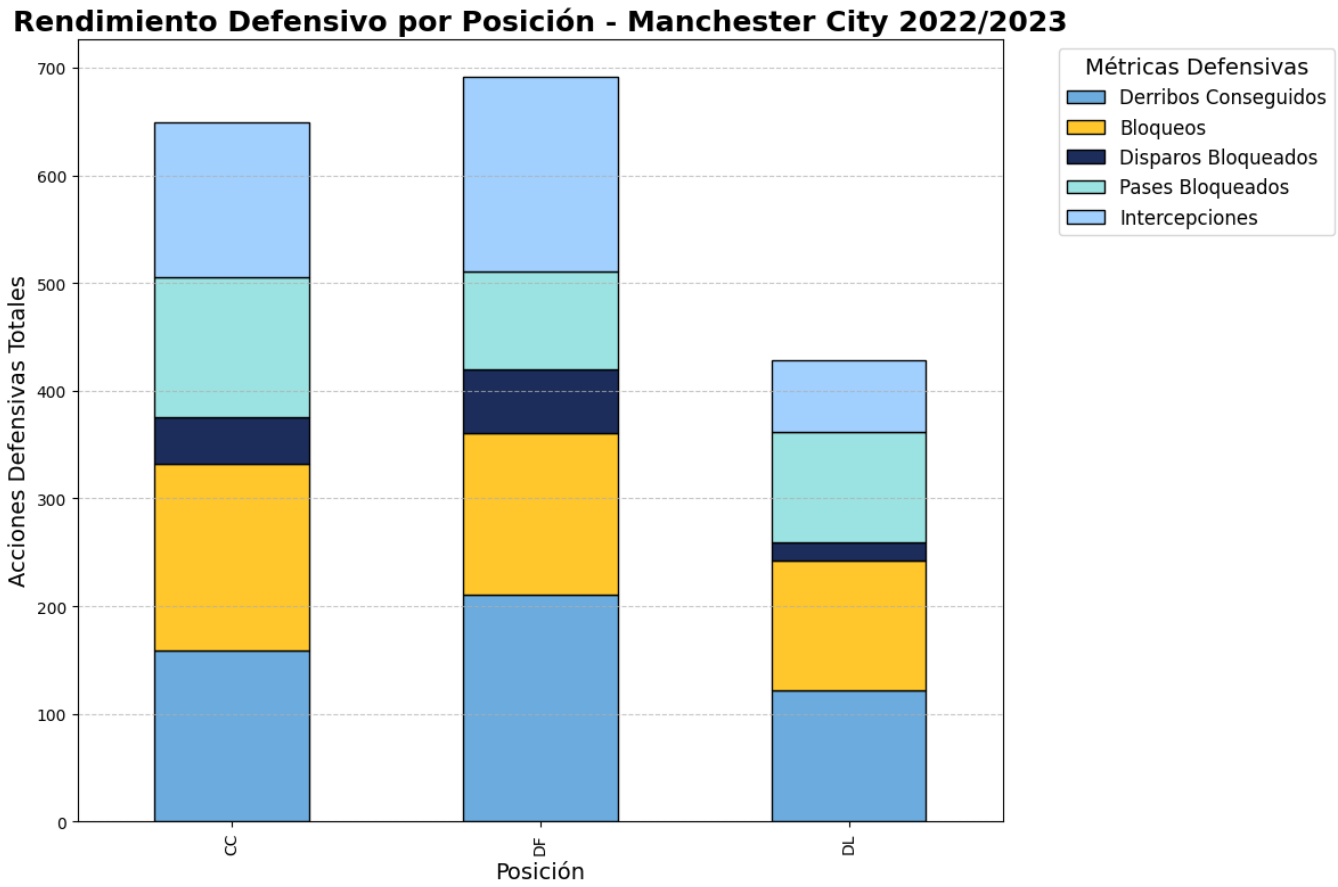


3. **Defensive Performance by Position**

- **Description**: Analyze how defensive performance varies by player position on the field (DF, CC, DL, etc.). You can compare key metrics such as **tackles (Tkl)**, **blocks**, and **interceptions** to determine which positions contribute the most defensively.
- **Key columns**: `'Posc'` (Position), `'Derribos_Tkl'` (Tackles), `'Bloqueos_Bloqueos'` (Blocks), `'Int'` (Interceptions), `'Tkl+Int'` (Tackles + Interceptions)
- Which position performs the most interceptions and blocks on the team?

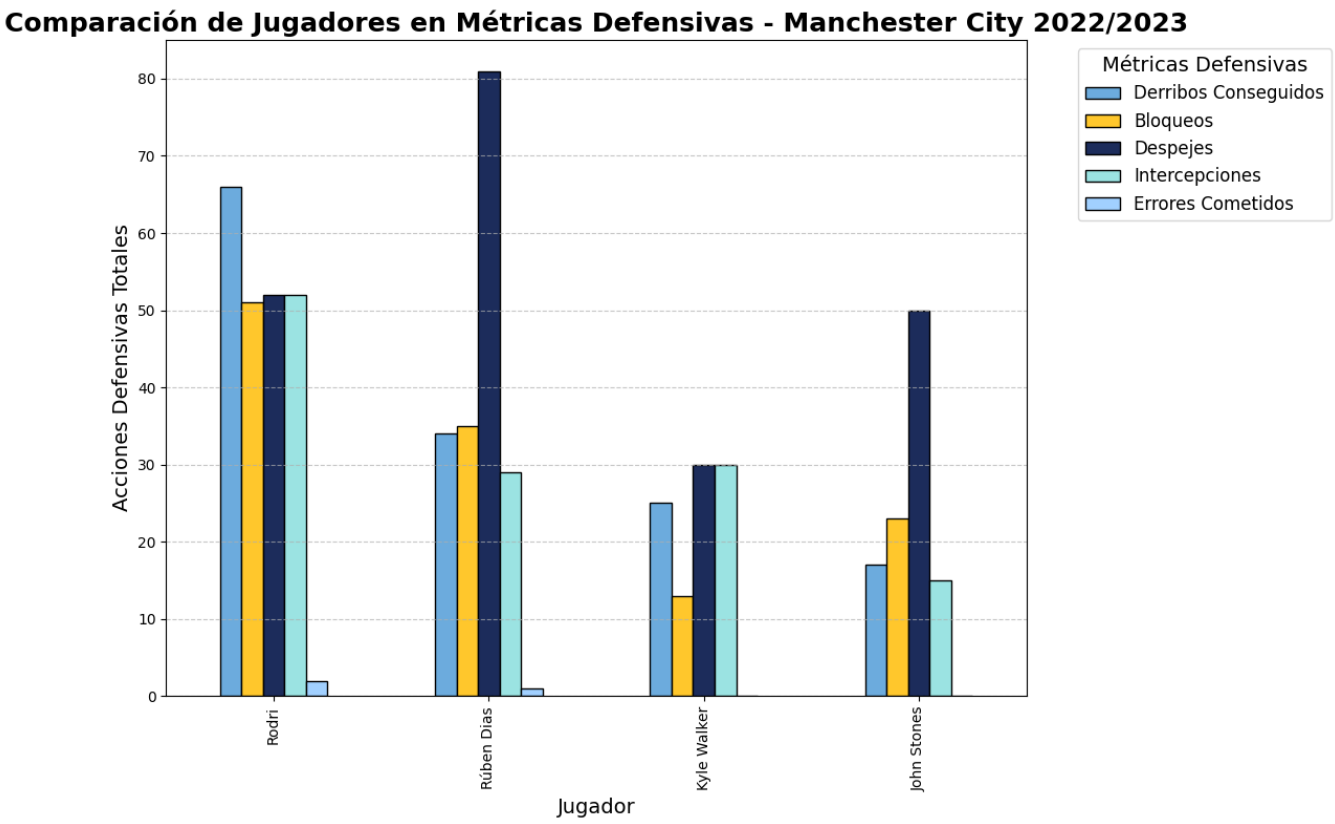
```
Index(['Jugador', 'País', 'Posc', 'Edad', '90 s', 'Derribos_Tkl',
       'Derribos_TklG', 'Derribos_3.º def.', 'Derribos_3.º cent.',
       'Derribos_3.º ataq.', 'Desafíos_Tkl', 'Desafíos_Att', 'Desafíos_Tkl%',
       'Desafíos_Pérdida', 'Bloqueos_Bloqueos', 'Bloqueos_Dis',
       'Bloqueos_Pases', 'Int', 'Tkl+Int', 'Desp.', 'Err', 'Partidos'],
      dtype='object')
```

	Posc	Derribos_TklG	Bloqueos_Bloqueos	Bloqueos_Dis	Bloqueos_Pases	Int
0	CC	159	173	43	130	144
1	DF	211	150	59	91	181
2	DL	122	120	17	103	66
3	PO	1	0	0	0	2



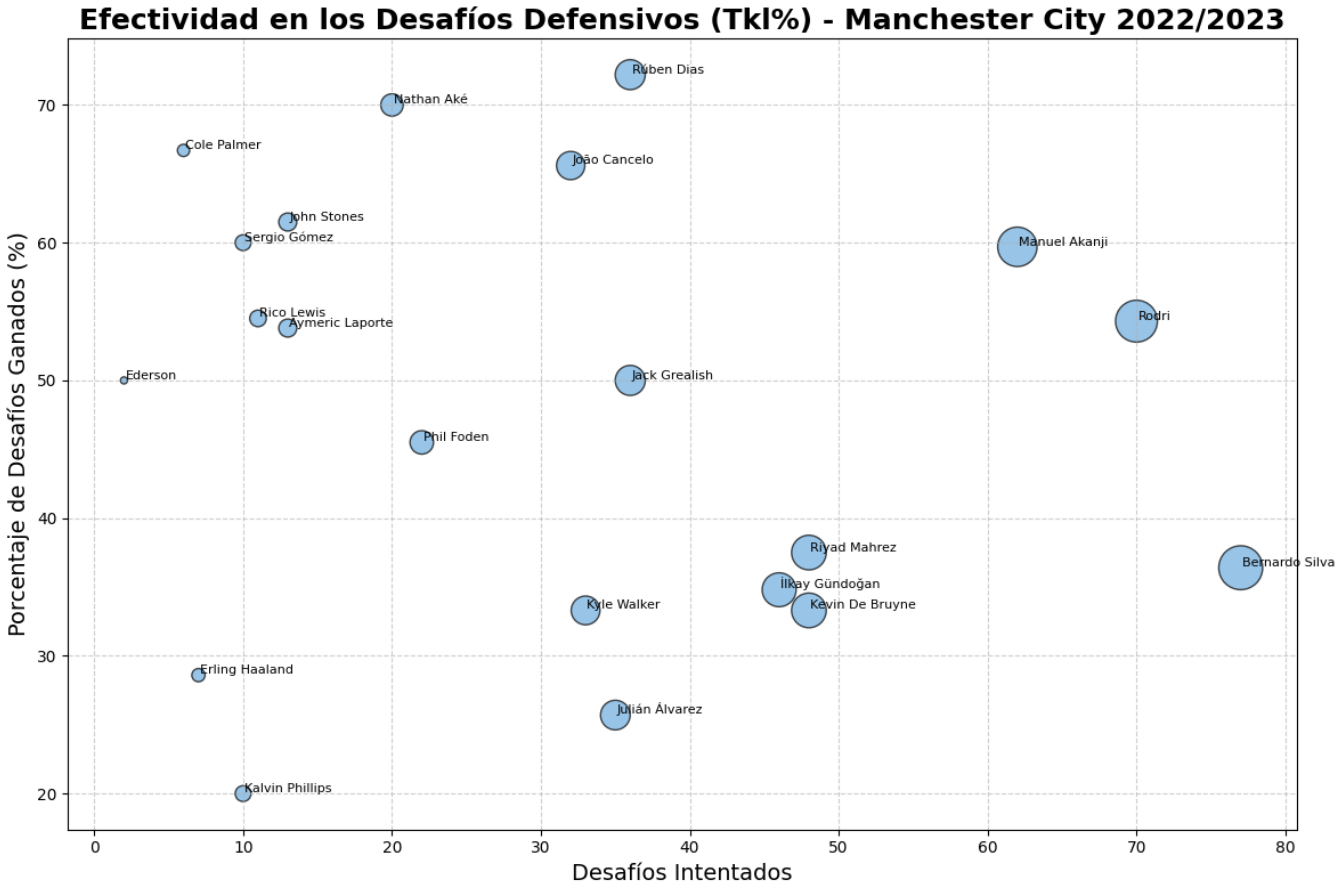
4. **Key Player Comparison in Defensive Metrics**

- **Description**: Compare key Manchester City players based on primary defensive metrics such as **tackles (Tkl)**, **blocks**, and **clearances**. You can create individual defensive profiles for players like **Rodri**, **Rúben Dias**, **Kyle Walker**, etc.
- **Key columns**: `'Player'`, `'Tackles_Tkl'`, `'Blocks'`, `'Clearances'`, `'Interceptions'`, `'Errors'`
- How does Rodri compare to Rúben Dias in defensive metrics like tackles and clearances?



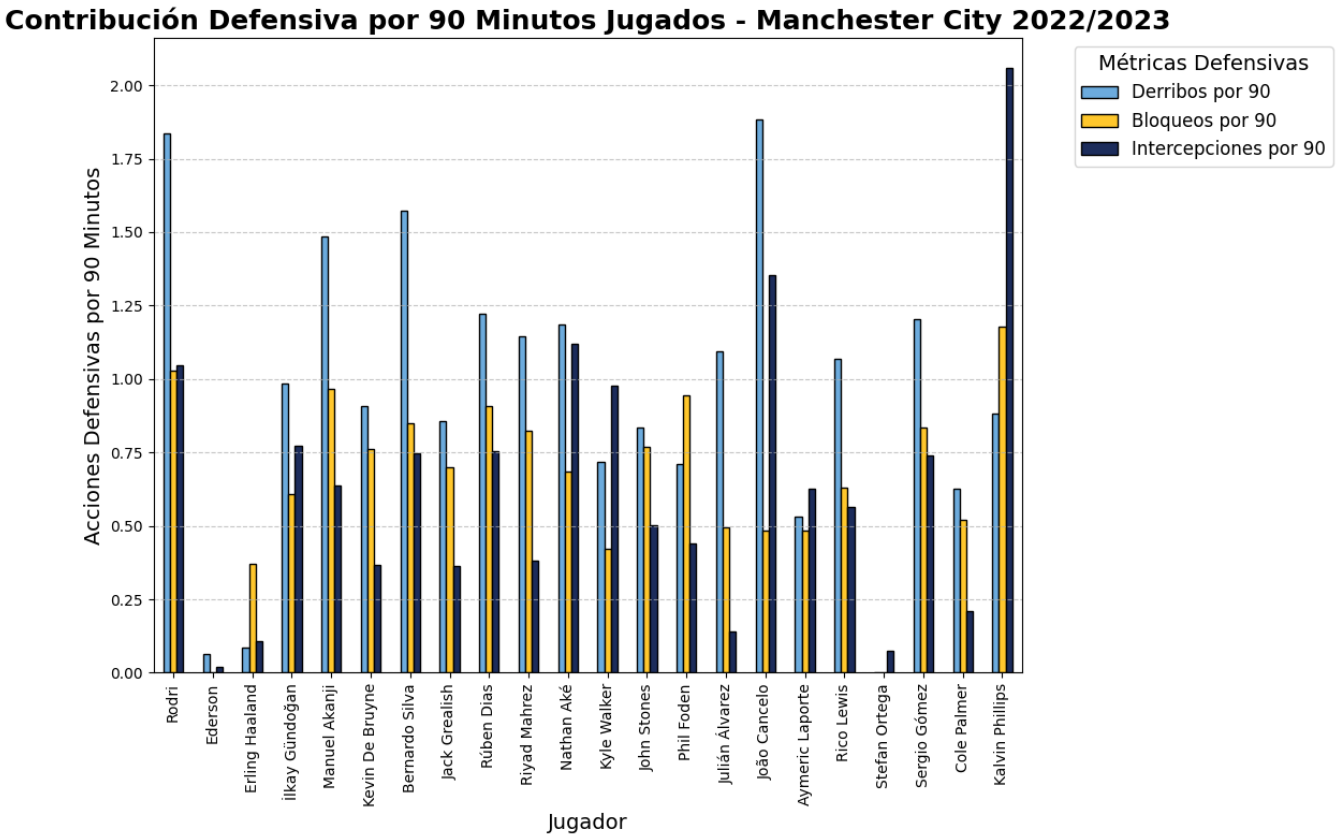
5. **Tackle Effectiveness Analysis (Tkl%)**

- **Description**: Analyze players' effectiveness in defensive duels. You can calculate the percentage of successful tackles (Tkl%) for different players and see who has the highest success rate in their tackle attempts.
- **Key columns**: `'Player'`, `'Tackles_Success%'`, `'Tackles_Attempted'`
- Which players have the highest tackle success rate in defensive duels? How do their attempts and successes vary?



6. **Defensive Contribution per 90 Minutes**

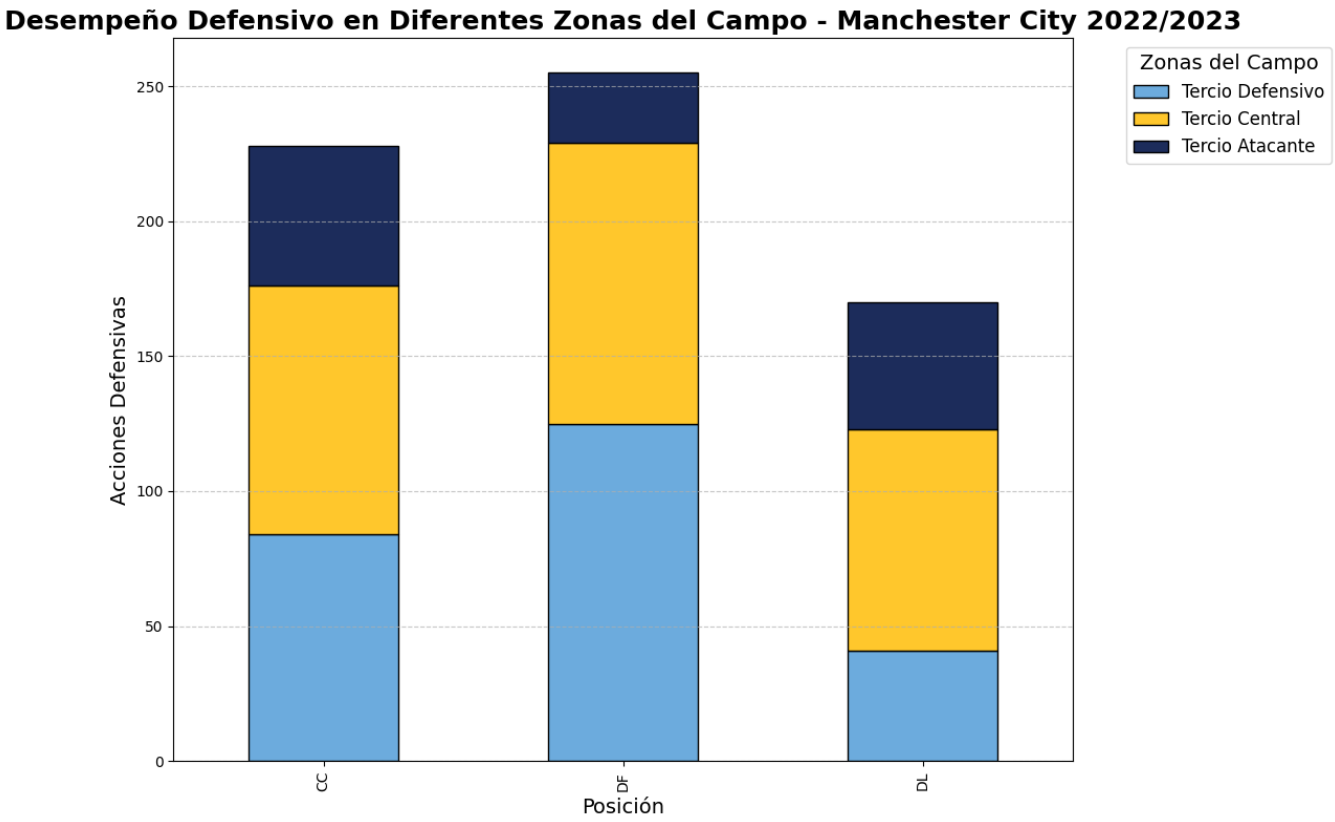
- **Description**: Normalize defensive statistics per 90 minutes played to better compare players who haven't played the same amount of minutes. This can help identify defensively effective players who have had limited game time.
- **Key columns**: `'Player'`, `'Minutes Played'`, `'Tackles'`, `'Blocks'`, `'Interceptions'`
- Who is the most efficient player in terms of interceptions or blocks per 90 minutes played?



7. **Defensive Performance by Field Thirds**

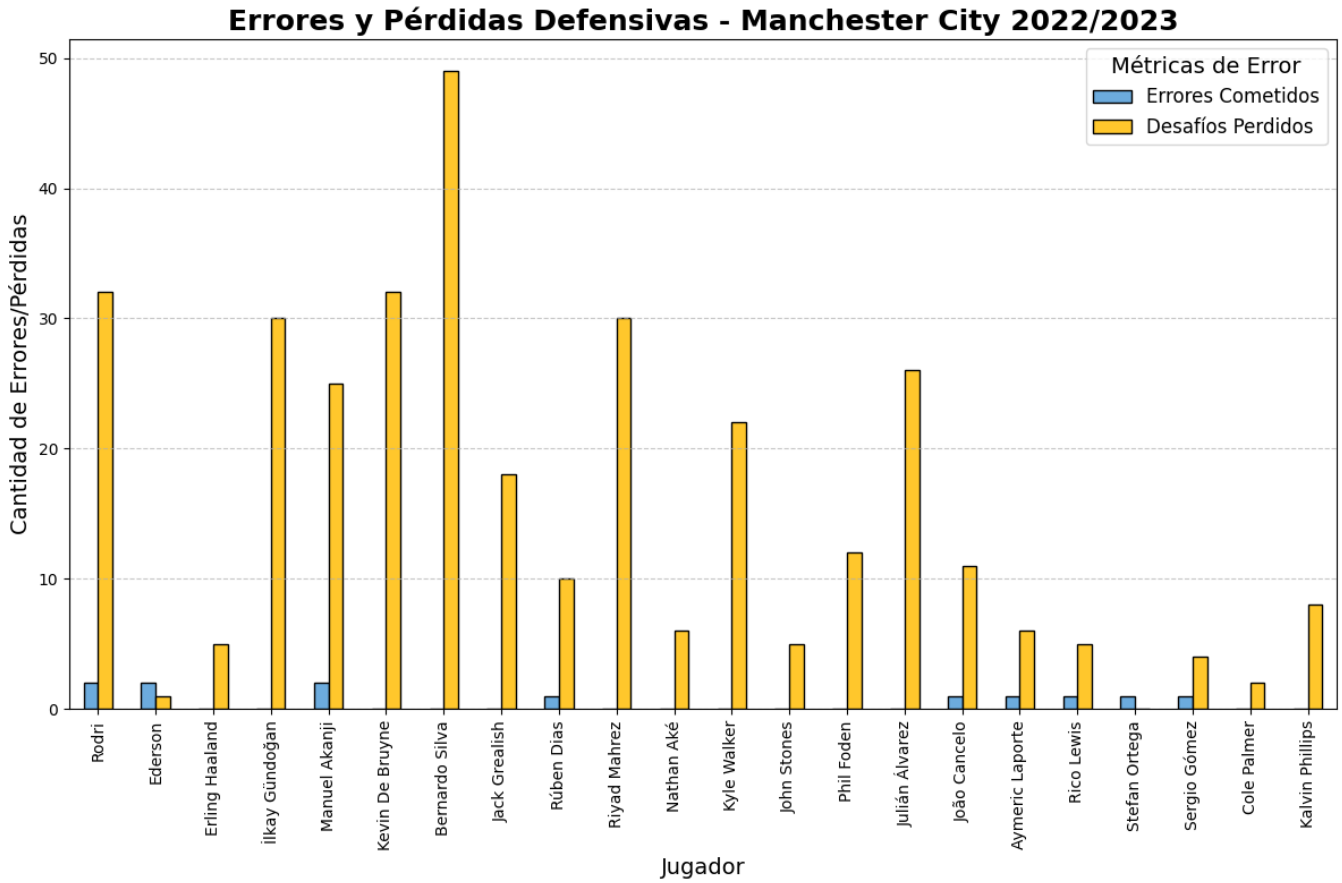
- **Description**: Analyze how defensive actions are distributed across different areas of the pitch (defensive third, midfield, attacking third). This can show where players perform most of their defensive interventions and how the team defends in different areas.
- **Key columns**: `'Tackles_DefensiveThird'`, `'Tackles_MidfieldThird'`, `'Tackles_AttackingThird'`
- Where do most defensive interventions occur: in the defensive, midfield, or attacking third?

	Posc	Derribos_3.º def.	Derribos_3.º cent.	Derribos_3.º ataq.
0	CC	84	92	52
1	DF	125	104	26
2	DL	41	82	47



8. **Errors and Ball Losses (Defensive Risk Analysis)**

- **Description**: Analyze the number of errors committed and ball losses by defensive players. This can help identify players who take risks or make more mistakes in defense.
- **Key columns**: `'Player'`, `'Errors'`, `'Challenges_Lost'`
- Which players are more prone to committing errors or losing defensive challenges?


Errores y Pérdidas Defensivas - Manchester City 2022/2023
Métricas de Error
Errores Cometidos
Desafíos Perdidos
Cantidad de Errores/Pérdidas
0
10
20
30
40
50
Rodri
Ederson
Erling Haaland
İlkay Gündoğan
Manuel Akanji
Kevin De Bruyne
Bernardo Silva
Jack Grealish
Rúben Dias
Riyad Mahrez
Nathan Aké
Kyle Walker
John Stones
Phil Foden
Julián Álvarez
João Cancelo
Aymeric Laporte
Rico Lewis
Stefan Ortega
Sergio Gómez
Cole Palmer
Kalvin Phillips
Jugador