






Abstract

Analysing Scoring Opportunities and Efficiency: A Comparative Study Between the Portuguese Liga BPI and Five of the Most Competitive Female Football Leagues

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Female football has seen a large increase in popularity worldwide, which resulted in an expansion of well-organized leagues in various countries. The best leagues are gradually becoming more popular, mostly due to the talent that every team has, leading to a more competitive scenario. The Portuguese Liga BPI is approaching full professionalisation, yet there still seems to be a great disparity in terms of team quality in the league, with one specific team winning for the past three years with a high number of goal difference.

In light of this situation, this study explored the differences in goal chances and goals scored between the Liga BPI and five of the most competitive leagues in the world during the 2022/2023 season.

The means of goal chances (GC) and successful goal chances (S-GC), per game, from the Portuguese Liga BPI, United States of America National Soccer Women's League (NWSL), English FA Super League, French D1 Féminine, German Frauen-Bundesliga and Spanish Liga F were collected from the Instat platform and subsequently analysed. For the comparisons among leagues, the data from the 2022/2023 season (in the case of

the NWSL, 2022 season) games were interpreted using descriptive statistics. The Mann-Whitney U Test was used to compare the GC and S-GC variables between the Liga BPI and the other leagues.

Results demonstrated that the Liga BPI had the highest GC ($\mu=6.02$) (Table1) and S-GC ($\mu=1.76$) (Table2) of all the leagues, having one outlier with the highest S-GC score of all analysed teams ($n=4.50$) (Table2). Additionally, the standard deviation (SD) for both variables was also superior in the Portuguese league ($SD(GC)=3.36$ and $SD(S-GC)=1.18$; Table 1 and Table 2, respectively). Furthermore, the Mann-Whitney U Test exhibited no statistically significant difference ($p\geq 0.05$) for both variables.

Table 1 – Descriptive statistics table of the leagues mean of goal chances per game (GC)

| | Leagues | Mean | 95% Confidence Interval | | Median | SD | Minimum | Maximum |
|----|-------------------|------|-------------------------|-------|--------|------|---------|---------|
| | | | Lower | Upper | | | | |
| GC | D1 Féminine | 5.37 | 3.97 | 6.76 | 4.96 | 2.19 | 2.91 | 10.77 |
| | FA Super League | 5.62 | 4.13 | 7.12 | 4.78 | 2.35 | 3.00 | 9.44 |
| | Liga BPI | 6.02 | 3.88 | 8.15 | 4.79 | 3.36 | 2.64 | 13.23 |
| | Liga F | 5.50 | 4.22 | 6.79 | 4.62 | 2.41 | 2.46 | 11.30 |
| | NWSL | 5.27 | 4.47 | 6.07 | 5.27 | 1.26 | 3.36 | 7.58 |
| | Frauen-Bundesliga | 5.85 | 3.86 | 7.83 | 4.66 | 3.12 | 2.43 | 11.27 |

SD – standard deviation; GC – mean of goal chances per game; NWSL – National Women Soccer League

Table 2 – Descriptive statistics table of the leagues mean of successful goal chances per game (S-GC)

| | Leagues | Mean | 95% Confidence Interval | | Median | SD | Minimum | Maximum |
|------|-------------------|------|-------------------------|-------|--------|------|---------|---------|
| | | | Lower | Upper | | | | |
| S-GC | D1 Féminine | 1.53 | 1.04 | 2.02 | 1.54 | 0.77 | 0.52 | 3.14 |
| | FA Super League | 1.58 | 1.11 | 2.05 | 1.19 | 0.74 | 0.53 | 2.71 |
| | Liga BPI | 1.76 | 1.02 | 2.51 | 1.46 | 1.18 | 0.55 | 4.50 |
| | Liga F | 1.64 | 1.21 | 2.07 | 1.28 | 0.81 | 0.64 | 3.40 |
| | NWSL | 1.38 | 1.10 | 1.66 | 1.35 | 0.44 | 0.73 | 2.21 |
| | Frauen-Bundesliga | 1.62 | 0.99 | 2.26 | 1.29 | 1.00 | 0.62 | 3.41 |

SD – standard deviation; GC – mean of successful goal chances per game; NWSL – National Women Soccer League

Following the assessment of the goal chances and efficiency of these leagues, it was revealed that there is no considerable distinction between them. However, if the leagues are observed separately, the Portuguese league has a bigger disparity between teams concerning goal chances and successful goal chances than any other mentioned league, having one specific team leading with a significant difference. This implies that the Liga BPI has a great distinction between the league team's capacity to create goal chances and score.

In conclusion, these results provide valuable insight into how unbalanced the Liga BPI is regarding scoring opportunities and efficiency, thus making the Portuguese league less competitive.

Keywords: Women, Soccer, Goal, Sports