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How to be praised in sports newspapers: a performance analysis from soccer matches

HUGO SILVA[1,2], FÁBIO YUZO NAKAMURA[1,2], VAJIHEH JAVANI[3], RUI MARCELINO[1,2,4]

Abstract

Introduction. Soccer players attribute particular importance to media and how newspapers portray their individual performances. However, these analysis can be biased and unfair to players. Aim of Study. This study analyzed how sport newspapers rated soccer players' performances, comparing them to performance variables from a data-driven platform (SofaScore). Material and Methods. Ratings from the last five games of the Portuguese first division (2021/22 season) were collected from 'A Bola', 'O Jogo' and 'Record' newspapers, in addition of SofaScore data: SofaScore rating, goals scored, saves (for goalkeepers), assists to goals, successful exits (for goalkeepers), accurate passes, key passes, success dribbles, ball lost, shots on target, tackles and duels won (both aerial and on the ground). Results. Correlations between newspapers and between newspapers and SofaScore Rating were moderate to strong (0.54-0.64, $p < 0.001$). Goalkeepers received higher ratings ('A Bola': 5.77 ± 0.99; 'O Jogo': 5.73 ± 0.83; 'Record': 2.85 ± 0.80). Goalkeepers receive higher newspaper' ratings if they perform more Exits ('A Bola' and 'Record') and won Duels ('O Jogo'). Outfield players receive higher newspaper' ratings if they score ('A Bola', 'O Jogo' and 'Record') or assist ('O Jogo' and 'Record') goals. Conclusions. With this information, players can better understand newspapers ratings, while the media can evaluate the fairness of those evaluations, especially regarding players that are usually distant from goal situations.

KEYWORDS: soccer, technical, media, game, fairness, score.

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Corresponding author: hugorodriguessilva.35@gmail.com

[1] *Research Center in Sports Sciences, Health Sciences and Human Development, CIDESD, CreativeLab Research Community, Vila Real, Portugal*
[2] *University of Maia, Maia, Portugal*
[3] *University of Tabriz, Faculty of Physical Education and Sport Sciences, Tabriz, Iran*
[4] *Portugal Football School, Portuguese Football Federation, Oeiras, Portugal*

Introduction

Soccer matches are watched by many people and can exceed half a billion viewers in specific games such as the UEFA Champions League final [14]. However, matches are not displayed exclusively for the public. Computer programs provide information concerning performances of both teams and individual players by gathering information labeled by professional observers. For example, the UEFA website discloses players' stats such as goals scored, passes completed and goalkeeper saves. These stats discriminate different technical actions that players perform during matches and can even report an overall rating of player performance. For instance, the number of goals scored, shots on target, dribbles won, penalties converted, and key passes showed a higher correlation with the probability of being nominated for the more prestigious individual award in soccer: the Golden Ball [18]. No surprise arises regarding various performance analysis approaches when attempting to correctly classify individual performances.

Expected goals are one of the most famous approaches and focus on the production process instead of accounting

only for what happens on the score line [3]. Another example is the Elo system that considers expectations before the match – if a player exceeds expectations, his rating will increase [24]. These protocols use algorithms that combine different information and report classification of players' performance. Then, this information is treated and shared with or without a required payment from users. Generally, clubs and scouts pay for a complete dataset provided by companies such as InStat and Stats Perform. The free option has fewer data available and is mostly destined for fans and the general public. SofaScore and WhoScored are examples of the latter.

However, soccer is a complex sport so that several variables can influence the outcome and one rating can fall short in the task of correctly assessing one individual's performance. For example, differences can be expected regarding playing positions, while capabilities such as communication, support and movement into scoring positions are also seen as technical requirements even though they can be difficult to measure in the previously cited protocols [7]. The Premier League, considered by many as the best league in the world, uses the EA Sports Player Performance Index, a rating system to assess players' performances, which results from a partnership between the Premier League, the Football League, Football DataCo and the Press Association [15]. This index is then shared across the media and widely used for several analyses.

Despite these advanced assessments, players receive other performance evaluations, generally classified as success or failure, attributed by fans using platforms such as social media [4]. Importantly, one previous study reported that poor performances can engage fans to mock and threatened athletes [20]. Additionally, newspapers also present individual performance ratings [17], which can be biased [16]. This is particularly important, as they can decisively influence players' performance [1]. Players' self-confidence can suffer from negative media exposure, increasing the pressure felt by these athletes [8, 9]**.** Fazenda et al. [6] reported that 45% of the Portuguese first-division players considered that the media greatly influence their performance. In Portugal, sport newspapers also classify individual performances of players after each match. Considering the previous studies, these classifications can impact players and questions arise if they are accurate and fair to players.

Aim of Study

The purpose of this study was to analyze Portuguese sports newspaper ratings and how they compare to a database platform (SofaScore), including differences between playing positions.

Materials and Methods

Procedures

Match performances from the last five games of the 2021/22 season for all teams competing in the Portuguese first division were collected from three Portuguese sport newspapers – 'A Bola', 'O Jogo' and 'Record' – and from the SofaScore platform. The five game sample provided more than 1000 datapoints for each newspaper. These three journals are the national reference when it comes to sports newspapers and are available daily and nationwide. SofaScore uses Opta Sports real-time data collection to provide their data: SofaScore rating, goals scored, saves (for goalkeepers), assists to goals, successful exits (for goalkeepers), accurate passes, key passes, success dribbles, ball lost, shots on target, tackles and duels won (both aerial and on the ground). The Opta system has been previously validated to code players' match actions [13].

Playing positions were classified according to the platform and newspapers diagrams, and divided into goalkeepers, central defenders, fullbacks, central midfielders, wide midfielders, and forwards.

Ratings

Newspapers presented ratings as follows: 1-10 in 'A Bola', 0-10 in 'O Jogo' and 0-5 in 'Record'. The 'Record' newspaper rated all players regardless of time played, differently than other newspapers and the SofaScore. For example, if a player played for only one minute and did not impact the game (as a goal or an assist), only 'Record' rated that player. This rating was

Table 1. Newspaper and SofaScore ratings (means ± SD)

	'A Bola' (n = 1285)	'O Jogo' (n = 1338)	'Record' (n = 1358)	SofaScore Rating (n = 1372)
GK	5.77 ± 0.99	5.73 ± 0.83	2.85 ± 0.80	6.83 ± 0.82
CD	5.44 ± 0.90	5.48 ± 0.85	2.59 ± 0.80	6.84 ± 0.60
FB	5.41 ± 0.91	5.45 ± 0.85	2.52 ± 0.80	6.77 ± 0.53
CM	5.45 ± 0.97	5.63 ± 0.87	2.49 ± 0.82	6.81 ± 0.82
WM	5.48 ± 0.93	5.67 ± 0.86	2.43 ± 0.81	6.83 ± 0.55
FW	5.35 ± 1.19	5.53 ± 0.88	2.24 ± 0.82	6.83 ± 0.62
All	5.46 ± 0.97	5.57 ± 0.89	2.49 ± 0.83	6.82 ± 0.57

Note: GK – goalkeeper, CD – central defender, FB – fullback, CM – central midfielder, WM – wide midfielder, FW – forward

excluded, since it was a single data point, and thus no comparison was available.

Data from the SofaScore was retrieved as numbers and not as a percentage in order to avoid misleading ratings. For example, if a player had only one pass and it was successful, the player would have 100% efficacy, which could be misleading when compared to other players. SofaScore ratings are generated by an algorithm that evaluates players' performance on a scale up to ten, depending on what the players did during their time on the pitch [21]. Finally, since goalkeepers are usually excluded from several game actions of the game such as goals or assists, the following goalkeeper data from the SofaScore was excluded: goals, assists, key passes, success dribbles, ball lost, shot on target and tackles.

Statistical analysis

Means ± standard deviations (SD) were calculated in Microsoft Excel for all newspaper and SofaScore ratings.

Pearson's (r) correlation analysis was conducted to compare ratings between newspapers, newspaper ratings and SofaScore variables for each playing position using jamovi (the jamovi project [23]). Magnitudes of correlation were classified as follows: 0-0.19 as very weak; 0.2-0.39 as weak; 0.40-0.59 as moderate; 0.6-0.79 as strong and 0.8-1 as very strong [2]. Linear regression was calculated to predict newspaper rating outcomes from SofaScore variables using jamovi (the jamovi project) [23]. The three highest slopes (variables) were selected for each newspaper and each playing position. Additional regressions are presented in Supplementary information with the respective equations.

Results

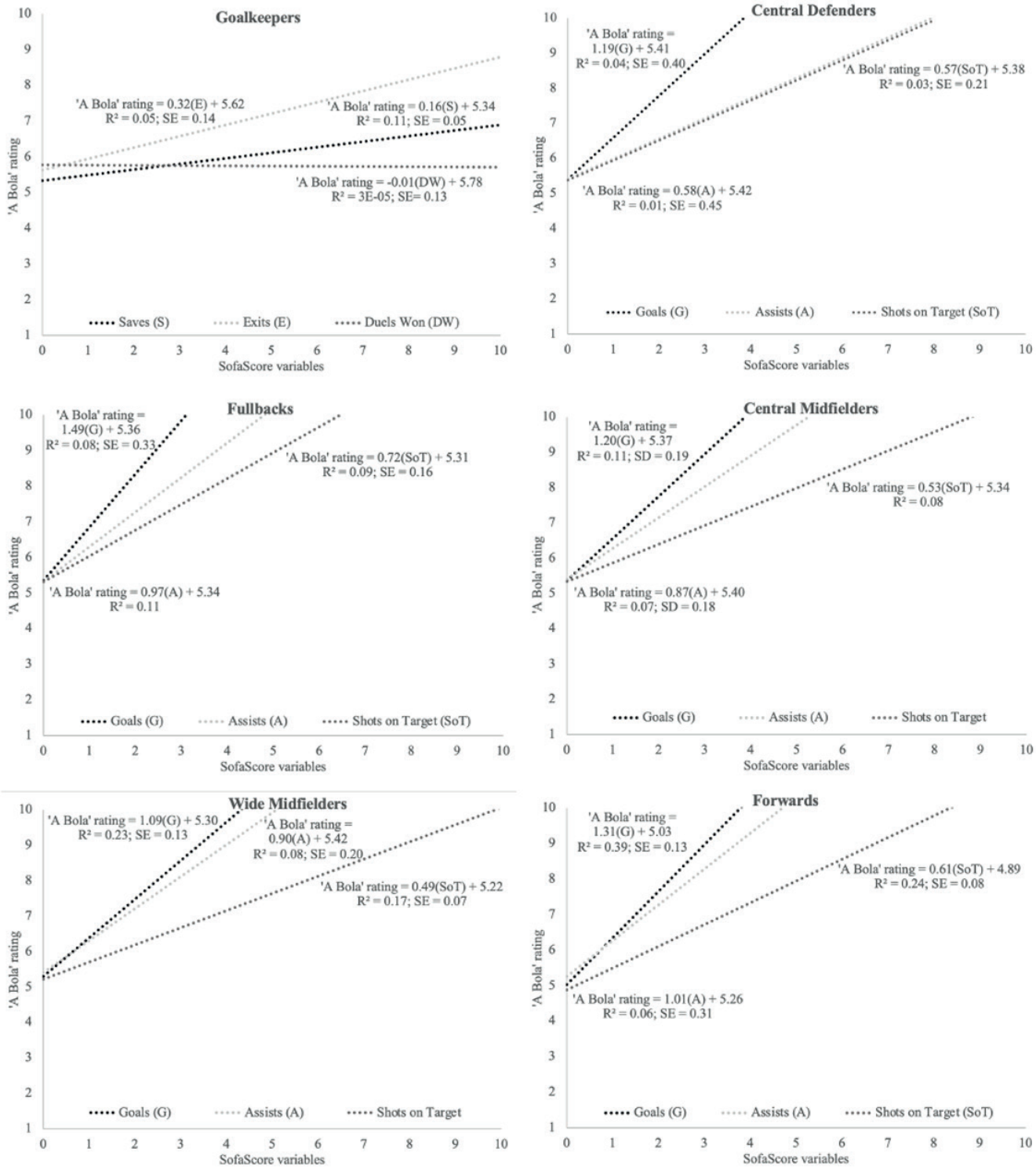
Averages ratings from newspapers and SofaScore are presented in Table 1. Goalkeepers had the higher average classification for all newspapers. The average lowest rating was given to forwards ('A Bola' and 'Record') and fullbacks ('O Jogo'). All analyzed correlations were statistically significant ($p < 0.001$) and varied from strong to moderate: $r = 0.64$ ('A Bola' and 'O Jogo'), $r = 0.60$ ('A Bola' and 'Record'), $r = 0.59$ ('O Jogo' and 'Record'), $r = 0.57$ ('A Bola' and SofaScore Rating), $r = 0.60$ ('O Jogo and SofaScore Rating), and $r = 0.54$ ('Record' and SofaScore Rating). Linear regressions with highest slopes between the three SofaScore variables and newspaper ratings are presented in Figures 1 ('A Bola'), 2 ('O Jogo') and 3 ('Record'). Additional regressions are presented in Supplementary Information. Linear regressions with the highest slope show that goalkeepers would receive higher ratings if they perform more Exits ('A Bola' and 'Record'; Figures 1 and 3), and won more duels ('O Jogo'; Figure 2); central defenders would receive higher ratings if they score more goals ('A Bola', 'O Jogo' and 'Record'; Figures 1, 2 and 3); fullbacks would receive higher ratings if they score more goals ('A Bola', 'O Jogo' and 'Record'; Figures 1, 2 and 3); central midfielders would receive higher ratings if they score more goals ('A Bola', 'O Jogo' and 'Record'; Figures 1, 2 and 3); wide midfielders would receive higher ratings if they score ('A Bola' and 'Record'; Figures 1 and 3) or assist more goals ('O Jogo'; Figure 2); and forwards would receive higher ratings if they score more goals ('A Bola', 'O Jogo' and 'Record'; Figures 1, 2 and 3).

Discussion

Since mass media can impact players' performance, we aimed to analyze newspaper ratings of players' match performances. Our first finding was that newspaper ratings correlate moderately and strongly with each other. Thus, newspapers share similarities while also having differences when classifying individual performances. Pappalardo and co-workers [17] also reported strong correlations ($r = 0.76$) between three Italian newspapers ('Gazzetta dello Sport', 'Corriere dello Sport' and 'Tuttosport'). As expected, soccer matches differ from isolated values, such as the number of passes or goals. If the opposite was true, newspapers would rate equally between each other, without subjectivity at rating players' performance. However, subjectivity can be due to something else happening in the game or how one values an individual action. For example, one can praise immensely the player's ability to successfully complete passes and devalues if a player wins or loses a duel with an opponent. The moderate and strong correlations between newspaper and SofaScore ratings confirms that idea: i.e. newspaper ratings have some, but not all, components of subjectivity.

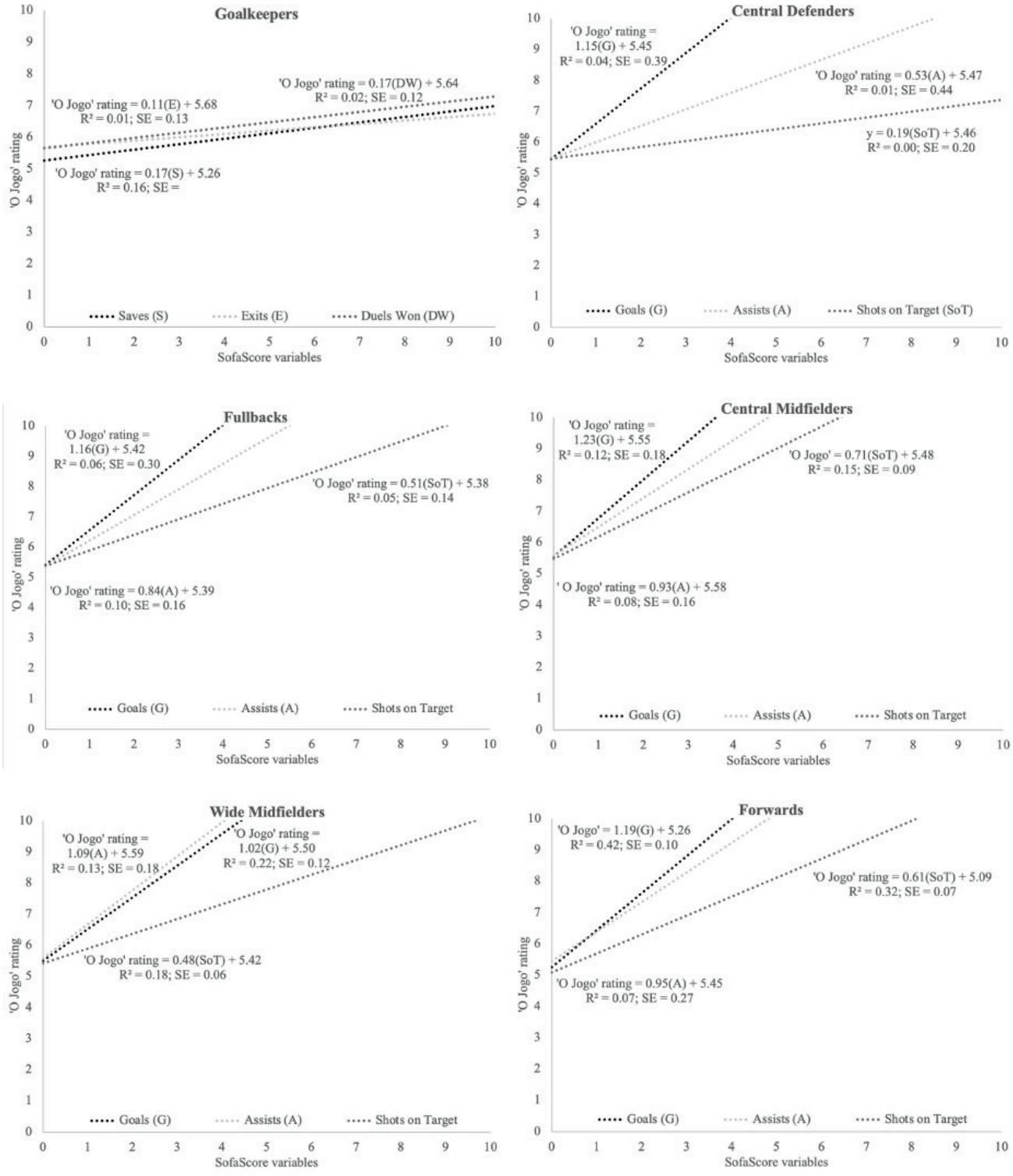
Goalkeepers received higher rankings from newspapers for their performances (Table 1), which is particularly interesting, because goalkeepers tend to receive less media coverage, except when they make a "miraculous save" or clearly fail [10]. Portuguese sports newspapers appear to approach this position differently. In contrast, forwards – a position that traditionally receives more attention and may be under more scrutiny from the media [9] – received the lowest rating in 'A Bola' and 'Record', as shown in Table 1.

To assess if one particular action was differently weighted in match performance evaluation, we conducted a linear regression for SofaScore variables with newspaper



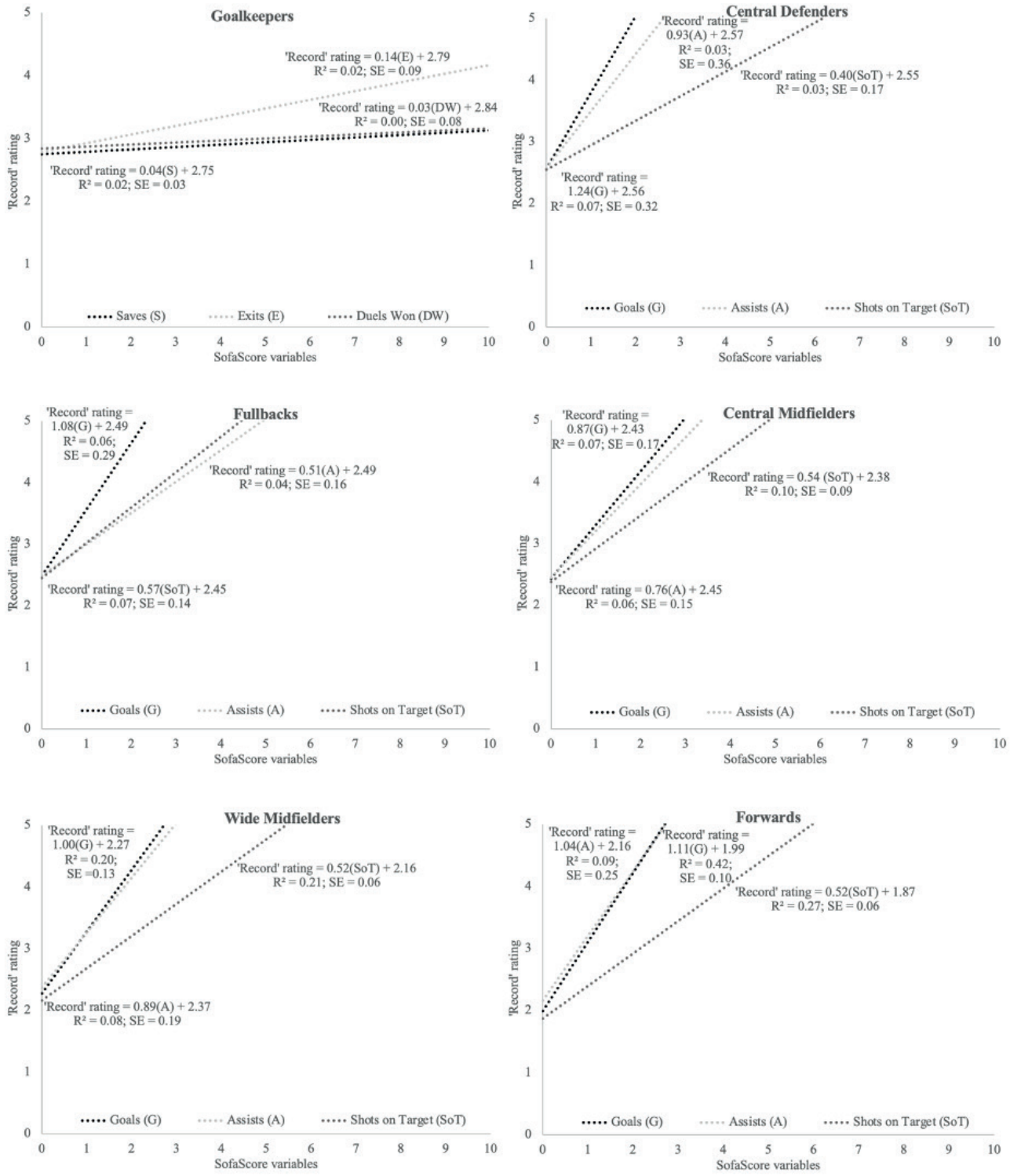
Note: from all regressions, the three with highest slope were selected. The presented equation refers to the expected 'A Bola' rating (dependent variable) according to the SofaScore variable (independent value).
SE = standard error.

Figure 1. Linear regressions between 'A Bola' ratings and SofaScore variables



Note: from all regressions, the three with highest slope were selected. The presented equation refers to the expected 'O Jogo' rating (dependent variable) according to the SofaScore variable (independent value).
SE = standard error.

Figure 2. Linear regressions between 'O Jogo' ratings and SofaScore variables



Note: from all regressions, the three with highest slope were selected. The presented equation refers to the expected 'Record' rating (dependent variable) according to the SofaScore variable (independent value).
SE = standard error.

Figure 3. Linear regressions between 'Record' ratings and SofaScore variables

ratings and each playing position (Figures 1 to 3). A goalkeeper would have to perform 14 successful exits ('A Bola' and 'Record') or win 25 duels ('O Jogo') to reach a perfect rating. This means that newspapers value goalkeeper interference in the game, especially in their defensive actions. The opposite was reported for other defensive roles (central defenders and fullbacks), with newspapers valuing goals, assists and shots on target. Previous research stated that defenders (central defenders and fullbacks) from top teams are more involved in attacking actions than in defensive ones [12]; accordingly, Portuguese newspapers appear to value more offensive actions than defensive ones in defensive positions.

Similarly, newspapers also highly valued these actions to other playing positions. For example, according to our data, forwards would receive a maximal rating if they scored three ('Record') or four ('A Bola' and 'O Jogo') goals. Goals represented the variable with the highest impact in forwards' assessment, which was also reported regarding central midfielders and wide midfielders, except in 'O Jogo', where assists greatly impacted wide midfielders' classifications.

Interestingly, key passes had a smaller impact than assists, which can be seen as newspapers giving more importance to how the play was finished than how it was constructed. For example, according to our data, if a player passes the ball to a teammate creating a scoring opportunity, that pass would be highly valued if the teammate scores. This was also seen in the high value of assists, especially to wide midfielders and forwards in a study by Pappalardo et al. [17]. Another interesting analysis refers to the low valuation given by newspapers to defensive actions, because defensive players could be at a disadvantage, as they would probably have fewer attacking actions than offensive positions. With this, free-kicks and corner-kicks could have a higher importance to these positions to obtain a higher classification.

This study outlines three major practical implications, regarding the sport protagonists (soccer players), the media (sport newspapers), and the public (fans). The subject of this study has huge importance due to the influence the media exerts on players' self-confidence [8, 9]**.** Starting with players, this study shows that newspapers increase their ratings with actions related to goals. For example, if a central midfielder has a brilliant performance by passing assertiveness, tackling opponents, and winning duels, newspapers will probably rate that performance as average if that player does not assist or score a goal during that match. This approach provides goalkeepers and especially forwards with a greater possibility of receiving higher or lower ratings. Conversely, missing a clear goal opportunity can lead newspapers to a poorer individual performance rating. As such, understanding these classifications can potentially help players cope with the pressure felt due to the media influence [6]. Secondly, newspapers should consider that their ratings influence players' performance [6] and, therefore, be careful while rating individual performances. Increasingly, these ratings could potentially affect the players' perception of unfair treatment by newspapers [1]. As previously stated, a player could be distant from goals (own and opposition), and that should not exclusively jeopardize a high rating. This is of particular importance for league bottom teams, where defensive positions are less involved in attacking actions [12]. It is true that the main objective in soccer is to score more goals than the opposition, but individual performances could easily be praised by other actions. One example of this different approach is the SofaScore ratings that presented greater rating similarities between individual positions than it is done by sport newspapers. Finally, the public perception of individual performances can also affect players' support, whether at the stadium, in the social media or other interactions [5]. Furthermore, players' performance contributes to their daily visibility in the media [22], and considering that newspapers place greater value to goal situations/opportunities, goalkeepers and forwards could be more subject to media coverage [9, 10]. Increasingly, fans' expressions on social media can express negative pressure regarding players' performance [11], which has been identified as a psychosocial stressor [19]. With these findings, fans can better perceive how newspapers classify players' performances, which may impact their perception of players' importance and contribution to the game, changing their interaction with players.

Conclusions

Our data show that newspaper ratings relate to each other and with the SofaScore rating, suggesting that these evaluations were not as subjective as one may suspect. Additionally, offensive actions – such as goals, assists and shots on target – had a high impact in all positions, while defensive actions, such as tackles and duels, had a small impact on the overall rating. Finally, goalkeepers received the highest rating in the three sports newspapers, while forwards received the lowest rating in two of the analyzed newspapers.

Birkner and Nölleke [1] quoted a professional player who reported that he read reports to analyze his performance, highlighting the importance of understanding these

classifications. Although investigating just one league, previous comparisons between leagues reported similar technical performances between the Spanish, English and French leagues and limited differences between the Italian and English leagues in dribbles [25]. Future research could compare data with those of other leagues, especially countries that compete under similar competitions, such as the Champions League. Additionally, we did not analyze the match outcome, because despite sharing a team and a match outcome, individual performances can substantially differ between players, which was observed when collecting the data, but not through statistical analysis.

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Conflict of Interest
The authors declare no conflict of interest.

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