



A comparison of competitive profiles across the Spanish football leagues

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Abstract

The purpose of this study was to compare the competitive profiles across the Spanish football leagues at the present time. The final standings ($n=32$) and results of the matches played ($n=11,122$) in the 2015/2016 season were analysed. Four categories of analysis were selected: Level of competitive balance of matches, Level of compactability of team standings, Magnitude of home-field advantage effect, and Degree of openness of the matches. Using statistical procedures for the comparison of means by analysis of variance (ANOVA) and the Chi-Squared test, it was concluded that in the panorama of Spanish football, the men's 2nd division stands out as the Championship that corresponds to a competitive profile with greater equality and that the women's 1st division presents the most unbalanced competitive profile ($p < .05$). A trend was also observed that indicated that the more professionalized Championships present a higher level of competitive balance of the matches, a higher level of compactability of the team standings, and a lower degree of openness of the matches with respect to the less professionalized Championships, due to the presence of statistically significant differences ($p < .05$) in the set of categories analysed.

KEYWORDS: SPANISH FOOTBALL, COMPETITIVE PROFILES, PROFESSIONAL LEAGUES, AMATEURS, YOUTH AND WOMEN

Introduction

Nowadays, it is an evident fact that the Spanish football occupies a place of reference in the panorama of European and world-wide football. The successes obtained lately by part of the Spanish National Team (Euro 2008, World-cup 2010 and Euro 2012) and of numerous teams of LaLiga to international level, like F.C.Barcelona (Champions League 2005-2006, 2008-09, 2010-11 and 2014-15), R. Madrid (Champions League 2013-14, 2015-16 and 2016-17), Sevilla (Europe League 2005-06, 2006-07, 2013-14, 2014-15 and 2015-16) and At. Madrid (Europe League 2009-10 and 2011-12), have woken up the interest of the researchers for knowing the competitive peculiarities of the football developed in Spain.

Also, the specialized literature in the area of football research has become especially important in recent decades, with the goal of gaining a better understanding of the demands and particular characteristics of the sport at its different levels and modes of competition (e.g. youth players vs. elite players, men's vs. women's etc.) from a scientific perspective, and transfer that knowledge to the optimization of the training-competition process (Nevill, Newell & Gale, 2008; Vales-Vázquez, 2012).

Some of the more recent studies focused on the possible connections that are established between the behaviours manifested by the teams during the matches and the final results obtained by the teams (McGarry, 2009), laying the theoretical-methodological foundation required to detect similarities and differences in the levels of play and performance of teams with different conditions and/or competitive categories, such as:

- Professional football teams vs. amateur football (Ferrari-Bravo, Rampini & Impellizzeri, 2007; Impellizzeri et al., 2008; Huijgen, Elferink-Gemser, Post & Visscher, 2010; Sans & Frattarola, 2014).
- Senior vs. junior football teams (Mohr, Krusturup & Bangsbo, 2003; Ferrari-Bravo, Rampini & Impellizzeri, 2007; Impellizzeri et al., 2008; Mohr, Krusturup, Andersson, Kirkendal & Bangsbo, 2008; Castagna, Impellizzeri, Cecchini, Rampinini & Alvarez, 2009; Castagna, Manzi, Impellizzeri, Weston & Barbero-Alvarez, 2010; Salinero et al., 2013; Rebelo, Brito, Seabra, Oliveira & Krusturup, 2014).
- Men's vs. women's football teams (Mohr et al., 2003; Krusturup, Mohr, Ellingsgaard & Bangsbo, 2005; Stølen, Chamari, Castagna & Wisløff, 2005; Gómez, 2008; Gómez, Alvaro & Barriopedro, 2008; Bradley et al., 2014; Jastrzębski, Radziński & Stępień, 2015).

As a whole, the common denominator that characterizes most of the referenced studies is the interest in attempting to highlight the principal differences between the different levels of competitive performance (professional, amateur, junior, women's, etc.) in both individual and collective terms, based on the application of different types of performance indicators: technical-tactical, physical-conditional, physiological, anthropometric, etc.

In this context, and in relation to the first line of research mentioned (differences between *professional and amateur football*), most of the studies found in the literature reviewed are focused on the comparison of physical-conditional variables, observing most notably that the players belonging to professional teams show a significantly greater capacity ($p = 0.001$) than amateurs for repeated sprints (RSA) and the manifestation of short-duration explosive actions (Ferrari-Bravo et al., 2007; Impellizzeri et al., 2008; Rampinini et al., 2009; Huijgen et al., 2010). From the technical-tactical point of view, some studies highlight that amateur players require a larger number of individual contacts with the ball every time they participate in the offensive play of their teams (Dellal, Wong, Moalla & Chamari, 2010; Dellal et al., 2011a).

Along this same line, other studies carried out in training situations consisting of playing small matches with restrictions of 1 or 2 touches per player clearly demonstrate that amateur football players present worse pass completion values than professionals, and consequently accumulate a larger number of lost balls (Dellal, Hill-Haas, Lago-Peñas & Chamari, 2011b).

As in the previous case, most of the studies found whose object of study is the comparison of the particular characteristics of senior and junior football were undertaken from a physical-conditional perspective. Following this line of research, it has been verified that players belonging to junior teams cover shorter total and high-intensity distances during matches than senior players (Mohr et al., 2003; Castagna et al., 2009, 2010). However, they present percentages, in terms of distribution of low, moderate, and high intensity movement speeds, which are similar to those found in adults (Ekblom, 1986; Mohr et al., 2003; Rebelo et al., 2014). From the technical-tactical point of view, Smith, Callaway and Broomfield (2013), when comparing the senior team of a Premier League club with the respective under-18 and under-16 teams, observed that the players who belonged to the professional team used the lateral corridors more frequently to create scoring situations, and consequently made a larger number of crosses per match. Likewise, they observed that the younger the players, the higher the mean goals scored per match (3.43 per match in the premier team, 3.85 for the under-18, and 4.35 for the under-16).

Lastly, the review of the studies aimed at the analysis of the similarities and differences between *men's and women's football*, it was determined that women players cover total distances that are similar to men, but shorter distances at high speed and sprinting (Mohr et al., 2003, 2008; Krstrup et al., 2005; Bradley et al., 2014; Jastrzębski et al., 2015). Furthermore, the physiological manifestations deriving from the dynamic of play in men's and women's football matches (% of max HR and % VO₂ max) were similar for both groups (Stolen et al., 2005; Jastrzębski et al., 2015). From the technical-tactical point of view, some studies also indicate that a larger number of goals per match were observed in women's football in comparison with men's (Gómez et al., 2008) and a lower influence of home-team advantage in the final result in women's football with respect to men's (Pollard & Gómez, 2014).

In the panorama of Spanish football, the area of priority analysis in this study, different studies were done that were partially focused on the analysis of variables (e.g. degree of openness of the matches, magnitude of the effect of home-team advantage, etc.) and on the use of performance indicators (e.g. mean goals per match, % victories by the home team, etc.), related to our study. Molinuevo and Bermejo (2012) observed that the mean goals per match in the men's 1st division in Spain from the 2005-2006 season to the 2009-2010 season was 2.65 goals. In this same study, the authors, in reference to the magnitude of the effect of home-team advantage, highlighted that 60.21% of the points were obtained by the home team. Along this same line, Lago-Peñas and Lago-Ballesteros (2011) confirmed that during the 2008-2009 season in the Spanish 1st division, 61.95% of the victories were obtained by the home teams. Also in the panorama of Spanish football, Castellano and Casamichana (2015), in a comparative study between the men's 1st and 2nd divisions during the 2013-2014 seasons, observed that the teams that belonged to the highest category of Spanish football showed greater depth in the spatial distribution of players on the playing field than those of the teams in the 2nd division. They also concluded that teams that finished in the top 10 positions of the 1st division showed a higher number of successful passes than the rest of the teams analysed.

Starting from the described context, in which an important deficiency was observed in regard to research aimed at establishing comparisons between teams and/or competitions with different performance levels, the principal objective of this study was to compare the competitive profiles across the Spanish football leagues at the present time: Men's 1st division

(1st DM), men's 2nd division (2nd DM), men's 2nd division B (2nd DBM), men's 3rd division (3rd DM), men's youth honour division (MYHD), and women's 1st division (1st DW), in order to detect possible similarities and differences in categories of analysis related to the level of competitive balance of the matches, level of compactability of team standings, magnitude of the effect of home-field advantage, and finally, degree of openness of the matches in each type of Championship.

Methods

The final standings (n=32) and scores of all of the matches played (n=11122) over the course of the 2015/2016 season in the following Spanish Leagues were analysed: men's 1st division (380 matches played by 20 teams distributed in one group), men's 2nd division (462 matches played by 22 teams distributed in one group), men's 2nd division B (1520 matches played by 80 teams distributed in 4 groups), men's 3rd division (6840 matches played by 360 teams distributed in 18 groups), men's youth honour division (1680 matches played by 112 teams distributed in 7 groups) and women's 1st division (240 matches played by 16 teams distributed in one group) (www.rfef.es/competiciones/futbol-masculino/resultados?t=2016 and www.rfef.es/competiciones/futbol-femenino/resultados?t=2016). The study was conducted according to the Declaration of Helsinki and the protocol was fully approved by the Ethics Committee of the Department of Physical Education and Sports (University of A Coruña) before the commencement of assessments.

To compare the competitive profile of the Championships that were analysed in this study, four basic categories of analysis were selected, which were associated specifically with a battery of 6 standings-based measure indicators (Vales-Vázquez, 2012), aimed at quantifying the expression of each one of the 6 Championships analysed. The standings-based measure indicators, unlike more functional or quality-of-play indicators (Hughes and Bartlett, 2002; Vales-Vázquez, 2012), are characterized in that they are finalist (non-process) indicators, because they are aimed at evaluating the result or final product of the behaviours manifested by the teams and players during play, based on the data drawn from the study of the final scores of matches (e.g. number of goals, goal difference between opposing teams, etc.) and the final standings of the Championships (e.g. total number of points obtained, points obtained as home or visiting team, etc.).

The content and meaning of the set of categories studied, along with their associated calculation procedures for mathematical quantification, are presented below:

- Category of analysis I. *Level of competitive balance of matches*: this variable is aimed at evaluating the size of the differences observed in the final scores of the matches belonging to the same Championship. For quantification, in numerical terms, two standings-based measure indicators were used: % matches tied or with a small difference (1 goal) in the final score and % matches with a large difference (2 or more goals) in the final score.

Values indicating a high number of final scores of matches with a difference greater than or equal to 2 goals will be interpreted as indicative of a low level of competitive balance of the matches belonging to the same Championship; on the other hand, values indicating a high number of final scores resulting in ties or differences of fewer than 2 goals will be interpreted as indicative of a high level of competitive balance of the matches.

- Category of analysis II. *Level of compactability of team standings*: this variable is aimed at evaluating the level of balance in the final standings of the teams participating

in the same Championship. For quantification, a standings-based measure indicator (standard deviation of the points obtained in the final standings of the season by each one of the teams participating in the same Championship) was associated with this variable.

High values in the standard deviation of the points obtained in the final standings by each one of the teams participating in the same Championship will be interpreted as indicative of a low level of compactability of team standings; conversely, low values in the standard deviation will indicate a high level of compactability of the standings.

- Category of analysis III. *Magnitude of home-field advantage effect*: this variable is aimed at evaluating the impact of the effect of home-field advantage on the final scores of the matches belonging to the same Championship. For quantification, two standings-based measure indicators were used (% victories of the home team and % defeats of the home team). All teams play each other an equal number of times each season.

Values indicating a large number of matches belonging to the same Championship with final scores in favour of the home team will be interpreted as indicative of an accentuated effect of the home-team advantage; conversely, values indicating a low number of victories in favour of the home team or a large number of victories by the visiting team will be interpreted as indicative of a reduced effect of the home-team advantage.

- Category of analysis IV. *Degree of openness of matches*: this variable is aimed at evaluating the degree of difficulty to record final scores with a high number of goals in matches belonging to the same Championship. For quantification, a standings-based measure indicator (mean goals per match) was associated with this variable.

Values indicating a high mean in the number of goals per match in all of the matches of the same Championship will be interpreted as indicative of Championships that correspond to an open dynamic of play in the matches; conversely, values indicating a low mean will be interpreted as indicative of Championships that present a closed or blocked dynamic of play in the matches.

In order to be able to compare the competitive profiles corresponding to Championships characterized by the presentation of different levels of competitive demands and performance more completely, the recorded data was segmented into two large groups, based on two differentiated analytical criteria, resulting in the definition of two complementary study types:

- Study I. The data related to the first study was segmented using the Championship type from which the data was taken as the grouping criterion, generating 6 analysis sub-groups: 1st DM, 2nd DM, 2nd DBM, 3rd DM, MYHD and 1st DW. The main objective of this procedure of grouping data is aimed at developing a comparative study in which the Championships that present the highest and lowest values in the corresponding measure indicators with the proposed categories of analysis.
- Study II. The data related to the second study was segmented using the degree of professionalization of the Championship as the grouping criterion, generating two analysis macro-groups: High Professionalization Championships (HPCs), in which the level of qualification and dedication of the players is high or very high, and the availability of human, economic, and material resources by the teams is abundant or very abundant (1st DM, 2nd DM, 2nd DBM); and Intermediate Professionalization Championships (IPCs), in which the level of qualification-dedication of the players and the availability of resources to teams is more limited (3rd DM, MYHD, and 1st DW).

The main objective of this second procedure of grouping data is aimed at developing a comparative study that highlights the principal similarities and differences between Championships that respond to differentiated levels of professionalization and competitive demands.

The data analysis was carried out using the IBM SPSS statistics suite, version 20.0, and was carried out sequentially. First, the most relevant descriptive statistics were calculated (means, percentages, and standard deviation) corresponding to each one of the Championships included in this study (1st DM, 2nd DM, 2nd DBM, 3rd DM, MYHD and 1st DW) and to each one of the two-macro groups of Championships in which the sample was segmented (high professionalization and intermediate professionalization). Comparisons were then established using the Chi-Squared test to calculate the differences between frequencies for the variables *Level of competitive balance of the matches* and *Magnitude of home-team advantage effect*, an one-way analysis of variance (one-way ANOVA) to calculate differences between means for the variable *Degree of openness of matches*, and a Levene test to compare standard deviations for the variable *Level of compactability of team standings*. Grouping criteria described in Studies I and II was applied, and only the homogeneity of variance assumption was calculated.

Results

Table 1 shows the descriptive results relative to the variable *Level of competitive balance of the matches*, corresponding to the two types of studies proposed in this research.

In regard to the first Study, articulated according to the criterion *Championship type*, it was observed that the 2nd DM is the Championship with the highest level of competitive balance of the matches (73.16 % of the matches tied or with small difference in the final score), and that the 1st DW shows the largest level of inequality, with 50.00 % of the matches recording a large difference in score. These differences are statistically significant (χ^2 , with 2 degrees of freedom is equal to 57.043; $p < 0.001$).

Likewise, in regard to the second type of Study proposed, organized under the criterion *Professionalization of the Championship*, the results demonstrate that the HPCs show a higher level of equality than the IPCs, by recording a larger percentage of matches ending in a tie or with a small difference in score (67.69 % versus 56.36 %), as well as a lower percentage of matches with a large score difference (32.31 % versus 43.64 %). As in the case of Study I, the differences concerning this variable are statistically significant (χ^2 , with 2 degrees of freedom is equal to 62.179; $p < 0.001$).

Table 1. Results of the competitive profiles of Championships, analysing the variable *Level of competitive balance of the matches*.

Championship	% Tied or small difference		% Large difference	
1st DM	60.00%		40.00%	
2nd DM	73.16%	67.69%	26.84%	32.31%
2nd DBM	69.90%		30.10%	
3rd DM	62.50%		37.50%	
MYHD	56.59%	56.36%	43.41%	43.64%
1st DW	50.00%		50.00%	

Table 2 shows the descriptive results relative to the variable *Level of compactability of team standings*, corresponding to the two types of studies proposed in this research.

The results related with the first Study show that the 2nd DM is the Championship with the highest degree of compactability of team standings from among all of the Championships analysed, recording the lowest value in the measure indicator corresponding to the standard deviation (SD) of the points obtained at the end of the season by each team participating in the same Championship (SD = 11) and that the 1st DW is the Championship that is characterized by showing the lowest compactability of team standings, with the highest standard deviation value (SD = 19.74). These differences are statistically significant (Levene test, with 1 degree of freedom in the numerator and 36 in the denominator, equals 7.416; $p = 0.010$).

Also, the results obtained in the second Study demonstrate that the HPCs present a higher level of compactability of team standings than the IPCs, showing a lower degree of scatter in the difference of points obtained by the teams in the final standings (SD = 13.98 and 17.74 respectively). As with the previous cases, these differences are statistically significant (Levene test, with 1 degree of freedom in the numerator and 608 in the denominator, equals 11.954; $p = 0.001$).

Table 2. Results of the competitive profiles of Championships, analysing the variable *Level of compactability of team standings*.

Championship	Standard deviation final standings	
1st DM	18.10	
2nd DM	11.00	13.98
2nd DBM	12.84	
3rd DM	17.39	
MYHD	16.09	17.74
1st DW	19.74	

Table 3 shows the descriptive results relative to the variable *Magnitude of home-team advantage effect*, corresponding to the two types of studies proposed in this research.

The results of the Study I reveal a large degree of inequality in the scores relative to the percentages of matches won as the home team in the different Championships analysed. The data regarding the percentages of matches won as the visiting team showed that 2nd DM is the Championship that presents the highest difficulty to achieve victory when playing as the visiting team (23.81% of victories achieved as the visiting team), and that 1st DW is the Championship that offers the most options to the visiting team to obtain successful results (34.38% of matches won as the visiting team). However, these differences are not significant (χ^2 , with 12 degrees of freedom is equal to 9.294; $p = 0.678$).

On the other hand, although the results obtained in Study II showed that HPCs present an accentuated effect of home-field advantage in comparison with IPCs, showing a smaller percentage of matches won as the visiting team (25.9% versus 31.6%, respectively), these differences did not achieve the statistical significance necessary to confirm this trend (χ^2 , with 15 degrees of freedom is equal to 7.280; $p = 0.949$).

Table 3. Results of the competitive profiles of Championships, analysing the variable *Magnitude of home-team advantage effect*.

Championship	% Matches won as the home team		% Matches won as the visiting team	
1st DM	48.16%		27.63%	
2nd DM	45.02%	45.93%	23.81%	25.9%
2nd DBM	44.62%		26.27%	
3rd DM	45.65%		28.99%	
MYHD	47.38%	47.23%	31.31%	31.6%
1st DW	48.66%		34.38%	

Lastly, Table 4 presents the descriptive results relative to the variable *Degree of openness of matches*, corresponding to the two types of studies proposed in this research.

In regard to the first Study, 2nd DM and 2nd DBM were observed to be the Championships with the lowest degree of openness of the matches, showing the lowest values relative to the mean goals scored per match (2.26) and that 1st DW is the Championship that is characterized the highest degree of openness of matches, with a mean goals per match value equal to 3.25. The differences between 2nd DM and 1st DW are statistically significant (Brown-Forsythe with 1 degree of freedom in the numerator, and 392.580 in the denominator is equal to 48.957; $p < 0.001$; effect size = .076). The differences between 2nd DBM and 1st DW are also statistically significant (Brown-Forsythe with 1 degree of freedom in the numerator, and 289.492 in the denominator is equal to 57.717; $p < 0.001$; effect size = .043). In both cases, the Brown-Forsythe test was applied because the condition of homogeneity of variance was not fulfilled.

Also, the results obtained in Study II present that the HPCs show a lower degree of aperture of the matches with respect to IPCs, with lower values in the mean goals scored per match (2.42 and 2.97 respectively), with these differences highly statistical significant (Brown-Forsythe with 1 degree of freedom in the numerator and 4035.206 in the denominator is equal to 97.703; $p < 0.001$; effect size = .008).

Table 4. Results of the competitive profiles of Championships, analysing the variable *Degree of openness of matches*.

Championship	Mean goals per match	
1st DM	2.74 (± 1.68)	
2nd DM	2.26 (± 1.52)	2.42 (± 1.59)
2nd DBM	2.26 (± 1.57)	
3rd DM	2.65 (± 1.72)	
MYHD	3.01 (± 1.80)	2.97 (± 1.83)
1st DW	3.25 (± 1.96)	

Discussion

This study was carried out with the objective of comparing the competitive profiles across the Spanish football leagues at the present time, by analysing categories related to: a) the level of competitive balance of the matches, b) level of compactability of team standings, c) magnitude of the effect of home-field advantage, and finally, d) degree of openness of the matches in each type of Championship with different levels of competitive demands.

The originality of the object of the study, together with the novelty of the measure indicators used to evaluate the competitive profile of the Championships, made it much more difficult to find specific references in the reviewed literature, which made it possible to establish comparisons with the results obtained in this study.

Study I: Type of Championship

The results obtained in Study I, aimed at detecting the Championships that present the competitive profiles with the highest and lowest degrees of equality, showed in a statistically significant manner that in the panorama of Spanish football, 2nd DM stands out as the Championship with a competitive profile with the highest degree of equality, by showing, in the set of categories analysed: the highest *level of competitive balance of matches*, the highest *degree of compactability of team standings*, the greatest difficulty to achieve victory when playing as the visiting team, and, together with 2nd DBM, the lowest *degree of openness of the matches*. From our perspective, these results could be justified if we consider the large equality of economic and human resources of the teams that belong to this category in Spanish football (e.g. mean budget of 2nd DM teams = 10.7 million € ± 4.9 versus, for example, the teams of 1st DM = 135.4 million € ± 180.8). In addition, since we are referring to a competition that extends over a long period of time (42 matches), and with the participation of a large number of teams (22), it greatly conditions the capacity of the teams to show consistent and lasting states of high performance, which lead to sustained good results (e.g. mean value of the best winning streaks of the teams of 2nd DM = 2.54 consecutive matches won versus, for example, the teams of 1st DM = 3.90 consecutive matches won).

The case of 1st DW was symmetrically opposite, as it was observed to be the Championship characterized by the competitive profile with the highest degree of inequality, by showing, in the set of categories analysed: the lowest *level of competitive balance of matches*, the lowest *degree of compactability of team standings*, the least difficulty to achieve victory when playing as the visiting team, and, finally, the highest *degree of openness of the matches*. The results obtained in this section of Study I agree partially with those described by Gómez et al. (2008), which confirm that in women's football matches, due to the fact that the level of tactical organization and defensive intensity of the teams is lower, the mean goals scored was higher than in men's football (1.85 and 1.15, respectively). Also, Pollard and Gómez (2014), in a study done on the 26 European leagues with the simultaneous presence of men's and women's Championships, they observed that the effect of home-field advantage was always more favourable in men's tournaments than in women's tournaments ($p < 0.001$). Another study done by the same authors (Pollard and Gómez, 2012), partially reconfirmed the results found in our study, concluding that the degree of variability in the final scores achieved by the teams (*competitive balance*) was lower in men's Championships than in women's Championships (1.76 and 2.33, respectively). The observation of a lower level of competitiveness in the 1st DW Championship in comparison with the other Championships analysed in this study, could be justified if we consider the technical limitations of the women's players as a result of later incorporation into the practice of football, as well as the presence of certain biological limitations and the execution of a smaller weekly training volume (Gómez, 2008). Furthermore, this situation could also be explained if we consider the low rate of professionalization (less than 15%) and the large imbalance in all types of resources that is present today in women's football in Spain, which is still in the process of expanding and establishing itself at all levels: training, social, technical, commercial, etc., in comparison with other countries (United States, Germany, Norway, Sweden, Brazil, China, and Japan).

Study II. Professionalization of the Championship

The results obtained in Study II, aimed at highlighting the principal similarities and differences between Championship groups that correspond to differentiated levels of professionalization and demands (HPCs vs. IPCs) showed, firstly, that the HPCs showed significantly higher values than the IPCs in the category of analysis related to the *level of competitive balance of matches* and the *level of compactability of team standings*. The value, in the men's 1st, 2nd, and 2nd B divisions, with a high percentage of matches with tied scores or scores with moderately low differences between the points achieved in the final standings by the teams, demonstrates that this macro-group of Championships, in comparison with the other macro-group (IPCs), is characterized by its correspondence with competitive profiles with a high level of equality and competitiveness. From our perspective, the aforementioned differences could be justified if we consider questions related to the application of more demanding player-selection processes in the HPCs versus the IPCs (Dellal et al., 2011b; Ingebrigtsen et al., 2012; Heisterberg et al., 2013); the presences of a higher degree of qualification and technical-tactical, physical, and physiological homogeneity observed in the players belonging to the HPCs in comparison with those belonging to the IPCs (Costa, Garganta, Greco, Mesquita & Afonso, 2010; Dellal et al., 2011a; Salinero et al., 2013; Bradley et al., 2013); the availability of a more extensive and homogeneous offering of infrastructure (installations, materials, and equipment) and human resources (trainers, doctors, physical-therapists, etc.) within reach of the teams belonging to the HPCs in comparison with those belonging to the IPCs, and additionally, the more systematic and regular exposure of players associated with the HPCs with respect to the IPCs to high-quality training programs and methodological specificity (Vales-Vázquez et al., 2017).

Secondly, in regard to the variable that analysed the *magnitude of the home-field advantage effect*, numerous studies were detected in the specialized literature that focused on examining, from different perspectives, such as sports psychology (Zimet, Dahlem, Zimet & Farley, 1988; Agnew & Carrow, 1994; Moore & Brylinsky, 1995; Gutiérrez, 1997; Wolfson, Wakelin & Lewis, 2005) or sports performance (Nevill, Newell & Gale, 1996; Tucker, Mellalieu, James & Taylor, 2005; Page & Page, 2007; Taylor, Mellalieu, Nick & Shearer, 2008; Lago-Peñas & Lago-Ballesteros, 2011; Goumas, 2013; Armatas, Yiannakos, Seaton & Rigas, 2013; Woods, 2016; Lago-Peñas, Gómez-Ruano, Megías-Navarro & Pollard, 2016), the influence of certain environmental factors on the competitive performance and results achieved by teams that played as the home team and visiting team, respectively. The data recorded in our study, although it did not show significant differences in the statistical analysis between the HPCs and IPCs, demonstrated that in the HPCs, motivated by the presence of a larger number of spectators in the stadiums and their influence on the environmental pressure on the visiting team's play and the decisions by the referees (Downward & Jones, 2007; Pollard, 2008; Page & Page, 2010; Pollard & Gómez, 2014), a more favourable context of play was observed for the home team over the visiting team, which showed a smaller percentage of victories in the HPCs in comparison with the IPCs (25.9% and 31.6%, respectively). Along this same line, a study developed by Armatas et al. (2013), also highlighted that the advantage of playing at home was greater in the Greek Super Liga than in other Ligas Amateur in Greece. Confirming this trend, in another similar study done by Nevill et al. (1996), a significantly accentuated effect of the home-field advantage was observed as the category of the teams and spectator attendance in the stadiums increased.

Thirdly and finally, the results derived for the variable that studied the *degree of openness of matches* showed, in a very significant manner, that the matches corresponding to the HPCs showed a lower degree of openness than those of the IPCs, showing final scores with a mean goals per match that was considerably lower. The results obtained in regard to this variable

coincide partly with those obtained by Smith et al. (2013), confirming, in a comparative study between a professional team and two training teams (under-18 and under-16) belonging to the same club in the English Premier League, that the mean number of goals scored per match was higher as the age of the players decreased (3.43, 3.85 and 4.35 respectively). For Costa et al. (2010), the occurrence of a larger number of goals per match in non-professional or training categories is attributed to the fact that the teams that participate in this type of Championship are less compact defensively, allowing more offensive penetration on the central lane, and consequently a larger number of goals.

Conclusion

From the analysis of the data gathered in Studies I and II developed in this research, it can be deduced that in the panorama of Spanish football, 2nd DM stands out as the Championship with the competitive profile that is most balanced, and that the 1st DW has the most unbalanced competitive profile. Considering a broader analytical perspective (Study II), a trend was also observed that indicated that the more professionalized Championships (1st, 2nd, and 2nd b male division) present a higher level of competitive balance of the matches, a higher level of compactability of the team standings, and a lower degree of openness of the matches with respect to the less professionalized Championships (3rd division, youth honour division, and 1st division female), with statistically significant differences observed in the set of categories that were analysed. Finally, in regard to the variable that analysed the magnitude of the effect of home-field advantage, no statistically significant differences were observed between the Championship sub-groups and macro-groups that were analysed, although the results of the descriptive study showed an accentuated effect of the effect of home-field advantage as the level of professionalization of the Championships increased.

On the whole, the results obtained in this study can be considered relevant for future studies aimed at comparing the competitive profiles of Championships of different countries or regions. Therefore, the results reached could help trainers and sportive leaders to extract global conclusions about the competitive peculiarities that present the main Leagues that form part of the panorama of Spanish football to define strategies of intervention more appropriate from a technical-tactical point of view (eg. establishment of the ideal system of play for the team, players recruitment policy, etc.), as from an economic-financial management of the clubs (eg. politics of investments, sponsorship models, adjust of competition rules, etc.).

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