National Players vs. Foreign Players: what distinguishes their game performances? A study in the Portuguese Basketball League

Jugadores Nacionales vs. Jugadores Extranjeros: ¿qué distingue su rendimiento en el juego? Un estudio en la Liga Portuguesa de Baloncesto

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Abstract

This study identified the game-related statistics that best differentiate national and foreign players competing in the 2014/15 and 2015/16 Portuguese Basketball League (LPB) seasons. Sample included 337 male professional basketball players, divided in national (n=249), community (n=30) and extra-community (n=58) according to their nationality. The following seventeen game-related statistics were obtained from the official box-scores of the Portuguese Basketball Federation: minutes, points scored, 2-point shots made, 2-point shots attempt, 3-point shots made, 3-point shots attempt, free throws made, free throws attempt, defensive rebounds, offensive rebounds, assists, turnovers, steals, blocks, fouls committed, fouls received and MVP. When controlling for playing time, foreign players outperformed national players in almost all offensive and defensive tasks of the game. Nevertheless, national players presented better performances in 3-point shots attempt (p<0.05, η2=0.02), assists (p<0.01, η2=0.04) and steals (p<0.01, η2=0.03). Despite the supremacy of foreign players, it is acceptable to suggest that the high effectiveness demonstrated by the domestic players in these tasks of the game make them also essential for teams' success.

Key words: performance analysis; sport recruitment; foreign players; game-related statistics; basketball.

Resumen

Este estudio identificó las estadísticas del juego que mejor diferencian a los jugadores nacionales y extranjeros que compitieron en las temporadas 2014/15 y 2015/16 de la Liga Portuguesa de Baloncesto (LPB). La muestra incluyó 337 jugadores profesionales masculinos de baloncesto que se han dividido en nacional (n=249), comunitario (n=30) y extracomunitario (n=58) según su nacionalidad. Las siguientes diecisiete estadísticas del juego se obtuvieron de las puntuaciones oficiales de la Federación Portuguesa de Baloncesto: minutos, puntos anotados, tiros de 2 puntos realizados, intentos de tiros de 2 puntos, tiros de 3 puntos realizados, intentos de tiros de 3 puntos, tiro libre, intento de tiro libre, rebotes defensivos, rebotes ofensivos, asistencias, balones pérdidas, balones recuperados, tapones, faltas cometidas, faltas recibidas y MVP. Después de controlar para el tiempo de juego, los jugadores extranjeros superaron a los jugadores nacionales en casi todas las tareas ofensivas y defensivas del juego. Sin embargo, los jugadores nacionales presentaron mejores actuaciones en intentos de triples (p<0.05, η2=0.02), asistencias (p<0.01, η2=0.04) y balones recuperados (p<0.01, η2=0.03). A pesar de la supremacía de los jugadores extranjeros, es aceptable sugerir que la alta efectividad demostrada por los jugadores nacionales en estas tareas del juego los hace también esenciales para el éxito de los equipos.

Palabras clave: análisis de rendimiento; reclutamiento deportivo; jugadores extranjeros; estadísticas del juego; baloncesto.

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Introduction

The qualified mobility of athletes is a global phenomenon well-identified in different sports (Lee, 2010; Maguire, 2004). This process involves the movement of players, both within and between nations and continents (Richardson, Littlewood, Nesti, & Benstead, 2012), and seems to have a boost effect on individual and team performance (Baur & Lehmann, 2007).

In basketball, this dynamic movement of players is well-documented in different competitive realities (Galily & Sheard, 2002; Maguire, 1988; Meletakos, Noutsos, Manasis, & Bayios, 2014; Olin, 1984) and has contributed to increase the performance of the best national players as well as the competitiveness of clubs and national teams in different sports contexts, e.g. professional leagues, EuroLeague, FIBA EuroBasket and FIBA World Cup (Alvarez, Forrest, Sanz, & Tena, 2011; Meletakos, Chatzicharistos, Apostolidis, Manasis, & Bayios, 2015). However, importing foreign athletes has also been responsible for reducing competitive opportunities of the national players (Alvarez et al., 2011; Olin, 1984).

Teams competing in professional leagues worldwide recruit foreign players based on their previous performances in order to fill roster needs. Although it may be uncertain, coaches expected that the greater technical performance showed by these players in other leagues would be transferred when they are also transferred (Bush, Archer, Barnes, Hogg, & Bradley, 2017). This means that national players may have less opportunities to express their sport value and, consequently, may present worse game-performance mean scores when compared with foreign players.

In this context, the aims of the present study were (i) to investigate the game-performance of national and foreign players in the highest level basketball competition in Portugal, and (ii) to clarify the national players' role in the same professional competition. Thus, game-performance of three groups of athletes - national, community and extra-community - was contrasted in order to identify the game-related statistics that best differentiate them.

Methods

Participants

The sample included 337 male professional basketball players, divided in three groups according to their nationality [national (N), n=249; community (C), n=30; extra-community (EC), n=58]. We considered national players those who have Portuguese nationality, community players those who have the nationality of countries members of the European Union and extra-community players those who have the nationality of countries non-members of the European Union. All players were members from all teams that competed in the 2014/15 and 2015/16 Portuguese Basketball League (LPB) seasons.

Procedure

Game performance was studied through the analysis of seventeen game-related statistics collected by specialized technicians during the 2014/15 and 2015/16 seasons of the LPB. These data is available on the official website of the Portuguese Basketball Federation (http://www.fpb.pt/fpb2014/start_fpb_2014) and include: minutes per game (MIN), points scored per game (PTS), 2-point shots made per game (2PM), 2-point shots attempt per game (2PA), 3-point shots made per game (3PM), 3-point shots attempt per game (3PA), free throws made per game (FTM), free throws attempt per game (FTA), defensive rebounds per game (DR), offensive rebounds per game (OR), assists per game (ASS), turnovers per game

(TO), steals per game (STLS), blocks per game (BLK), fouls committed per game (FC), fouls received per game (FR) and most valuable player score per game (MVP).

Data analysis

Basic results are presented as adjusted means ± standard errors (AdjM±SE). Normality and homogeneity of variances were checked and no violations were noticed. Then, a multivariate analysis of covariance (MANCOVA) was used to test the mean vectors of all game-related statistics variables among the three groups of basketball players; playing time (minutes per game) was considered covariate. Tukey's test was used for multiple comparisons and statistical eta squared (η^2) was also used to describe the amount of variance explained. All data analyses were done using IBM SPSS 24.0 (IMB Corp., Armonk, NY) and the significance level was set at 5%.

Results

When controlling for playing time (minutes per game), the MANCOVA analysis (Table 1) showed significant results in the multivariate test ($p < 0.001$, $\eta^2 = 0.17$). The subsequent univariate tests showed that extra-community and community players outperformed the national players in almost all game-related statistics: PTS ($p < 0.001$, $\eta^2 = 0.06$), 2PM ($p < 0.001$, $\eta^2 = 0.13$), 2PA ($p < 0.001$, $\eta^2 = 0.17$), FTM ($p < 0.01$, $\eta^2 = 0.03$), FTA ($p < 0.01$, $\eta^2 = 0.05$), DR ($p < 0.05$, $\eta^2 = 0.02$), OR ($p < 0.001$, $\eta^2 = 0.05$), BLK ($p < 0.001$, $\eta^2 = 0.07$) and MVP ($p < 0.01$, $\eta^2 = 0.04$). Nevertheless, the national players presented better performances per game in 3PA ($p < 0.05$, $\eta^2 = 0.02$), ASS ($p < 0.01$, $\eta^2 = 0.04$) and STLS ($p < 0.01$, $\eta^2 = 0.03$), while no significant differences between the three groups were found in 3PM, TO, FC and FR.

Figure 1 displays the multivariate graphical profiles of the national, community and extra-community players (all variables were standardized).

Table 1. *Multivariate analyses of covariance (MANCOVA) results using playing time (minutes per game) as covariate.*

Variables	N (*n*=249)	C (*n*=30)	EC (*n*=58)	Multivariate Test		Univariate Test		Contrast
	AdjM±SE	AdjM±SE	AdjM±SE	F	η^2	F	η^2	
PTS	6.3 ± 0.1	6.7 ± 0.4	8.0 ± 0.3			11.40***	0.06	N vs EC; C vs EC
2PM	1.5 ± 0.1	2.1 ± 0.2	2.5 ± 0.1			25.36***	0.13	N vs C; N vs EC
2PA	3.1 ± 0.1	4.0 ± 0.3	5.0 ± 0.2			34.80***	0.17	N vs C; N vs EC; C vs EC
3PM	0.7 ± 0.0	0.5 ± 0.1	0.5 ± 0.1			2.48	0.02	
3PA	2.1 ± 0.1	1.6 ± 0.3	1.6 ± 0.2			4.11*	0.02	N vs C; N vs EC
FTM	1.1 ± 0.0	1.0 ± 0.1	1.5 ± 0.1			5.78**	0.03	N vs EC; C vs EC
FTA	1.5 ± 0.1	1.7 ± 0.2	2.1 ± 0.1			7.81**	0.05	N vs EC; C vs EC
DR	1.9 ± 0.1	2.1 ± 0.2	2.4 ± 0.2	4.03***	0.17	3.82*	0.02	N vs EC
OR	0.7 ± 0.0	1.1 ± 0.1	1.1 ± 0.1			8.91***	0.05	N vs C; N vs EC
ASS	1.3 ± 0.1	0.7 ± 0.2	0.9 ± 0.1			7.75**	0.04	N vs C; N vs EC
TO	1.3 ± 0.0	1.1 ± 0.1	1.3 ± 0.1			2.24	0.01	
STLS	0.7 ± 0.0	0.5 ± 0.1	0.6 ± 0.1			5.84**	0.03	N vs C; N vs EC
BLK	0.2 ± 0.0	0.3 ± 0.1	0.4 ± 0.0			11.56***	0.07	N vs EC
FC	1.8 ± 0.0	2.0 ± 0.1	1.7 ± 0.1			2.29	0.01	
FR	1.6 ± 0.1	1.7 ± 0.1	1.8 ± 0.1			1.06	0.01	
MVP	6.6 ± 0.2	7.2 ± 0.6	8.5 ± 0.4			6.91**	0.04	N vs EC

AdjM = adjusted means; SE = standard error; η^2 = eta squared; N = national players; C = community players; EC = extra-community players; * p<0.05; ** p<0.01; *** p<0.001
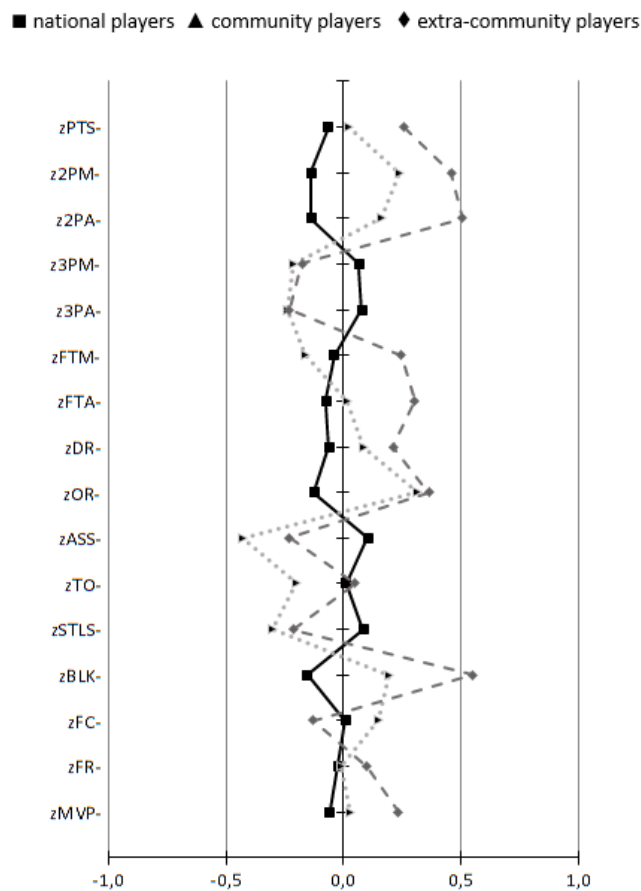
Figure 1. Multivariate graphical representation of national, community and extra-community players.

Discussion

The recruitment of foreign basketball players is a common process that seeks to increase teams' quality and performance. However, it has also been pointed out as responsible for reducing competitive opportunities of national players (Alvarez et al., 2011; Olin, 1984). In order to analyze the effects of foreign players' recruitment on the LPB, we sought to investigate the game-performance of national and foreign players in the highest level basketball competition in Portugal and, simultaneously, to clarify the national players' role in the same professional competition.

Our results showed that, when controlling for playing time (minutes per game), foreign players (community and extra-community) have a notorious preponderance in almost all offensive and defensive tasks of the game. Indeed, this superiority is also evident through the MVP scores that places the national players and the two groups of foreign players in diametrically opposite positions (MVP score per game: N=6.6; C=7.2; EC=8.5).

Despite the statistical significance of the univariate tests for the majority game-related statistics, it is in 2PM and 2PA that higher values of explained variance are observed (13% and 17%, respectively). Given the reality of the national competition, this outcome favoring community and extra-community players seems to reveal, on one hand, the quality of the recruitment made by the clubs competing in the LPB and, on the other hand, the fact of the recruitment process being more focused on post players highly effective in offensive actions inside the paint, i.e., near the basket.

On another level of analysis, the contrast between the two groups of foreign players, taking into account playing time (minutes per game), showed significant differences in PTS, 2PA, FTM and FTA favoring the extra-community players. These results not only confirm the supremacy of this group of players in the Portuguese basketball first league but also emphasizes the importance of the offensive game-related statistics to differentiate game performance.

Given the previous findings, it seems reasonable to ask whether this supremacy of the extra-community players it is due to the fact that this group of athletes is mainly composed by North American basketballers. In fact, of the 58 players in this group, 54 are North American. It is possible that we are in the presence of the American players' quality effect. Therefore, it is expected that the LPB continues to integrate the transfer circuit of American players to European championships and, consequently, benefit even more with the "Americanization of Basketball", that in other realities is strongly associated with a global development of the basketball game (Galily & Sheard, 2002).

Although extra-community players showed the best game-related statistics values, the recruitment of elite athletes in this era of globalization should not only be focused on the American sports market. Indeed, clubs should also consider African and European athletes from countries with a greater tradition in talent development and exporting highly qualified basketballers, taking into account mainly the different rules of recruitment of each country/championship and the players hiring' costs. In fact, regardless of nationality, professional basketball requires highly qualified foreign players who are able to interact with the national players. It is expected that sharing training and competition with qualified foreign teammates and opponents will lead to an increase of national athletes' individual performance, a fact already identified in different sports realities (Alvarez et. al, 2011; Kendall, 2003; Zak, Huang, & Siegfried, 1979).

After analyzing the foreign players' game-performance, it is now the moment to clarify if national players still have a specific reserved role in the LPB. Despite the superiority of foreign players in almost all game-related statistics, our results showed that, when controlling for playing time (minutes per game), national players outperform their foreign peers in (i) creating easy situations to teammates shoot the ball and score points - ASS, (ii) stealing the ball and intercepting passes - STLS, and (iii) shooting a higher number of three point shots - 3PA.

Unfortunately, literature is lacking in studies with an approach similar to ours, i.e., basketball national players *versus* basketball foreign players. Yet, although none of these three game-related statistics contributes to the success in the LPB (Janeira & Guimarães, 2017), it is curious to observe that both ASS and STLS belong to a small set of variables that best discriminated the best and worst teams in the Spanish Basketball League (Ibáñez, Sampaio, Feu, Lorenzo, Gómez, & Ortega, 2008). Therefore, it is acceptable to suggest that the high effectiveness demonstrated by the national players in these tasks of the game make them also essential for teams' success.

Conclusions

In summary, the idea of team' success, expressed by a combined contribution of national and foreign players to game-performance, seems to reflect the principles behind basketball players' recruitment in Portugal, highlighting the rules for hiring athletes and the game philosophy adopted by coaches. Finally, we recommend that further investigations seek to clarify if players' body structure and physical functionality differentiate national and foreign basketball players in the same way as game-related statistics.

Based on the results of this study, it is expected that coaches continue to give game-opportunities to the national players, since they play a decisive role in teams' performance. It is also suggested that team managers prepare the seasons recruiting not only foreign players but also national ones, in order to build a basketball team capable to respond to all competitive challenges.

References

Alvarez, J.; Forrest, D.; Sanz, I., & Tena, J. D. (2011). Impact of importing foreign talent on performance levels of local co-workers. *Labour Economics 18*(3), 287–296. https://doi.org/10.1016/j.labeco.2010.11.003

Baur, D. G., & Lehmann, S. (2007). Does the mobility of football players influence the success of the national team? *Institute for International Integration Studies: Discussion Paper, 217.* https://dx.doi.org/10.2139/ssrn.980936

Bush, M.; Archer, D. T.; Barnes, C.; Hogg, B., & Bradley, P. S. (2017). Longitudinal match performance characteristics of UK and non-UK players in the English Premier League. *Science and Medicine in Football, 1*(1), 2-9. https://doi.org/10.1080/02640414.2016.1233347

Galily, Y., & Sheard, K. (2002). Cultural Imperialism and Sport: The Americanization of Israeli Basketball. *Culture, Sport, Society, 5*(2), 55–78. https://doi.org/10.1080/713999862

Ibáñez, S. J.; Sampaio, J.; Feu, S.; Lorenzo, A.; Gómez, M. A., & Ortega, E. (2008). Basketball game-related statistics that discriminate between teams' season-long success. *European Journal of Sport Science, 8*(6), 369-372. https://doi.org/10.1080/17461390802261470

Janeira, M. A., & Guimarães, E. (2017) As estatísticas do jogo e a previsão de sucesso entre equipas da Liga Portuguesa de Basquetebol. *SPORT TK-Revista EuroAmericana de Ciencias del Deporte, 6*(supl.1), 169-174.

Kendall, T. (2003). Spillovers, complementarities, and sorting in labor markets with an application to professional sports. *Southern Economic Journal, 70*(2), 398-402.

Lee, S. (2010). Global Outsourcing: A Different Approach to an Understanding of Sport Labour Migration. *Global Business Review, 11*(2), 153-165. https://doi.org/10.1177/097215091001100203

Maguire, J. (1988). The Commercialization of English Elite Basketball 1972-1988: A Figurational Perspective. *International Review for the Sociology of Sport, 23*(4), 305-323. https://doi.org/10.1177/101269028802300403

Maguire, J. (2004). Sports labour migration research revisited. *Journal of Sport and Social Issues, 28*(4), 477-482.
https://doi.org/10.1177/0193723504269914

Meletakos, P.; Noutsos, K.; Manasis, V., & Bayios, I. (2014). The mediating effect of competitive balance on the relation between foreign players and performance of the Greek National Basketball Team. *Journal of Physical Education and Sport Management, 5*(7), 72–80.
https://doi.org/10.5897/JPESM2014.0195

Meletakos, P.; Chatzicharistos, D.; Apostolidis, N.; Manasis, V., & Bayios, I. (2015). Foreign players and competitive balance in Greek basketball and handball championships. *Sport Management Review, 19*(4), 391-401.
https://doi.org/10.1016/j.smr.2015.09.002

Olin, K. (1984). Attitudes Towards Professional Foreign Players in Finnish Amateur Basketball. *International Review for the Sociology of Sport, 19*(3-4), 273-282.
https://doi.org/10.1177/101269028401900306

Richardson, D.; Littlewood, M.; Nesti, M., & Benstead, L. (2012). An examination of the migratory transition of elite young European soccer players to the English Premier League. *Journal of Sports Science, 30*(15), 1605-1618.
https://doi.org/10.1080/02640414.2012.733017

Zak, T. A.; Huang, C. J., & Siegfried, J. J. (1979). Production efficiency: the case of professional basketball. *Journal of Business 52*(3), 379-393.