



How to Win the Basketball Euroleague? Game Performance Determining Sports Results During 2003–2016 Matches

by

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The main aim of this study was to establish game-related statistics that determined sport results in the Basketball EuroLeague between 2003 and 2016. The study encompasses matches played by 10 teams during 13 consecutive seasons of the EuroLeague. Twenty-two offensive and defensive game related variables were registered. Calculations were performed to establish which of the variables determined performance in the Basketball EuroLeague matches within the analysed period. Based on a number of mathematical and statistical analyses, the elements of play that had the highest effect on sports success were selected. The following determinants displayed the most significant correlations with sport results in the EuroLeague within the analysed period: two-point shots made (2PT-made), two-point shot attempts (2PT-attempts), three-point shots made (3PT-made), one-point shots made (1PT-made), one-point shot attempts (1PT-attempts), assists, fouls and field goals made. The game outcome in basketball is influenced by many variables which may not always be significant in a given match. However, the continuous effort to maintain these variables at the highest possible level is advantageous over less-organised teams.

Key words: game analysis; Euro League; performance indicators; regression model; optimization.

Introduction

Statistical data concerning the course of a sports match is a very desirable source of information for coaches, athletes and researchers that can be used to evaluate various aspects of performance and the structure of play (Gomes et al., 2017; Mikołajec et al., 2013). The first publications concerning this subject appeared in 1970s (Csataljay et al., 2009). Statistical analyses allow coaches to evaluate the effectiveness of individual, group and team play. Identification of the strong and weak points of a team or an athlete, as well as the elements that need improvement, is the key to permanent progress in performance (Esteves et al., 2020; Gryko et al., 2018). Likewise, the coaches analyse statistics of the opposing teams and choose appropriate

tactics, taking into account the opponent's weaknesses and strengths to ensure their team's victory. The combination of performance variables selected for analysis indicates that certain aspects have an important impact on the results of competition (Keele and Kelly, 2006). They constitute a starting point in preparing a game strategy and allow for individual and team assessments (Gryko et al., 2020; Robertson et al., 2016).

Consequently, almost every activity during sports play may be expressed in numbers. Technological developments have allowed for a more precise recording of tactical and technical actions, to obtain essential information about training and managing a team with a high level of performance (Sampaio et al., 2010). Furthermore,

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scientists compare performance in various time periods, individual matches, the regular season, playoffs, a full season or during several seasons (Hughes and Bartlett, 2002) and according to a given aspect of play, e.g. offence or defence (Marmarions et al., 2016; Sampaio et al., 2016). Performance indicators are often used to determine differences between the winning and the losing team (Csataljay et al., 2009; Ibáñez et al., 2008, 2009; Lago-Peñas et al., 2010; Ortega et al., 2006; Parejo et al., 2013; Sampaio and Janeira, 2003). In order to improve their teams' performance, coaches have to determine which factors most differentiate a successful team from an unsuccessful team in both, the Euroleague (Özmen, 2016) and the NBA (Dehesa et al., 2019).

In the study by Çene (2018) which considered Euroleague teams in the 2016-2017 season it was confirmed that two-point field goals made, three-point field goals made, steals and defensive rebounds were crucial for balanced games, as well as two-point field goals made and defensive rebounds were the most influential game statistics on the game outcome for unbalanced games.

Other authors (Paulauskas et al., 2018) suggest that European NBA players outperform their Euroleague peers in two-point field goals made and missed, free-throws made, defensive rebounds, blocks and committed fouls. However, no differences were found in assists, turnovers and steals.

An increasing interest in studies of this type can be observed in recent years. As a result, numerous publications have appeared in which the structure of play and the factors that determine sport results in basketball are analysed. These publications primarily discuss the specifics of play at different positions. An example is a study by Lorenzo et al. (2010), which determined the factors that affected performance of youth teams during the Men's U-16 European Championships (unbalanced games-successful two-point field goals; close games-winning teams had better values in turnovers and assists; balanced games-winning and losing teams were discriminated by successful two-point field goals and defensive rebounds). Parejo et al. (2013) investigated the most significant elements differentiating between the best and the worst teams in the Spanish amateur league regarding

balanced games, which were two-points missed shots, scored free-throw shots, defensive rebounds, assists, personal fouls, while in unbalanced games: made field goals, turnovers and blocked shots. Additionally, Mikołajec et al. (2013) carried out a study on the most significant factors determining success in the NBA league in more than 10 consecutive seasons. It was determined that the most critical indicators were the percentage of wins during the whole season, offensive efficiency, the average number of points in the 3rd quarter, the percentage of wins in close games, the average number of fouls and the average number of steals (Mikołajec et al., 2013).

Mandić et al. (2019) conducted a study comparing NBA and EuroLeague statistics. There were no differences in assists, steals, or total rebounds, while differences in two-point, three-point shooting patterns were non-significant. On the other hand, the number of blocks and a defensive rebounding rate were substantially higher in the NBA. There were more personal fouls per possession in the Euroleague (Mandić et al., 2019).

The main aim of this study was to establish team game-related statistics that determined sport results in the Basketball EuroLeague between 2003 and 2016. Game analysis includes one of the most relevant diagnostic tools in team sports and its results can significantly affect the planning and execution of a training process (Fernandez et al., 2009). If a player or team fails to meet the effectiveness criteria and performs the tactical tasks poorly, it is the coach's duty to determine the cause and choose appropriate methods of training that will change the unfavourable situation (Côté and Gilbert, 2009; Doğan and Ersöz, 2019). Unfortunately, the number of investigations conducted on top-level competition is limited. Therefore, the aim of the present study seems to be justified.

Methods

Participants

The research material comprised a set of 21 variables describing the efficiency of play among EuroLeague teams. The source of the data was game variables from the publicly available euroleague.net website. In total, performance of 10 EuroLeague teams over 13 seasons between

2003 and 2016 was analysed. The research process used data pertaining to the following teams: CSKA Moscow (Russia), FC Barcelona (Spain), Olympiacos Piraeus (Greece), Maccabi Tel Aviv (Israel), Panathinaikos Athens (Greece), Efes Pilsen Istanbul (Turkey), Tau Ceràmica Vitoria (Spain), Unicaja Malaga (Spain), Zalgiris Kaunas (Lithuania) and Partizan Belgrade (Serbia).

Measures

The inclusion criterion for the study group was a given team's participation in EuroLeague games in all seasons of the considered period. The dependent variable was a team's ranking achieved in a given year. The time period was used as the independent variable in some analysis. In the study, sport results from 2003–2016 obtained by the teams during the regular season were analysed. Next, in accordance with the objectives of the study, 21 factors were included: total score (TS), total number of two-point shots made (2PSM), total number of two-point shot attempts (2PSA), total number of three-point shots made (3PSM), total number of three-point shot attempts (3PSA), total number of one-point shots made (1PSM), total number of one-point shot attempts (1PSA), total number of defensive rebounds (DR), total number of offensive rebounds (OR), total number of rebounds (TNR), total number of assists (A), total number of turnovers (T), assists/turnovers ratio (ATR), total number of steals (S), total number of blocks (B), total number of blocks (AB), total number of fouls made by the team (CF), total number of fouls made by the opponent (RF), EVAL indicator (EVAL), total number of two- and three-point shot attempts (2 and 3 PA), and the total number of one-, two- and three-point shot attempts (All shots A).

Statistical Analysis

Econometrics and modelling prediction were used in the study (Maszczyk et al., 2012; Patil and Rao, 1993). A research pattern with the following structure of variables was employed: (RXnnYn), where R denotes a vector, Yn denotes a single polytomous dependent variable and Xnn denotes polytomous independent variables in accordance with non-probability sampling. The study followed basic research techniques. Descriptive statistics, a comparison of variable correlations determining the most significant variables for variance, data prediction and

mathematic modelling were applied. Additionally, selected statistics were calculated in each of the analysed seasons.

After the structure of the data was analyzed, correlations between the variables describing the study material were investigated. Correlations between all studied variables for all the matches, according to a particular season were presented using Pearson correlation coefficients. Additionally, in order to identify the correlations in detail and establish their statistical significance, the study distinguished 10 data sets according to particular seasons. In all analyses, the level of significance was assumed at $p < 0.05$.

Due to a large number of variables with a statistically significant value of the Pearson correlation coefficient (21 variables), a decision was made to reduce the number of variables by optimising the matrix through a factor analysis and determining the R1 and R0 vectors.

The starting point for obtaining an optimal combination of variables for the model was calculating the correlation coefficients between the previously determined 21 explanatory variables, according to the following formula:

$$r_{ij} = \frac{\sum_{i=1}^n (x_{ii} - \bar{x}_i)(x_{ij} - \bar{x}_j)}{\sqrt{\sum_{i=1}^n (x_{ii} - \bar{x}_i)^2 \sum_{i=1}^n (x_{ij} - \bar{x}_j)^2}} \quad (i, j = 1, 2, \dots, m)$$

Thus, correlations between the analysed variables were determined and the matrix of correlation coefficients between the analysed explanatory variables was obtained. The R0 vector was also determined. Because a weak correlation between the X explanatory variables and a strong correlation between X and Y are favourable for the model, a correlation coefficient analysis was applied to determine the correlation matrix and the correlation vectors and to allow for an optimal choice of predictors, according to the formula:

$$r_i = \frac{\sum_{i=1}^n (y_i - \bar{y})(x_{ii} - \bar{x}_i)}{\sqrt{\sum_{i=1}^n (y_i - \bar{y})^2 \sum_{i=1}^n (x_{ii} - \bar{x}_i)^2}} \quad (i = 1, 2, \dots, m)$$

This helped in determining the optimal variables of the EuroLeague making up the R1 matrix vector for each team, which served as the input vector for constructing the model.

Results

The results related to the correlations between all of the studied variables (the values of the obtained correlation coefficients) indicated that a relationship existed in the majority of the analysed cases. The correlations were mostly strong and statistically significant ($p < 0.05$). The correlation between these variables was positive, meaning that a change in the value of one of the variables caused an increase in the value of other variables.

The results of the correlation analysis for all the studied teams are presented in Table 1.

The regression analysis of the dependent variable for all of the 10 studied teams allowed for identification of statistically significant variables that constituted the determinants of performance in the EuroLeague in 2003–2016. Table 2 presents the forward stepwise ridge multiple regression analysis conducted for the ranking of the 10 studied teams.

The analysis helped define the form of the regression function based on the significant independent variables in the regression model. Tau Ceràmica Vitoria is presented as an example of the conducted procedure:

$$\text{Ranking (Y)} = 47.19 + 0.15 \text{ Reversed fouls} + 0.78 \text{ 2PT-made} + 1.39 \text{ 3PT-made} + 0.54 \text{ 1PT-made}$$

The regression analysis showed that for Tau Ceràmica Vitoria, reversed fouls, 2PT-made, 3PT-made and 1PT-made were the most important and statistically significant predictors with regard to their rank in the EuroLeague games in the analysed period. According to the model, all variables had an effect on the number of scored points, while the highest value was obtained for the three-point shots made variable (3PT-made), which increased the score by 1.39. The variance explained by the independent variables used in the model constituted 98% of the total variance in the league ranking ($R^2 = 0.98$). The model fitted the data very well ($F = 59.52$, $p < 0.00001$). The 3PT-made variable ($b = 1.39$) had the highest effect on the ranking in the league, meaning that a higher rank corresponded to, first and foremost, a higher number of three-point shots made (3PT-made). The remaining variables had an equally significant effect on the ranking obtained by Tau Ceràmica Vitoria. However, the total variance of the results in performing the tasks was not explained primarily by the variables

marked in the regression model (Reversed fouls, 2PT-made, 3PT-made and 1PT-made), where 3PT-made occurred most frequently.

The verification of the model showed that the signs of the variables located next to the explanatory variables did not contradict the theory of sport, because an increase in the value of any of the variables would result in a higher chance for a better place in the ranking.

The conducted regression analysis (Table 2) indicated that, considering the analysed 10 teams, the following variables were the most often significant predictors which constituted the determinants of sport results in the EuroLeague between 2003–2016: three-point shots made, mid-range shots made (2PT-made) and free throws made (1PT-made), the number of two-point shot attempts, the number of three-point shot attempts, the number of fouls, the number of assists and the number of rebounds.

All the analysed variables led to an increase in the number of points scored; however, in seven of the analysed teams (Tau Ceràmica Vitoria, CSKA Moscow, Panathinaikos Athens, Efes Pilsen Istanbul, FC Barcelona, Olympiacos Piraeus and Unicaja Malaga), the highest value was obtained for the three-point shots made variable. In Zalgiris Kaunas and Partizan Belgrade, the highest value was registered for the one-point shot made (1PT-made) variable. Additionally, in one case (Maccabi Tel Aviv), the key variable with the highest value was the number of committed fouls.

Discussion

The highest number of studies related to factors determining victory in a basketball game has been conducted in the US, thanks undoubtedly to a much higher number of registered game-related statistics compared to the EuroLeague. This results from the vast financial resources, efficient organisation and technological potential of the NBA. The first statistical analyses were conducted, and the directions along with modern research methods were established, in the US. A significant advantage of the NBA is that NBA games are considered to be the best in the world. Publications by Oliver (2004) and Mikolajec et al. (2013) identifying factors determining victory in the NBA are widely known. Oliver (2004) defined four statistics with the highest influence on the game outcome: high

effectiveness in scoring field goals, the minimal number of turnovers, the maximal number of offensive rebounds and a high number of free throw attempts. The paper by Mikołajec et al.

(2013) is immensely valuable in the context of studies conducted over a long period of time – eight consecutive seasons of NBA league games.

Table 1

Pearson's correlation coefficients between the analysed variables in the EuroLeague teams in 2003–2016

Team/ Variable	FC Barcelona	CSKA Moscow	Efes Pilsen Istanbul	Maccabi Tel Aviv	Olympia cos Piraeus	Panathina ikos Athens	Partizan Belgrade	Tau Ceràmica Vitoria	Unicaja Malaga	Zalgiris Kaunas
2PSM	0.940	0.968	0.974	0.967	0.955	0.912	0.960	0.966	0.939	0.955
2PSA	0.935	0.950	0.955	0.955	0.971	0.872	0.945	0.959	0.916	0.924
3PSM	0.905	0.944	0.895	0.841	0.885	0.926	0.911	0.836	0.928	0.864
3PSA	0.892	0.980	0.908	0.809	0.854	0.895	0.935	0.825	0.941	0.854
1PSM	-	0.944	0.873	0.733	0.721	0.639	0.853	0.864	0.793	0.908
1PSA	-	0.946	0.901	0.824	0.819	0.683	0.841	0.862	0.794	0.869
OF	0.895	0.910	0.875	0.765	0.872	0.824	0.916	0.876	0.835	0.969
DF	0.967	0.981	0.982	0.957	0.963	0.844	0.961	0.943	0.951	0.917
TNR	0.970	0.984	0.969	0.948	0.954	0.864	0.958	0.954	0.971	0.953
A	0.932	0.945	0.905	0.919	0.915	0.759	0.937	0.916	0.875	0.946
T	0.869	0.920	0.959	0.896	0.885	0.904	0.948	0.963	0.878	0.864
S	-	-	-	0.733	-	0.615	0.652	0.603	0.587	0.600
ATR	0.614	0.801	0.577	-	0.732	-	0.637	-	-	0.581
B	-	0.865	0.773	0.715	0.848	0.692	0.815	0.706	-	-
AB	0.853	0.813	0.728	0.653	0.832	0.649	0.864	0.834	0.834	0.837
CF	0.959	0.963	0.965	0.967	0.870	0.930	0.937	0.956	0.879	0.935
RF	0.849	0.982	0.944	0.986	0.942	0.940	0.974	0.973	0.957	0.983
2 and 3 PA	0.968	0.986	0.981	0.950	0.968	0.922	0.981	0.966	0.956	0.975
All shots A	0.979	0.991	0.993	0.990	0.980	0.981	0.993	0.992	0.989	0.988

2PSM - total number of two-point shots made; 2PSA - total number of two-point shot attempts; 3PSM - total number of three-point shots made; 3PSA - total number of three-point shot attempts; 1PSM - total number of one-point shots made; 1PSA - total number of one-point shot attempts; DR - total number of defensive rebounds; OF - total number of offensive rebounds; TNR - total number of rebounds; A - total number of assists; T - total number of turnovers; ATR - assists/turnovers ratio; S - total number of steals; B - total number of blocks; AB - total number of assisted blocks; CF - total number of committed fouls; RF - total number of reversed fouls; EVAL - EVAL indicator; 2 and 3 PA - total number of two- and three-point shot attempts; All shots A - the total number of one-, two- and three-point shot attempts

Table 2

Multiple forward stepwise ridge regression analysis conducted for the ranking of the 10 studied teams

Tau Ceràmica Vitoria				FC Barcelona			
N = 14	BETA	B	p	N = 14	BETA	B	p
Constant		47.194	0.027	Constant		25.642	0.044
Reversed fouls	0.171	0.150	0.027	Reversed fouls	0.332	0.285	0.029
2PT-made	0.194	0.789	0.017	Committed fouls	0.183	0.826	0.032
3PT-made	0.171	1.392	0.011	2PT-made	0.254	0.629	0.039
1PT-made	0.136	0.541	0.023	3PT-made	0.197	1.281	0.031
CSKA Moscow				Panathinaikos Athens			
N = 14	BETA	B	p	N = 14	BETA	B	p
Constant		37.528	0.038	Constant		73.245	0.028
Reversed fouls	0.152	0.122	0.034	Reversed fouls	0.220	0.192	0.015
3PT-attempts	0.134	0.554	0.037	2PT-made	0.118	0.338	0.037
2PT-made	0.141	0.547	0.033	3PT-made	0.326	2.113	0.014
3PT-made	0.154	1.347	0.023	1PT-made	0.134	0.869	0.028
Committed fouls	0.121	0.516	0.035	2PT-attempts	0.080	0.643	0.030
Olympiacos Piraeus				Maccabi Tel Aviv			
N = 14	BETA	B	p	N = 14	BETA	B	p
Constant		4.901	0.040	Constant		9.317	0.035
2PT-attempts	0.119	0.254	0.043	Reversed fouls	0.246	0.202	0.030
Assists	0.196	0.154	0.023	2PT-made	0.145	0.504	0.030
1PT-made	0.177	1.104	0.038	Assists	0.199	0.787	0.014
3PT-made	0.264	1.841	0.034	Committed fouls	0.206	0.814	0.032
2PT-made	0.210	0.550	0.022				
Efes Pilsen Istanbul				Zalgiris Kaunas			
N = 14	BETA	B	p	N = 14	BETA	B	p
Constant		27.938	0.038	Constant		34.225	0.027
Reversed fouls	0.179	0.159	0.024	Reversed fouls	0.175	0.486	0.027
Committed fouls	0.135	0.463	0.031	Assists	0.198	0.175	0.016
3PT-made	0.148	1.431	0.016	1PT-made	0.148	1.208	0.014
2PT-made	0.147	0.482	0.014	2PT-made	0.170	0.642	0.023
				3PT-made	0.267	1.010	0.045
Partizan Belgrade				Únicaja Malaga			
N = 14	BETA	B	p	N = 14	BETA	B	p
Constant		10.063	0.018	Constant		81.201	0.031
Reversed fouls	0.167	0.149	0.029	Rebounds	0.163	0.441	0.028
2PT-made	0.187	0.497	0.025	Reversed fouls	0.185	0.592	0.013
3PT-made	0.102	0.347	0.046	3PT-made	0.256	2.099	0.037
2PT-attempts	0.197	0.687	0.018	2PT-made	0.172	1.404	0.013
1PT-made	0.131	1.220	0.028	1PT-made	0.148	0.552	0.026
3PT-attempts	0.094	0.511	0.036	2PT-attempts	0.153	0.276	0.030

The results of our study indicate that variables that have the highest impact on sport results in the Basketball EuroLeague are: mid-range shots made and attempted (2PT-made, 2PT-attempts), the number of free throws made (1PT-made), the number of long-distance shots made and attempted (3PT-made, 3PT-attempts), the number of assists and the number of fouls. These variables suggest that offensive factors have the highest effect on victory in EuroLeague games. The advantage in major competitions lies with the teams displaying the highest level of shooting effectiveness. The set of variables with the strongest effect on sport results in EuroLeague games includes the number of fouls. This factor is extremely important because committing a fifth personal foul eliminates the player from further participation in the game, which may have a huge impact on the performance of the entire team. Exceeding the limit of four team fouls in a given quarter allows the opponent to perform free throws, even when the foul was not committed in a shooting situation. This may be a deciding factor, especially in close games, where neither team has a significant advantage in terms of the other elements of play. Mikołajec et al. (2013) conducted a detailed analysis of statistical variables in all teams in the NBA league registered between 2003 and 2011. A comparison between the data obtained in the above mentioned studies and the results presented in this paper indicates that in both cases, the factors related to offence played a very important role and had a significant impact on the final results of the games.

The present study concerned club games at the highest level in Europe. The teams comprised professional players with a high level of technical and tactical skills, who underwent appropriate motor preparation, were able to make optimal decisions during a game, displayed great mental strength and had appropriate somatic characteristics for a given position. Only players who met these criteria are characterised by high performance and a significant impact on the final result. The present study confirmed that factors related to offence, i.e. the number of attempted and made mid-range shots (two-point shots), long-distance shots (three-point shots) and free throws (one-point shots), played a decisive role and had the greatest impact on the results of the

EuroLeague competition considered in this study. An additional factor was the number of assists, which is a clear indicator of the quality of teamwork and of how much the team uses two- and three-player solutions. The dominance of offensive elements partly results from the fact that the number of registered offensive variables is considerably higher when compared to the defensive variables. In addition, the number of scored points is strongly correlated with the number of attempted shots and shooting effectiveness. Winning by performing few and low percentage shots seems very difficult. It seems only possible if the team's defence is excellent, what limits the opposing team's offensive effectiveness. If the defensive play in both teams is at a similar level, the team with greater offensive efficiency always wins. The presence of both mid-range shots and long-distance shots in the combination of variables with the highest effect on the game outcome in the EuroLeague indicates the importance of balanced positional effectiveness. This results from the fact that two-point shots are usually the domain of tall players at the centre (5) and power forward (4) positions. Conversely, long-distance shots are the domain of the perimeter players at shooting guard (2), small forward (3), and point guard (1) positions. The threat created by tall players within a restricted area and the necessity for team-guarding the centre player (double-teaming) very often allows for wide-open distance shots to be made. A precise execution of the free throws after fouls committed by defensive players on players finishing their actions within the restricted area is not less significant. This is particularly important in close games, where difference in the score amounts to just few points. Hence, the efficiency of a free throw can decide between a victory and a loss. It should also be noted that in players in Position 1 (point guards), the number of assists is a variable that significantly affects the value of these players during a game. It confirms the player's creativity and ability to create opportunities for scoring points for other players on the team. These data have been confirmed through the evaluation of the best teams. Building such a team starts with selecting the right players for Positions 1, 2/3 and 5. It should also be mentioned that modern high-level basketball requires the players to have good versatility (the

ability to perform numerous tasks at different positions). This particularly applies to the player at Position 4 (power forward).

A study by Szwarc et al. (2013) confirms that power forwards and centres are the most active and efficient players in scoring two-point shots. This is characteristic of the players at these positions, because they are the ones tasked with scoring in the restricted area (centres) and via mid-range shots (power forwards). Scoring three-point shots is the main offensive task given to perimeter players; that is, to point guards (Position 1), shooting guards (Position 2) and small forwards (Position 3). The results of our study confirm the high activeness of the players at these positions. However, the observed high efficiency of power forwards in scoring via three-point shots may come as a surprise. This observation is probably related to new trends in the manner of organising plays in modern basketball (Oliver, 2004), and the changing somatic and fitness profile of the players (Gómez et al., 2017; Petreanu and Petreanu, 2016). The versatility of players and their ability to play at each position, as observed in recent years, seems particularly important. This phenomenon seems to be further substantiated because many changes in basketball rules were introduced during the analysed period, making this sport even more dynamic and spectacular (Pluta et al., 2015). Shortening the offensive actions to 24 s as well as the necessity to advance the ball over the half court line within 8 s, have certainly contributed to making the duration of a single play shorter. As a result, more offensive actions are carried out and a higher number of shots are taken during the game.

A study by Pluta et al. (2015) showed a correlation between the dynamics of scoring in basketball and the changes in the rules. They investigated the effect of the modified rules on scoring during 38 consecutive Men's European Basketball Championships between 1938–2013. It was observed that rule changes did not always affect the victory in a basketball game during the European Championships; however, they did lead to a significant increase in the scores. Over the years, the following changes in the rules had the

greatest effect on the pace of the game and on the dynamics of scoring (e.g. the three second rule, the introduction of a time limit for carrying out an offensive action, the introduction of three-point shots).

The division of the game into four quarters, shortening the amount of time allowed for carrying out offensive action from 30 to 24 s, and reducing the time limit for advancing the ball to the frontcourt from 10 to 8 s have resulted in significantly faster paced games. These rule changes are most advantageous for dynamic and versatile players, due to a more intensive gameplay. A dynamic transition from defence to offence allows players to outnumber their opponents during fast breaks. The skill of playing one-on-one and a higher level of physical fitness and technique become immensely important. Furthermore, a quick transition from defence to offence often ends in a three-point shot. Montero et al. (2013) revealed that increasing the distance between the three-point line and the basket to 6.75 m in 2010 resulted in a higher number of accurate three-point shots. In their study, 290 games of the Spanish ACB Liga in the 2009–2010 season were analysed. Similarly, Štrumbelj et al. (2013) revealed an increase in the number of three- and two-point shot attempts in EuroLeague games during the same period of time. The same trend of change was registered in the NBA and NCAA leagues after moving the three-point line further back (Magel and Unruh, 2013; Štrumbelj et al., 2013).

Conclusions

In summary, this study provided team game-related statistics that determined sport results in the Basketball EuroLeague between 2003 and 2016. It was found that the main factors that influenced the game outcome at the elite level were more related to offense than defence (reversed fouls, 2 PT made, 3 PT made, 1 PT made). The results of this study may enhance the short- and long-term training process. In practical terms these findings may also help team managers to select appropriate players to their professional teams.

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