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THE ASSOCIATION BETWEEN BASKETBALL PLAYERS' TIMES IN THE GAME AND THEIR PERFORMANCE: A COMPARISON OF EUROLEAGUE-EUROBASKET

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ABSTRACT

In this study, the performances of the European players in the Euroleague teams at the Eurobasket tournament held at the end of the relevant Euroleague season were investigated. The offensive or defensive performances of the players as a result of increases or decreases in their duration time were investigated and interpreted with statistical tests.

While the changes in the players' times were not found to have an influence on the points they scored and the number of assists ($p>0.05$), they were found to have an influence on the number of rebounds they got ($p<0.05$). While statistical difference was found between players in whose rebound averages changes were found ($p<0.05$), no difference was found in other categories ($p>0.05$). The increases in the number of points, rebounds and assists of players whose times increased were found to be statistically significant ($p<0.05$). Similarly, the increases in the average rebounds and assists of players whose times in the game decreased were not found to be statistically significant ($p>0.05$), however, the increases in numerical values were found to be statistically significant ($p<0.05$).

As a result, it was determined that the players who took less time in their club teams did not perform successfully in the National teams, whereas the players who took enough time in the club teams were successful even if they took less time in the National teams. This problem is thought to be overcome by limiting the number of foreign players in the Basketball Super League in order to pave the way for promising players.

Keywords: Basketball, Eurobasket, Euroleague, Performance analysis.

BASKETBOL OYUNCULARININ ALDIKLARI SÜRELER İLE GÖSTERDİKLERİ PERFORMANS İLİŞKİSİ: EUROLEAGUE-EUROBASKET KARŞILAŞTIRMASI

ÖZET

Bu çalışmada, Euroleague takımlarında yer alan Avrupalı oyuncuların, ilgili Euroleague sezonu bitiminde gerçekleştirilen Eurobasket turnuvasındaki performansları araştırılmıştır. Oyuncuların sürelerindeki artış veya azalışlar sonucunda elde edilen hücum veya savunma performansları, istatistiksel testler ile araştırılmış ve yorumlanmıştır.

Oyuncuların sürelerindeki değişikliklerin attıkları sayılar ve asist sayıları üzerinde etkisi olmadığı bulunurken ($p>0,05$), aldıkları rebound sayısı üzerinde etkili olduğu bulunmuştur ($p<0,05$). Rebound ortalamalarında değişiklikler bulunan oyuncular arasında istatistiksel olarak farklılık bulunurken ($p<0,05$), diğer kategorilerde farklılık bulunmamıştır ($p>0,05$). Aldıkları süre artan oyuncuların sayı, rebound ve asistlerindeki artışların istatistiksel olarak anlamlı olduğu bulunmuştur ($p<0,05$). Benzer şekilde, oyundaki süreleri azalan oyuncuların ortalama rebound ve asist sayılarındaki artışların istatistiksel olarak anlamlı olmadığı ($p>0,05$), fakat sayısal değerlerdeki artışların istatiksel olarak anlamlı olduğu bulunmuştur ($p<0,05$).

Sonuç olarak kulüp takımlarında az süre alan oyuncuların Milli takımlarda başarılı performans sergileyemedikleri buna karşılık kulüp takımlarında yeterince süre alan oyuncuların Milli takımlarda daha az süre alsalar bile başarılı oldukları belirlenmiştir. Gelecek vaat eden oyuncuların da önünü açmak için Basketbol Süper liginde yabancı oyuncu sayısında kısıtlamaya gidilmesi ile bu sorunun aşılacağı düşünülmektedir.

Anahtar Kelimeler: Basketbol, Eurobasket, Euroleague, Performans analizi.

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INTRODUCTION

Basketball is one of the most popular and attention receiving sports in the world and this interest increases each day with various organizations. The fact that the Euroleague final four organization in 2018 was shown live in 203 countries can be shown as one of the most important indicators of interest in basketball. This increase in the interest brings along more competition. All teams and players push all the limits to survive in this strong structure and to rise. In both national and international organizations, it can be seen that teams which have basketball culture and tradition are more successful. Basketball can also be defined as a sport in which all players contribute to the success of the team. For this reason, just offense and defense is not enough when the game ends. Within the collective structure of the game, offense and defense performances are assessed as a whole [1].

American National Basketball League (NBA) is the most important organization that has pioneered for this sport to be loved and to spread in the whole world. As of 2018, there are 30 teams in the league and the total value of the teams has been estimated as 49,5 billion $. This great organization, which was viewed from tribunes by more than 22 million viewers in 2018, can also reach great masses easily in various regions of the world through investments and advertising campaigns. NBA, with successful basketball players not only from the USA but also from all parts of the world, can also be described as by far the greatest sport organization on the basis of clubs. In European basketball, Euroleague, which is the Fédération Internationale de Basketball (FIBA) organization, is the most important tournament on the basis of clubs [2,3].

Although the rules of basketball are fixed in all parts of the world, it is played differently in the two most important club organizations, NBA and Euroleague, and these both have appealing aspects. While NBA basketball is faster and has a higher tempo, the priority in Euroleague is defense. The fact that NBA teams concentrate on three-point offenses recently causes the comments that they are adopting Euroleague style basketball [4]. When the literature is reviewed, there are studies with different views on basketball. Some studies in European basketball have found that performance primarily depends on shots from 2-point field and defensive rebounds [1,5,6]. Assist, which is the most important parameter providing unity, solidarity and cooperation in the offense of a team, becomes more important as the level of league teams compete in increases. Assist is the most basic

element which builds up to a balanced and sound offense [7]. In a study conducted on home advantage in various sport branches, Leonard (1998) found a positive increase especially in offense parameters [8]. However, in games with close competition, fouls and free shots are more important in the result of the game [9,5]. Recently, studies to explore the necessities of sport competitions have become more important in order to find out the most effective behaviors increasing performance [10-12].

The purpose of this study is to research whether there is difference between the performances of players in national teams with Euroleague organization. In our study, performances of players who participated in Euroleague games played in 2012-2013, 2014-15 and 2016-17 seasons and in European Basketball Championships organized in 2013, 2015 and 2017 at the end of these seasons were assessed and compared. 15 different variables were used for 6 different organizations and the players in both tournaments were compared with their times in the games and other statistical variables and the results were interpreted.

METHOD

The data used in the study were obtained from statistical data in official websites of Euroleague and European Basketball Championships internet websites [2]. The data of the study included 15 different variables of 6 different organizations of 2012-2013, 2014-15 and 2016-17 seasons Euroleague and in European Basketball Championships organized in 2013, 2015 and 2017 at the end of these seasons. SPSS.25 program was used in the assessment. Pearson ranks correlation coefficient and paired t-test were used to compare the increase-decrease in players' times in the game and averages of points, rebounds and assists. Statistical differences between increases-decreases in time, points, assist and rebound variables were analyzed with two variable independent t-test.

RESULTS

Statistical comparisons were made in three different periods and they were performed for players who played in both Euroleague and European Basketball Championship (2013 Euroleague and 2013 European Basketball Championship, 2015 Euroleague and 2015 European Basketball Championship and 2017 Euroleague and 2017 European Basketball Championship). First, 2013 European Championship and 2012-13 Euroleague seasons were assessed. 54 players were found to play in both tournaments.

While the national team times of 34 of these players were found to decrease, the times of 20 were found to increase. Correlation values between the changes in players' times and players' point, rebound and assist values and comparison test results are given in Table 1.

Table 1. Comparison of 2013 Euroleague-Eurobasket Players' times

	r	p
Player time – Score	0.580	0.371
Player time – Rebound	0.454	0.011
Player time – Assist	0.398	0.799

When the results in Table.1. are examined, it can be seen that there is a moderate association between the changes in their times and the points they scored and the number of rebounds they got, while there is relatively low association between the number of their assists. While the changes in the players' times were not found to have an influence on the points they scored and the number of assists ($p>0.05$), they were found to have an influence on the number of rebounds they got ($p<0.05$).

Average and statistical comparison values of the increase and decrease in times, points, rebounds and assists of the players who took part in both tournaments are given in Table 2. While statistical difference was found between players in whose rebound averages changes were found ($p<0.05$), no difference was found in other categories ($p>0.05$).

Table 2. Increase-decrease comparison of 2013 Euroleague-Eurobasket players' times

	Number of players	Average	p
Decrease in average of time	34	5.72	0.423
Increase in average of time	20	6.32	
Decrease in average of scores	21	3.08	0.591
Increase in average of scores	23	2.83	
Decrease in average of rebounds	24	1.36	0.038
Increase in average of rebounds	30	1.16	
Decrease in average of assists	15	0.86	0.489
Increase in average of assists	19	0.96	

Of the 20 players whose times in the game increased, 16 (80%) increased average points, 17 (85%) increased average rebounds and 12 (60%) increased average assists. Of the 34 players whose times in the game decreased, 7 (20.5%) increased average points, 13 (38%) increased average rebounds and 7 (20.5%) increased average assists.

The increases in the number of points, rebounds and assists of players whose times increased were found to be statistically significant ($p<0.05$). Similarly, the increases in the average rebounds and assists of players whose times in the game decreased were not found to be statistically significant ($p>0.05$), however, the increases in numerical values were found to be statistically significant ($p<0.05$).

Secondly, 2015 European Championship and 2014-15 Euroleague seasons were assessed. 82 players were found to play in both tournaments. While the national team times of 50 of these players were found to decrease, the times of 32 were found to increase. Correlation values between the changes in players' times and players' point, rebound and assist values and comparison test results are given in Table 3.

Table 3. Comparison of 2015 Euroleague-Eurobasket Players' times

	r	p
Player time – Score	0.516	0.821
Player time – Rebound	0.480	0.278
Player time – Assist	0.381	0.049

When the results in Table.3. are examined, it can be seen that there is a moderate association between the changes in their times and the points they scored and the number of rebounds they got, while there is relatively low association between the number of their assists. It was found that the changes in players' times did not have an influence on the points they scored and the number of rebounds and assists they got ($p<0.05$).

Average and statistical comparison values of the increase and decrease in times, points, rebounds and assists of the players who took part in both tournaments are given in Table 4. According to these results, no difference was found in all categories ($p>0.05$).

Table 4. Increase-decrease comparison of 2015 Euroleague-Eurobasket players' times

	Number of players	Average	p
Decrease in average of time	50	7.178	0.733
Increase in average of time	32	7.150	
Decrease in average of scores	49	3.975	0.548
Increase in average of scores	33	3.784	
Decrease in average of rebounds	48	1.362	0.893
Increase in average of rebounds	37	1.437	

Decrease in average of assists	40	1.675	0.818
Increase in average of assists	42	1.000	

Of the 32 players whose times in the game increased, 23 (71.8%) increased average points, 24 (75%) increased average rebounds and 24 (75%) increased average assists. Of the 50 players whose times in the game decreased, 10 (20%) increased average points, 13 (26%) increased average rebounds and 18 (36%) increased average assists.

The increases in the number of points, rebounds and assists of players whose times increased were found to be statistically significant ($p<0.05$). Similarly, the increases in the average scores and rebounds of players whose times in the game decreased were not found to be statistically significant ($p>0.05$), however, the increases in assists were found to be statistically significant ($p<0.05$).

Thirdly, 2017 European Championship and 2016-17 Euroleague seasons were assessed. 58 players were found to play in both tournaments. While the national team times of 21 of these players were found to decrease, the times of 37 were found to increase. Correlation values between the changes in players' times and players' point, rebound and assist values and comparison test results are given in Table 5.

Table 5. Comparison of 2017 Euroleague-Eurobasket Players' times

	r	**p**
Player time – Score	0.584	0.011
Player time – Rebound	0.519	0.109
Player time – Assist	0.667	0.742

When the results in Table.5. are examined, it can be seen that there is a moderate association between the changes in their times and the points they scored and the number of rebounds they got, while there is relatively high association between the number of their assists. While the changes in the players' times were not found to have an influence the number of assists and the number of rebounds they got ($p>0.05$), they were found to have an influence on the points they scored ($p<0.05$).

Average and statistical comparison values of the increase and decrease in times, points, rebounds and assists of the players who took part in both tournaments are given in Table 6. According to these results, no difference was found in all categories ($p>0.05$)

Table 6. Increase-decrease comparison of 2017 Euroleague-Eurobasket players' times

	Number of players	Average	p
Decrease in average of time	21	4.05	0.768
Increase in average of time	37	7.02	
Decrease in average of scores	20	3.776	0.161
Increase in average of scores	38	3.231	
Decrease in average of rebounds	27	1.344	0.132
Increase in average of rebounds	31	1.054	
Decrease in average of assits	22	0.945	0,753
Increase in average of assits	36	0.980	

Of the 37 players whose times in the game increased, 26 (70.2%) increased average points, 27 (72.9%) increased average rebounds and 32 (86.4%) increased average assists. Of the 21 players whose times in the game decreased, 2 (9.5%) increased average points, 4 (19%) increased average rebounds and 4 (19%) increased average assists.

The increases in the number of points, rebounds and assists of players whose times increased were found to be statistically significant ($p<0.05$). The increases in the average scores, rebounds and assists of players whose times in the game decreased were not found to be statistically significant ($p>0.05$).

DISCUSSION AND CONCLUSION

When the results of the present study are considered, it can be seen that the players who were in the game for a sufficient period of time and those who contributed directly to the score also had the average statistics in Eurobasket organizations. It can be seen that the fact that there are a lot of non-continental players recently in Euroleague teams and the high number of foreign players in some leagues cause an increase in the success of some teams [13,14]. Fenerbahçe team, which did not previously play Final-Four in any Euroleague organization, played in the finals in the last 3 seasons and got one championship. While this championship is very valuable for the club, Fenerbahçe is the team in which native players got the least amount of time in the game among the teams that were in the final-four in the last 20 years. The fact that native players in Fenerbahçe and Anadolu Efes, which are the most important 2 teams that constitute the players in Turkish National team, got very little time in games also explains the decrease Turkish national team experienced in Eurobasket organizations recently (Turkish national team ranked 17th, 14th and 14th in the last three

European championships, respectively). The best example for this is the only native player Melih Mahmutoğlu who played in the final game in Fenerbahçe Ülker team, which was the champion of Euroleague 2017, and the time he got in the game was 1:12 minutes. However, the average time the same player got in Eurobasket 2017 was 26 minutes.

In general, as the time the players got in the game increased, there were statistically significant increases in offense. Statistically, a significant association was found between time increase per game and offense characteristics ($p<0.05$). It can be said that as the times increased, players were found to be influenced positively in terms of offense.

In the present study, as can be seen in Table 4. and Table 5., significant differences were found between the time players got and their contributions to the game. Based on these results, it can be said that the times players got in the game have a direct influence on the score and the result. Within this context, it is thought that giving more time to young players will have a positive influence on their development. However, the fact that target-oriented teams participate in organizations such as Euroleague with great budgets have a negative influence on the performances of players who play in the national team. We can see the positive effects of times given to young players in 2 players from Anadolu Efes team being transferred to NBA in 2016-2017 season and being the players who got the longest time in games they played and making the greatest contribution to the team in the games they played for the national team.

In this study, the relationship between the players playing time in basketball and their development was investigated. In Turkish Basketball Super League, all teams can have 8 foreign players in their 12 player squad. Therefore, many promising young players or National team players do not receive much time in matches. The national team performances of the players who have had less playing time in their teams are not at the desired level. These players should be allowed to take more time in their teams.

According to the results of this study, Turkish Basketball Super League can mitigate this problem with changing number of foreign players in the whole league. The number of foreign players of the teams in the league should be reduced to 5, at least 2 Turkish players must be play at the same time while the match is being played and each team must have 2

or 3 players under the age of 20. This allows young players to take more time in the game. This is thought to make significant contributions to the development of players.

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