GAME TRENDS OF THE TURKISH BASKETBALL SUPER LEAGUE*

Övünç Erdeveciler[1]† 🆔

[1]Ankara University, Faculty of Sport Sciences, Department of Sport Management, TURKEY

Abstract: Although basketball is a highly followed sport in Turkey, there is a noticeable lack of research on the Turkish Basketball Super League, regarding the changes and game trends that have occurred over the years. Therefore, the aim of this study is to examine the changes in game trends and the game-related statistics in the Turkish Basketball Super League (BSL) over the past ten seasons. Per-game, game-related statistics used in this study has obtained from online basketball.realgm.com website. Game-related statistics analysed for BSL teams' performance across multiple seasons (2013-2023) include points per game, field goals made, field goals attempted, field goal percentage, 3-point field goals made, 3-point field goals attempted, 3-point field goal percentage, free throws attempted, rebounds per game, assists per game, steals per game, blocks per game, and turnovers. Means and descriptive were generated to analyse average statistics from each season. All statistical analyses were completed with SPSS (Version 26.0; IBM Corp., Armonk, NY, USA). Analysing BSL data from 2013 to 2023, teams have shown improved scoring efficiency, as points per game and three-point attempts have increased. The league has seen consistent scoring improvements, enhanced three-point shooting, and an increased focus on teamwork and rebounding. Teams have also emphasized teamwork, with consistent averages for assists and rebounds per game. Defensive efforts have remained stable, with steals and blocks showing minor fluctuations. Turnovers have decreased over time, indicating better ball security. As a result, it has been observed that the offensive performance of the teams in BSL has increased and team play continues steadily as the seasons progress. This research can provide valuable information in terms of analysing the league and understanding game strategies.

Key Words: Basketball, Match Analysis, Basketball Game Trends

TÜRKİYE BASKETBOL SÜPER LİGİNİN OYUN TRENDLERİ

Öz: Basketbol Türkiye'de oldukça takip edilen bir spor dalı olmasına rağmen, Türkiye Basketbol Süper Ligi'nde yıllar içinde meydana gelen değişimler ve oyun eğilimleri konusunda gözle görülür bir araştırma eksikliği vardır. Bu nedenle bu çalışmanın amacı, Basketbol Süper Ligi'nde (BSL) son on sezonda oyun trendlerindeki değişimleri maç içi istatistikleri kullanarak incelemektir. Bu çalışmada kullanılan, maç içi istatistikler basketball.realgm.com web sitesinden çevrimiçi olarak elde edilmiştir. Araştırma kapsamında maç başı istatistikler kullanılmış olup kullanılan istatistik parametreleri şu şekildedir: Sayı, isabetli atış, toplam atış denemesi, şut yüzdesi, isabetli üç sayılık atış, toplam üç sayılık atış denemesi, üç sayı yüzdesi, toplam serbest atış denemesi, ribaunt, asist, top çalma, blok ve top kaybı. Tanımlayıcı istatistikler kullanılarak meydana gelen değişimler analiz edilmiştir. Tüm analizlerde SPSS paket programı (Version 26.0; IBM Corp., Armonk, NY, USA) kullanılmıştır. Analizler sonucunda takımların maç başına sayı ve üç sayı denemelerinin arttığı görülmüştür. Ligde tutarlı skor gelişimi, artan üç sayılık atışlar ve takım çalışması ile ribaunt üzerinde artan bir odaklanmaya dikkat çekmektedir. Savunma istatistiklerinde küçük değişimler görülürken. Top kayıplarının zamanla azaldığı sonucuna ulaşılmıştır. Sonuç olarak, BSL'nde takımların hücum performansının arttığı, takım oyunun sezonlar ilerledikçe istikrarlı bir biçimde devam ettiği görülmüştür. Bu araştırma ligin daha iyi analiz edilmesi ve oyun stratejilerinin anlaşılması açısından değerli bilgiler sağlayabilir.

Anahtar Kelimeler: Basketbol, Müsabaka Analizi, Basketbol Oyun Trendleri

---

INTRODUCTION

Basketball has gained significant popularity from the late 20th century to the present day and is now one of the world's most popular sports. The contribution of sports analytics has been crucial in the rapid development of basketball. The use of large or small-scale data has brought about changes in game strategies, been used to develop different training strategies, and allowed the game to be approached from various perspectives. The data used has contributed to the development of basketball when processed by coaches, managers, or data analysts. With the acceleration of data analytics, the scope of academic studies has also expanded, and research focusing on basketball has rapidly increased. There are numerous studies in the literature that discuss various components of basketball. While the research mainly focuses on the physiological and performance aspects of the game, there are also studies that examine tactical and technical habits, and game trends. Statistics related to the game have been used in many studies to analyse the evolution of basketball up to the present day. Some of these studies focused on single seasons or tournaments, while others examined the long-term changes.

In a study conducted by Štrumbelj, Vračar, Robnik-Šikonja, Dežman and Erčulj (2013), they examined the effects of rule changes in the Euroleague. They reported that between the 2001/02 and 2009/10 seasons, there was an increase in three-point attempts while two-point attempts decreased. They also noted an increase in steals between the 2001/02 and 2006/07 seasons. However, at the same study (Štrumbelj et al., 2013) added that there was a decrease in both the number of possessions and points scored per game during the same period. There are several long-term studies that have examined the trends in the NBA and Euroleague. In one of these studies, Mandić, Jakovljević, Erčulj and Štrumbelj (2019) analysed the changes that occurred in the NBA and Euroleague between 2000 and 2017. They reported that playing styles have gradually become more similar between the two leagues. Mandić, Jakovljević, Erčulj and Štrumbelj (2019) concluded that the most significant difference between the NBA and Euroleague is the pace of play, noting that the NBA is a faster-paced league. They also observed that blocks, defensive rebounds, and free-throw attempts per foul are higher in the NBA. Another research study examined the game trends in the NBA and Euroleague between 2002 and 2020. According to the study, the most significant changes as the seasons progressed in both the Euroleague and NBA were found in field goals attempted per game, points scored, three-point attempts per game, and successful three-point shooting. The study highlighted these areas as the most prominent changes observed over the years (Ertetik et al., 2021).

The International Basketball Federation (FIBA) encompasses 212 national federations. These federations have the right to participate in international tournaments organized by FIBA at regular intervals. Turkey is one of the 50 European federations included in FIBA. The Turkish Basketball Super League (BSL), also known as the Turkish Basketball League (TBL), is the highest professional basketball league in Turkey. It features teams from various cities across the country and is considered one of the most competitive and exciting basketball leagues in Europe. The Turkish Basketball Super League was established in 1966. It initially consisted of only eight teams, but over the years, it has grown significantly both in terms of the number of teams and its popularity. The league underwent several changes and reforms before adopting its current name in 1990. The Basketball Super League operates on a system of promotion and relegation. It currently consists of 16 teams, with the bottom two teams at the end of the season being relegated to the second-tier league, the Turkish Basketball First League. The top teams from the First League are promoted to the Super League for the

following season. The regular season typically runs from October to May, with each team playing a total of 30 games, 15 at home and 15 away. The top eight teams from the regular season advance to the playoffs, which culminate in a best-of-seven series to determine the league champion. Turkish teams have achieved significant milestones in European competitions such as the EuroLeague, Eurocup and the Basketball Champions League. This success has not only brought recognition to Turkish basketball but has also boosted the league's status and attracted more international attention. Turkish Basketball Super League stands as a premier basketball competition in Turkey and the league continues to thrive and solidify its position as one of the most prominent basketball leagues in Europe.

It is also possible to find research that examine Turkish basketball leagues from various perspectives. Harbili, Yalçın and Harbili (2009), for example, compared efficiency ratings in the Turkish Basketball League between 2006 and 2009. The research findings indicate that the efficiency ratings were higher in the 2008/09 season compared to the 2006/07 and 2007/08 seasons. This study sheds light on the changes in performance and efficiency over the specified period in the Turkish Basketball Super League. In another research, the impact of certain variables on team success in playoff games was examined. The games played between 2014 and 2017 were analysed, and it was found that there were significant positive and negative effects on winning or losing the game based on variables such as two-point shooting percentage, three-point shooting percentage, free-throw shooting percentage, defensive rebounds, steals, and turnovers. The study concluded that an increase in these variables had meaningful effects on the outcome of the game (Şentuna et al., 2018).

Although basketball is a highly followed sport in Turkey, there is a noticeable lack of research on the Turkish Basketball Super League, regarding the changes and game trends that have occurred over the years. Therefore, the aim of this study is to examine the changes in game trends and the game-related statistics in the Turkish Basketball Super League over the past ten seasons.

METHODS

Per-game, game-related statistics used in this study has obtained from online website (basketball.realgm.com). Game-related statistics analysed for BSL teams' performance across multiple seasons (2013-2023) include Points per Game (PPG), Field Goals Made (FGM), Field Goals Attempted (FGA), Field Goal Percentage (FG%), 3-Point Field Goals Made (3PM), 3-Point Field Goals Attempted (3PA), 3-Point Field Goal Percentage (3P%), Free Throws Attempted (FTA), Rebounds per Game (RPG), Assists per Game (APG), Steals per Game (SPG), Blocks per Game (BPG), and Turnovers (TOV). Playoff games has not been excluded from the scope of this study. Regular season and playoff statistics are obtained together to examine season long success overall. Means and descriptive were generated to analyse average statistics from each season. All statistical analyses were completed with SPSS (Version 26.0; IBM Corp., Armonk, NY, USA).

RESULTS

This study aimed to explore the trends in various game statistics in BSL across multiple seasons from 2013 to 2023. Table 1 contains descriptive analysis of game-related statistics for each season.

Table 1. Means and standard deviations of game-related statistics in last ten BSL seasons.

SEASON		PPG	FGM	FGA	FG%	3PM	3PA	3P%	FTA	RPG	APG	SPG	BPG	TOV
2022-2023	Mean	82,11	29,33	62,76	46,69%	9,64	26,48	36,50%	18,55	31,56	18,86	6,44	2,25	12,19
	SD	3,96	1,46	1,80	0,02	0,96	1,93	0,02	2,12	1,52	1,11	0,79	0,67	0,94
2021-2022	Mean	80,43	28,94	62,10	46,63%	9,25	25,58	36,19%	17,64	30,91	19,08	6,60	2,25	12,52
	SD	5,22	1,94	1,61	0,03	1,22	1,89	0,03	1,59	1,56	2,22	1,14	0,50	1,06
2020-2021	Mean	82,08	29,76	63,26	47,06%	8,91	24,85	36,00%	18,20	31,63	19,77	6,41	2,39	12,61
	SD	3,92	1,58	1,51	0,02	1,06	2,56	0,03	1,74	1,44	1,44	1,00	0,38	0,99
2019-2020	Mean	80,53	29,61	63,19	46,94%	8,51	24,07	35,25%	17,58	31,91	19,28	6,56	2,20	12,74
	SD	3,90	1,81	3,19	0,03	1,25	2,80	0,03	1,83	2,50	2,39	1,25	0,68	1,12
2018-2019	Mean	79,11	29,24	62,81	46,47%	8,74	24,73	35,27%	16,41	31,47	18,78	6,31	2,02	12,07
	SD	4,64	1,78	2,24	0,03	1,11	1,97	0,03	1,58	1,96	1,83	0,59	0,67	0,91
2017-2018	Mean	80,04	28,98	60,72	47,88%	8,21	22,45	36,63%	19,02	30,28	18,09	6,11	2,26	11,98
	SD	3,38	1,35	1,63	0,02	1,01	2,90	0,02	1,73	1,64	1,70	0,85	0,48	0,92
2016-2017	Mean	79,95	29,06	62,18	46,75%	8,30	23,44	35,38%	18,57	31,40	17,68	7,05	2,27	13,91
	SD	3,36	1,38	1,82	0,02	1,27	2,53	0,03	2,14	1,65	2,08	0,60	0,67	1,10
2015-2016	Mean	79,36	28,32	61,66	46,00%	8,54	23,67	36,25%	19,21	31,76	16,11	6,05	2,43	12,51
	SD	2,83	1,29	2,08	0,02	0,92	2,40	0,03	1,92	1,64	1,13	0,94	0,66	0,64
2014-2015	Mean	78,60	28,14	60,96	46,19%	8,30	22,93	36,19%	19,23	31,32	15,94	6,07	2,31	11,89
	SD	2,02	1,01	1,69	0,02	1,04	2,46	0,02	1,67	1,88	1,46	0,79	0,60	0,94
2013-2014	Mean	77,34	27,82	60,48	46,00%	8,10	22,87	35,56%	19,18	31,15	16,44	6,20	2,26	12,44
	SD	2,96	1,38	1,54	0,03	1,02	2,47	0,03	1,70	1,70	2,09	0,59	0,67	1,12

Table 1 provides insights into BSL teams' performance from 2013 to 2023. Across the years, teams have maintained consistent scoring, with points per game ranging from 77,34 PPG to 82,11 PPG. Field goal percentage remained stable at 46-47%, while 3P% stayed between 35,56% to 36,50%. Team contributions were crucial, with assists per game fluctuating between 16,44to 18,86 and rebounds per game averaging around 30 to 32 RPG. Defensively, teams showed consistency in steals and blocks, with slight variations.

Figure 1. Points Per Game (PPG) trends throughout the past ten seasons in the BSL.
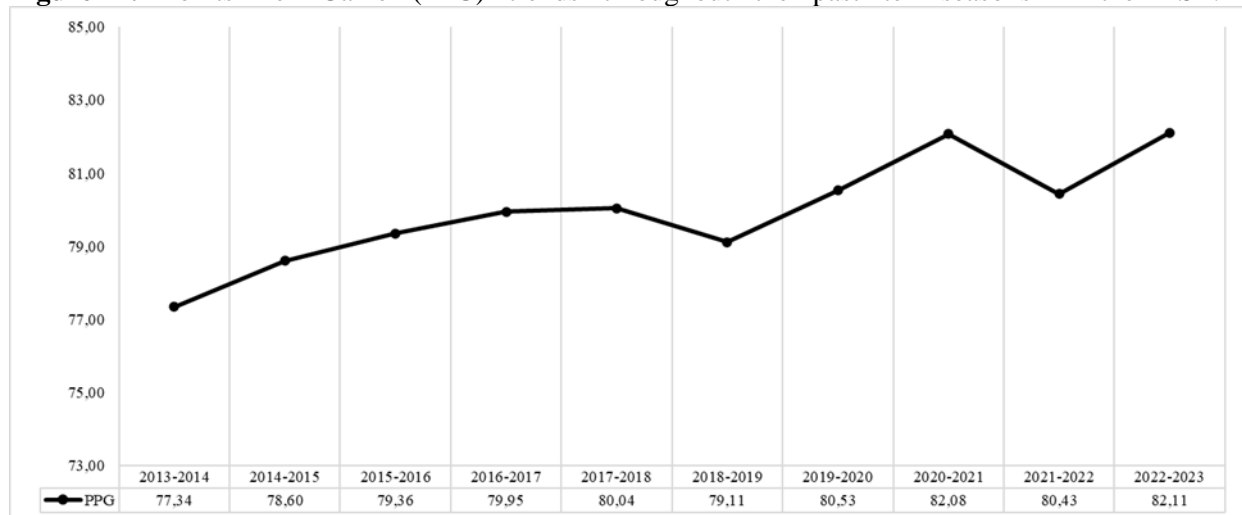

	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
PPG	77,34	78,60	79,36	79,95	80,04	79,11	80,53	82,08	80,43	82,11

Figure 2. 3-Point Field Goals Made (3PM) and 3-Point Field Goals Attempted (3PA) trends throughout the past ten seasons in the BSL.
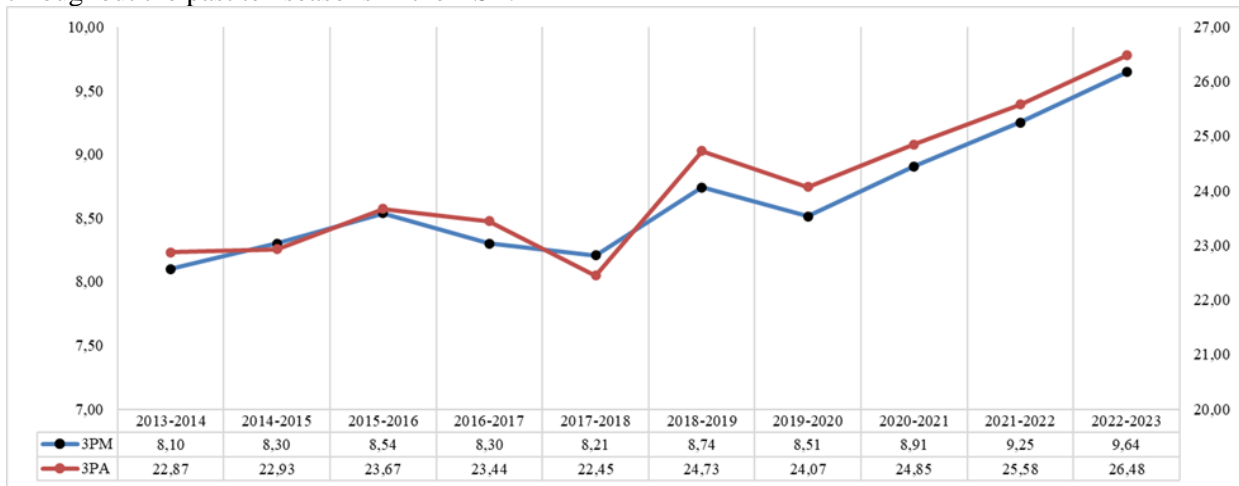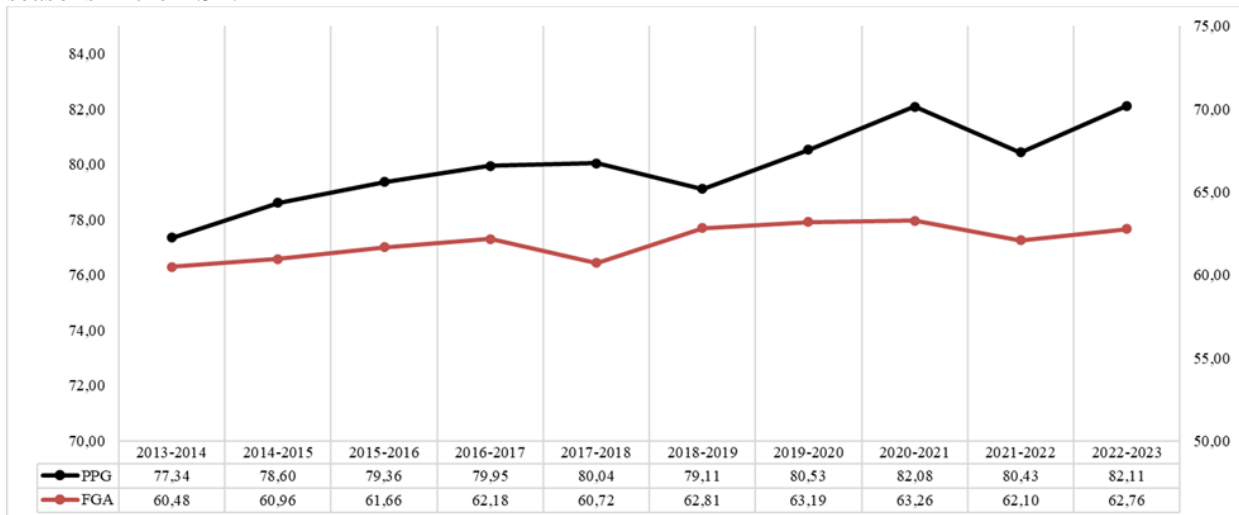

	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
3PM	8,10	8,30	8,54	8,30	8,21	8,74	8,51	8,91	9,25	9,64
3PA	22,87	22,93	23,67	23,44	22,45	24,73	24,07	24,85	25,58	26,48

Figure 3. Points per Game (PPG) and Field Goals Attempted (FGA) trends throughout the past ten seasons in the BSL.

	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
PPG	77,34	78,60	79,36	79,95	80,04	79,11	80,53	82,08	80,43	82,11
FGA	60,48	60,96	61,66	62,18	60,72	62,81	63,19	63,26	62,10	62,76

DISCUSSION

Basketball has evolved beyond a mere physical contest into a sophisticated sport that embraces the power of data and statistical analysis. The rise of sports analytics has revolutionized the way basketball teams approach the game, providing valuable insights that shape strategic decisions and player development. The provided dataset allows us to delve deeper into the dynamic changes in BSL teams' performances from 2013 to 2023. Over the course of these ten seasons, teams have exhibited changes in various statistical categories, revealing both consistent strengths and areas of improvement.

Scoring and Scoring Efficiency
An intriguing aspect of basketball gameplay is scoring efficiency, as teams aim to maximize their offensive output. The Points per Game (PPG) metric indicates the average points scored by a team in a single game. Notably, there has been a gradual increase in scoring proficiency over the years. In the 2013-2014 season, teams averaged 77.34 points per game, which climbed to 82.11 points per game in the 2022-2023 season. This consistent growth in PPG highlights the evolution of offensive strategies, player skill sets, and possibly rule changes

that have influenced the pace of the game. Mikołajec, Banyś, Żurowska-Cegielska, Zawartka and Gryko (2021) reported that the number of 3PA and 3PM, FTM assists were the factors play the most decisive role in determining victory in EuroLeague games. Another study found that 2-point shooting percentage (2pt%) and the 3P% were two of the most significant factors that distinguished between winning and losing teams during the 2020–2021 season in BSL (Ektirici, 2023).

While analysing the shooting accuracy, the Field Goal Percentage (FG%) and 3-Point Field Goal Percentage (3P%) offer valuable insights. FG% has remained remarkably stable throughout the years in our study, changing only slightly between 46% and 47%. This consistency indicates that teams have maintained their ability to convert field goal attempts effectively. On the other hand, 3PA has increased from 22,87 in 2013-2014 season to 26,48 in 2022-2023 season. 3P% has seen a gradual improvement as well, rising from 35.56% in 2013-2014 to 36.50% in 2022-2023. This upward trend demonstrates teams' increased focus on honing their long-range shooting skills and incorporating the three-point shot as a crucial element in their offensive arsenals. However, Doğan, Işık and Ersöz (2016) has found that there was no significant difference between the top half teams and the bottom half teams concerning successful 2-point and 3-point field goals, as well as successful free-throws in the 2014-2015 regular season of the Turkish Basketball League. The performance in these aspects appeared to be similar between the two groups of teams. Savaş, Cengizel, and Şenel, (2022) has found that no significant difference in total points, 2- and 3-points attempts in Olympic Games basketball matches (except for the minutes played per game).

In our study, FGA remained stable trough ten seasons while PPG and 3PA increased. We suggest that the teams are adapting their offensive strategy to place a greater emphasis on three-point shooting. The increase in 3PA indicates that the team is attempting more shots from beyond the arc instead of mid-range shots or layups.

Team Contributions

The basketball is renowned for its emphasis on teamwork, and two essential statistical categories reflect this aspect: Assists per Game (APG) and Rebounds per Game (RPG)(Oliver, 2004). APG provides valuable insights into how well teams distribute the ball and create scoring opportunities. Over the analysed seasons, APG remained relatively stable, fluctuating between 15.94 and 19.77. This suggests that despite individual player changes and team dynamics, the art of facilitating and sharing the ball has remained consistent among BSL teams.

One study focused on the Basketball World Cup 2019 and used univariate and stepwise linear discriminant analysis to identify key indicators that distinguish winning and losing teams in the preliminary, second, and final rounds. During the preliminary round, regardless of the game type, the most significant factor linked to a successful outcome was the number of assists (Stavropoulos et al., 2021). Winning teams consistently had a higher number of assists, indicating effective ball movement, off-ball movements by players, and strong passing skills as contributing factors to their success.

RPG indicates a team's ability to secure rebounds, both on the offensive and defensive ends of the court. This aspect of the game saw a gradual increase over the years, with RPG climbing from 30.28 in the 2017-2018 season to approximately 31.56 in the 2022-2023 season. This rise suggests an intensified focus on controlling the boards, potentially leading to additional scoring opportunities and second-chance points. Doğan, Işik and Ersöz (2016) reported that

the top half teams displayed higher numbers of offensive rebounds and defensive rebounds compared to the bottom half teams in the 2014-2015 regular season of the Turkish Basketball League. This suggests that the top-performing teams were more effective in gaining possession of the ball on both offensive and defensive ends of the court.

Defensive Performance

A formidable defensive effort is key to winning games and championships in basketball. Two critical defensive metrics are Steals per Game (SPG) and Blocks per Game (BPG) (Sarlis and Tjortjis, 2020). Research showed that the higher winning percentage teams have had better steals per game in the NBA (Wang et al., 2022). These statistics reflect teams' abilities to disrupt opponents' plays and protect the rim Interestingly, both SPG and BPG have exhibited relatively consistent patterns over the analysed seasons, with minor fluctuations. This suggests that defensive strategies and player abilities have been continuously honed to maintain consistent pressure on the opposition.

Maintaining Possession

Turnovers (TOV) are a crucial aspect of the game as they represent lost opportunities and potential scoring chances for the opponents. Reducing turnovers is a key focus for teams aiming to maintain ball control and minimize errors. García, Ibáñez, Gómez and Sampaio (2014) has found that the teams have less turnover compared the opponents are closer to winning the games. Over the years, there has been a positive development in this area, with TOV decreasing from 13.91 in the 2016-2017 season to 12.19 in the 2022-2023 season. This indicates improved ball security and decision-making by teams as they strive to limit costly mistakes. Zhai, Guo, Li, Zhang and Liu, (2020) have found that European players showed a broad conservative strategy of defense considering a low number of steals and turnovers.

CONCLUSION

The Turkish Basketball Super League (BSL) is one of the most competitive and prominent basketball leagues in Europe. However, when it comes to academic research, there is a noticeable lack of comprehensive studies and analysis on the league. This dearth of academic research limits our understanding of the league's dynamics, player performance, and overall strategic aspects. The academic interest in sports analytics has been expanding globally, but it takes time for researchers and institutions to fully recognize the potential and value of statistical analysis in studying basketball leagues like the BSL. Moreover, the accessibility and availability of detailed statistical data can significantly impact the extent of academic research conducted. While basic statistics such as points, rebounds, and assists are widely accessible, more advanced metrics and granular data required for in-depth analysis may not be as readily available. Limited access to comprehensive and detailed data can pose a challenge for researchers aiming to conduct thorough statistical analysis on the BSL. Despite these challenges, it is crucial to recognize the importance of academic research in enhancing our understanding of the one of the most competitive basketball leagues in Europe. Such research can provide valuable insights into player performance, team strategies, and overall league trends. It can also contribute to the development of evidence-based decision-making for coaches, players, and team management. Greater emphasis on sports research, increased accessibility to detailed data, and collaboration between academia and basketball organizations can contribute to the growth of academic research. Further research can examine the various statistical changes as well as the correlation of advanced statistics and season long success of BSL teams.

REFERENCES

Doğan, İ., Işik, Ö., & Ersöz, Y. (2016). Examining the Turkish men's professional basketball team's success according to game-related statistics with discriminant analysis. *International Journal of Performance Analysis in Sport*, *16*(3), 829-836. DOI: 10.1080/24748668.2016.11868931

Ektirici, A. (2023). Game-related statistics discriminating winners and losers in Turkish basketball super league: effect of home-away games. *Spor Bilimleri Araştırmaları Dergisi*, *8*(2), 148-156. DOI: 10.25307/jssr.1233412

Ertetik, G., Durmuş, T., Erdeveciler, Ö., & Ersöz, G. (2021). Basketbolun değişen oyun yapısı: NBA ve Euroleague örnekleri. *Avrasya Spor Bilimleri ve Eğitim Dergisi*, *3*(1), 81-95. DOI: 10.47778/ejsse.907049

Garcia-Rubio, J., Ibanez, S. J., Gomez, M. A., & Sampaio, J. (2014). Basketball Game-related statistics discriminating ACB league teams according to game location, game outcome and final score differences. *International Journal of Performance Analysis in Sport*, *14*(2), 443-452. DOI: 10.1080/24748668.2014.11868733

Harbili, E., Yalçın, Y. G., & Harbili, S. (2009). Türkiye basketbol ligi takimlarinin farkli sezonlardaki verimlilik oranlarinin karşilaştirmasi. *Spor Bilimleri Dergisi*, *20*(3), 97-103.

Mandić, R., Jakovljević, S., Erčulj, F., & Štrumbelj, E. (2019). Trends in NBA and Euroleague basketball: Analysis and comparison of statistical data from 2000 to 2017. *PloS One*, *14*(10), e0223524. https://doi.org/10.1371/journal.pone.0223524

Mikołajec, K., Banyś, D., Żurowska-Cegielska, J., Zawartka, M., & Gryko, K. (2021). How to win the basketball EuroLeague? Game performance determining sports results during 2003–2016 matches. *Journal of human kinetics*, *77*(1), 287-296. DOI: 10.2478/hukin-2021-0050

Oliver, D. (2004). *Basketball on paper: Rules and tools for performance analysis*. Washington, D.C.

Sarlis, V., & Tjortjis, C. (2020). Sports analytics—Evaluation of basketball players and team performance. *Information Systems, 93*, 101562. https://doi.org/10.1016/j.is.2020.101562

Savas, S., Cengizel, Ç. Ö., & Şenel, Ö. (2022). Shot Analysis of Basketball Matches in 2004-2008-2012-2016 Olympic Games. *Gazi Beden Eğitimi ve Spor Bilimleri Dergisi*, *27*(2), 143-152.

Stavropoulos, N., Kolias, P., Papadopoulou, A., & Stavropoulou, G. (2021). Game related predictors discriminating between winning and losing teams in preliminary, second and final round of basketball world cup 2019. *International Journal of Performance Analysis in Sport*, *21*(3), 383-395. DOI: 10.1080/24748668.2021.1901437

Štrumbelj, E., Vračar, P., Robnik-Šikonja, M., Dežman, B., & Erčulj, F. (2013). A decade of euroleague basketball: An analysis of trends and recent rule change effects. *Journal of human kinetics*, *38*(2013), 183-189. DOI: 10.2478/hukin-2013-0058

Şentuna, M., Şentuna, N., Özdemir, N., & Serter, K. (2018). Türkiye Erkekler Basketbol Süper Liginde 2014-2017 yılları arasında oynanan play off maçlarındaki bazı değişkenlerin kazanma ve kaybetmeye olan etkilerinin incelenmesi. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi*, *16*(2), 219-224. https://doi.org/10.1501/Sporm_0000000367

Wang, Y., Liu, W., & Liu, X. (2022). Explainable AI techniques with application to NBA gameplay prediction. *Neurocomputing*, *483*, 59-71. https://doi.org/10.1016/j.neucom.2022.01.098

Zhai, Z., Guo, Y., Li, Y., Zhang, S., & Liu, H. (2020). The regional differences in game-play styles considering playing position in the FIBA female continental basketball competitions. *International Journal of Environmental Research and Public Health*, *17*(16), 5827. https://doi.org/10.3390/ijerph17165827