

## STATISTICAL ASPECTS OF BASKETBALL AT THE OLYMPICS GAMES - THE LAST FIVE EDITIONS.

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**Abstract: Introduction:** Basketball is a collective (team) sports game, being part of the invented sports games category. Its quality as a sports game, places it as a specialized sub-domain of sports culture and education, of sports civilization. In 1891 Professor James A. Naismith of the Springfield College - Massachusetts invented a game that would be called "basketball", in order to attract students to the physical education lessons held in the classroom in the winter. A few months after its introduction into the school (January 1892), in the Gazette of the College, a number of 13 rules appeared that remain today, mostly making up the basic principles of basketball.

In 1904 - men's basketball, makes an appearance at J.O. from Saint Louis (USA) for demonstration purposes, and in 1936 was introduced in the OJ program in Berlin.

Women's basketball is included in the 1976 Olympic Games in Montreal, Canada.

The dynamics of the game increased, the technique and tactics evolved permanently, recording new values of the game model indicators with the passage of time. Their increased values were also due to the game regulation that has been modified and due to the physical abilities of the players who have evolved

**Hypothesis:** The game parameters model, represent the basketball games trends, on last five edition.

**The main study's method** is bibliographic documentation, completed by active observation.

**Discussions and conclusions** Basketball model content depends on biological, physical fitness and technical abilities.

**Keywords:** basketball game, Olympic Games, model game.

### Introduction

According to Hulteen et al. (2019) "basketball is ranked in the top three team sports for participation in the Americas, Australia, Europe, Southeast Asia, and Western Pacific nations, making it one of the most popular team sports worldwide" [1]. "Technique is one component that

influences the achievement of competence of basketball technique", said Satria et al. (2019). The same authors underline that "technique determines the success of achieving the results of learning basketball, so the game's objectives can be achieved well" [2].

Table 1. The Olympics Games – males /

[https://en.wikipedia.org/wiki/Basketball\\_at\\_the\\_2016\\_Summer\\_Olympics](https://en.wikipedia.org/wiki/Basketball_at_the_2016_Summer_Olympics)

Olympics Game - Edition	1 <sup>st</sup> place	2 <sup>nd</sup> place	3 <sup>rd</sup> place	Best player
2016 Rio de Janeiro	USA	Serbia	Spain	Kevin Durant (USA)
2012 London	USA	Spain	Russia	Patrick Mills (Australian)
2008 Beijing	USA	Spain	Argentina	Paul Gasol (Spain)
2004 Athena	Argentina	Italy	USA	Pau Gasol (Spain)
2000 Sydney	USA	France	Lithuania	Andrew Gaze (Australian)

The men's competition is won once in 4 editions by the USA team. The Argentine team is one of the Olympic champions (2004). Places 2<sup>nd</sup>, and 3<sup>rd</sup> were played between 6 teams. The Spanish team played the final with the USA team in 2 editions - 2008 and 2012 (Table 1).

Table 2. Best player/males - points  
[https://en.wikipedia.org/wiki/Basketball\\_at\\_the\\_2016\\_Summer\\_Olympics](https://en.wikipedia.org/wiki/Basketball_at_the_2016_Summer_Olympics)

1 <sup>st</sup> place Olympic Games - men					
Points	2000	2004	2008	2012	2016
3 PT	54	49	77	129	149
2 PT	216	195	235	200	228
1 PT	270	244	312	329	342

In the men's teams, the points registered outside the semicircle of 6.75, had a constant evolution. The 2-point throws were between 195-2016. In the last 3 editions, the value of free throws (1 PT) exceeded 300 points (Table 2).

Table 3 Game's Model of Champion Olympic Team/males  
[https://en.wikipedia.org/wiki/Basketball\\_at\\_the\\_2016\\_Summer\\_Olympics](https://en.wikipedia.org/wiki/Basketball_at_the_2016_Summer_Olympics)

Edition	Team	GP	PTS	FGM-FGA	FG%	3PM-3PA	3P %	FTM-FTA	FT%
2016	USA	8	837	228-368	68.20	149-312	47.70	142-196	72.40
2012	USA	8	924	200-336	59.50	129-293	44.00	137-191	71.70
2008	USA	8	850	29.4-45.4	64.80	9.6-25.5	37.60	18.6-27.4	67.90
2004	Argentina	8	656	195-338	57.70	49-156	31.40	119-177	67.20
2000	USA	8	760	216-392	55.10	54-128	42.20	166-230	72.20

At the Masculine competition, most points were registered by the USA team, at the 2012 edition (London). The value of the points scored was 924, which represents an efficiency of 71.70%. At the opposite pole was the team from Argentina, which in the 2004 edition (Athen), scored 656 points, which means an efficiency of 67.20% (Table 3).

According to Predescu & Iancu (2011) *models have a strong outlook that give their projections into the future. Achieving these concrete situations requires a strategy, organizational structure and material able to create ambient conditions where the model developed can operate* [3]. The training must be linked with models developed at world international and national level.

Table 4 Champion Olympic Team / Rebounds  
[https://en.wikipedia.org/wiki/Basketball\\_at\\_the\\_2016\\_Summer\\_Olympics](https://en.wikipedia.org/wiki/Basketball_at_the_2016_Summer_Olympics)

Edition	Team	GP	MPG	OFF	ORPG	DEF	DEFG	REB	RPG	RP 40M
2016	USA	8	38.90	124	12.80	246	30.00	362	46.20	44.60
2012	USA	8	39.90	118	14.80	239	29.90	357	44.60	44.80
2008	USA	8	39.90	95	11.90	237	29.60	332	41.50	41.60
2004	Argentina	8	40	70	8.80	176	22	246	30.80	30.80
2000	USA	8	39.90	114	14.2	227	28.40	341	42.60	42.80

Regarding the frequency of recoveries in the attack phase, the USA team had the most successes (124), at the 2016 edition (Rio). The least successes were recorded by the Argentine team, respectively 70 at the 2004 edition (Athena). (Rio) The least successful was recorded by the entire Argentine team, respectively 176, at the 2004 edition, Athena (Table 4).

Table 5 Champion Olympic Team / Personal mistakes  
[/https://en.wikipedia.org/wiki/Basketball\\_at\\_the\\_2016\\_Summer\\_Olympics](https://en.wikipedia.org/wiki/Basketball_at_the_2016_Summer_Olympics)

Edition	Team	GP	MPG	BLK	PF	BLKPG	BLKP40M	BLK/PF
2016	USA	8	39.90	28	188	2.80	2.80	0.40
2012	USA	8	39.90	19	171	2.40	2.40	0.10
2008	USA	8	39.90	31	175	3.90	3.90	0.20
2004	Argentina	8	40	19	190	2.40	2.40	0.10
2000	USA	8	39.90	24	196	3	3	0.10

It seems that the US Olympic team was more aggressive at the 2016 edition (Rio) when it made 188 personal mistakes compared to the 2012 edition (London) in which it committed 171 team mistakes. The Olympic champion team from the 2004 edition (Athena) was the most aggressive of the 5 editions discussed. He committed 190 personal mistakes (Table 5).

Table 6 Model of the men's basketball game at the 2016 Olympics/  
[http://archive.fiba.com/pages/eng/fa/statistics/p/rpp/tid/0/sid/8092/sp/ALL/ss/PPG/srid/12631/\\_/2016\\_Olympic\\_Games\\_Tournament\\_for\\_Men/player-leaders.html](http://archive.fiba.com/pages/eng/fa/statistics/p/rpp/tid/0/sid/8092/sp/ALL/ss/PPG/srid/12631/_/2016_Olympic_Games_Tournament_for_Men/player-leaders.html)

Game parameters	USA	Serbia
PTS	96	66
FT	18/23	10/14
FT %	78.30 %	71.40 %
2 PT	24/46	22/44
2 PT %	52.20 %	50.00 %
3 PT	10/31	4/24
3 PT %	32.30 %	16.70 %
PF	23	23
REB	54	33
AS	24	18

The final game at the 2016 edition was played between the USA and Serbia teams. The final score was 99-66, which put the USA team in the position of Olympic champion. Taking into account the frequency of throws to the basket, we find that the most points, were accumulated at the throws of 2 points (USA 52.2-% and Serbia 50%). The least points were accumulated by the distance throws (USA 32.30% and Serbia 16.70%), according to table 6.

Table 7 Model of the men's basketball game at the 2012 Olympics/  
[http://archive.fiba.com/pages/eng/fa/statistics/p/rpp//tid/237/sid/6232/ss/AS/srid/9105/\\_/2012\\_Olympic\\_Men/teams-leaders.html](http://archive.fiba.com/pages/eng/fa/statistics/p/rpp//tid/237/sid/6232/ss/AS/srid/9105/_/2012_Olympic_Men/teams-leaders.html)).

Game parameters	USA	Serbia
PTS	107	100
FT	24/31	27/32
FT %	77.40 %	84.40 %
2 PT	19/33	26/48
2 PT %	57.60 %	54.20 %
3 PT	15/37	7/19
3 PT %	40.50 %	36.80 %
PF	27	27
REB	37	35
AS	13	22

At the 2012 Olympic final (London), everything was played between USA and Serbia. USA won the game, becoming the Olympic champion, at the score of 107 to 100. The 2-point shots/throws were the ones that dominated the total points accumulated, respectively 57.60% in the USA and 54.20% in Serbia (Table 7).

Comparing the parameters of the men's game in the last 2 editions of the Olympic Games we can say that the number of points scored by the two finalist teams is smaller than the previous edition. This indicates that the defense was more aggressive and efficient. The percentages of throws in the 2016 edition are lower than in the 2012 edition (tables 7).

#### Discussions and conclusions

The percentages of 2-point throws in 2016 are lower than in 2012 and the 3-point average throws in 2016 is higher.

The decisive steps were an indicator that increased from one cycle to another.

The defense improved and the players made fewer personal mistakes.

The percentages of 2 and 3-point throws made at the 2016 edition are higher than at the 2012 edition

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