Differences in service and return in top 8 men and women ranking

Bernardino Javier Sánchez-Alcaraz Martínez, Javier Courel-Ibáñez, Alejandro Sánchez-Pay and Samuel García Cambronero

University of Murcia, Spain

ABSTRACT

Our objective in this paper is to analyse the performance parameters in the serve and return of the top 8 men and women in their respective rankings in 2017. ATP and WTA service and return performance statistics were gathered from the top 8 men and women ranking in 2017. Findings have shown that the top 8 men and women win a higher percentage of points and games with the service than with the return, and they win more points with the first than with the second service. Men´s ranking registered higher values in service parameters, while women ranking showed a better performance in the return. Finally, male players with a higher position in the ranking have a higher percentage of break points saved and points won at service, something which was not so in the women's ranking. The results of this study help in understanding the differences in service and return parameters between male and female tennis

INTRODUCTION

The analysis of competition aims to record and analyse the behaviours and actions of athletes in real match situations (O'Donoghue, Girard, & Reid, 2013). Tennis is the racket sport that has most frequently applied performance or competition analysis (O´Donoghue, & Ingram, 2001), defining a number of variables or performance indicators that contribute to success in competition (Hughes, & Franks, 2004). Among these indicators, service is usually considered as the most critical aspect, and different studies have stated that this is the key stroke to determine the result of a tennis match (Giampolo & Levey, 2013). Along this line, Barnett, Meyer & Pollard (2008) have found that the top 100 players of the male ranking won almost 80% of the games when serving and 22% of the games when returning, regardless of their ranking. Furthermore, points won at the second service and points won at return in the second service are significant predictors of the upper part of the ranking in the professional top 100. However, there are no studies comparing the differences in these variables between male and female tennis, nor their impact on world

ranking. Therefore, the aim of this study is to analyze serve and return performance parameters in top 8 male and female ranking during 2017.

METHOD

Sample

The research sample consisted of a total of 16 players of which 8 were the top ranked male tennis players, (Age: 27,3 ± 4,2 years; Height: 189,6 ± 7,8 cm) and 8 were the top ranked female players (Age: 25,9 ± 4,2 years; Height: 174,4 ± 6,5 cm) of their respective professional tennis tours.

Procedure

ATP and WTA competition statistics were gathered from the top 8 ranked men and women players at the end of 2017. The data were taken from the information published in the ATP official website (www.atpworldtour.com/en/stats) and WTA

(www.wtatennis.com/stats). The variables selected for service performance were: % first service, % points won with 1st service, % points won with 2nd service, % service break points saved, % games won at service and % points won at service. The variables selected for return performance were: % points won at return of 1st service, % points won at return in 2nd service, % break points won, % games won at return and % points won at return.

Data analysis

A comparison was made between the mean in both sexes (male vs. female) using the T-Student test. Then an analysis of the linear regression was made in steps so as to identify the parameters with greater influence on the position in the ranking, both male and female. The significance level was set at $p < .05$. All data were analyzed with the IBM SPSS 20.0 statistic packet for Windows (Armonk, NY: IBM Corp.).

RESULTS

Table 1 shows the results of the comparisons of the mean of the performance parameters in serve and return between the male and female top 8 players. The men registered higher values in service parameters, while the women showed a better performance in return. The percentage of good first services was similar for both sexes.

Variable	Men	Women	Diff.	p
Service performence				
First serve (%)	61.5 ± 3.5	62.1 ± 5.3	0.6	0,790
1nd serve points won (%)	75.9± 2.9*	66.9 ± 2.7	9.0	<0.001
2nd serve points won (%)	54.5 ± 3.5*	47.1 ± 2.1	7.5	<0.001
Saved break points (%)	65.4 ± 3.9*	58.1 ± 2.6	7.3	<0.001
Serve games won(%)	85.3 ± 3.7*	71.6 ± 5.0	13.7	<0.001
Serve points won (%)	67.5 ± 2.7*	59.3 ± 2.2	8.3	<0.001
Return performance				
Returns won in 1st serve (%)	30.7 ± 2.3	39.2 ± 2.2*	8.5	<0.001
Returns won in 2nd serve (%)	51.9 ± 2.2	57.4 ± 2.4*	5.5	<0.001
Break points won (%)	39.9 ± 2.7	46.9 ± 3.4*	7.0	<0.001
Games won at return(%)	25.4 ± 3.9	40.7 ± 4.7*	15.3	<0.001
Points won at return(%)	38.9 ± 2.2	46.0 ± 2.1*	7.1	<0.001

Table 1 Comparison of the mean performance parameters for serve and return of the top 8 men and women players in the professional rankings in 2017. * Significant differences in favour, $p < 0.01$. Values expressed in eana and standard deviation ±.

The results of the linear regression show the saved break point variables and games won at service as the most influential on the final position in the male ranking. Figure 1 shows the greater percentage in these variables determines a higher position in male ranking (blue dots) noting the differences of ~10% between the 8th and the 1st positions. Therefore, a significant influence is noted in male ranking (the higher percentage, the higher the position in the ranking). No differences were identified in female ranking (red dots).
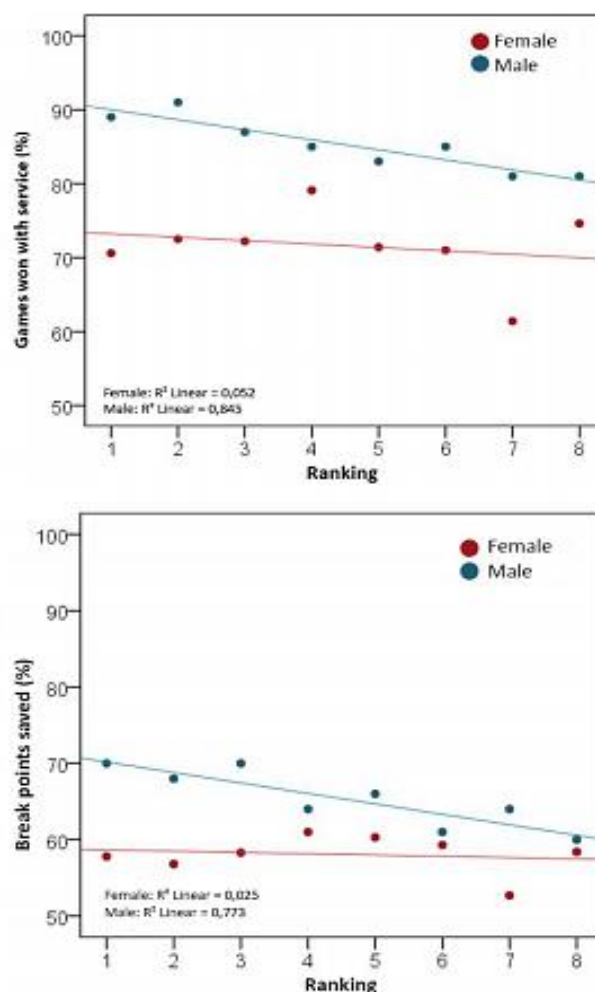

Figure 1. Graph showing the dispersion of the influence of the percentage of points won at service (top) and the saved break points (bottom) on the position in the ranking.

COMMENTS AND CONCLUSIONS

The results of this study indicate that both men and women win a greater percentage of points and games at service than when returning, with the exception of winning more points at return on the second serve than the first serve, in line with Mecheri, Rioult, Mantel, Kauffmann and Benguigui (2016). Therefore, a good percentage of the first serve seems to be key for determining the result of the point in tennis. However, male players get a significantly higher percentage in service

parameters than women, while the latter get significantly higher percentages in return parameters. This result could be due to the higher speed of men´s service (Verlinden et al., 2004).

Notwithstanding, the result of this study shows how better ranked players get better service parameters, following the line of study of Barnett et al. (2008).
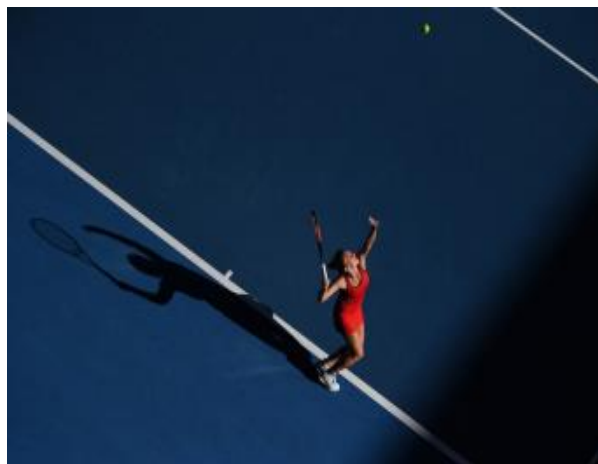
This way, differences of approximately 10% have been found in the percentage of saved break points and games won at service between # 1 and # 8 of the male tennis ranking. However, the service and return variables do not seem to determine the female ranking, perhaps due to a greater equality among players, or a lesser degree of dependence on these variables in the final result of the match.

Therefore, the results of this study show performance parameters in serve and return for the top 8 male and female players, which can act as a reference to coaches and players when planning and designing training sessions. Furthermore, these data seem to demonstrate how the serve is a very influential stroke in men´s tennis, and can determine the need of adopting a service dependant game pattern, while in women´s tennis, players can adapt to different game styles. Finally, some studies have shown how the serve and the return are more determinant on some surfaces than on others (Brown & O'Donoghue, 2008), so, future research could consider the possible differences of these parameters on different playing surfaces.

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