

# ARE TALLER SERVERS TAKING OVER THE GAME?



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**B**ill Tilden is often considered one of the greatest players of all time. Tilden ended his career with 21 Grand Slam titles. In 1925, the 6'2" "Big Bill" Tilden wrote a book titled Match Play and Spin of the Ball. Tilden wrote, "I consider that double-faults...are absolutely inexcusable and actually tennis crimes."

Counter-intuitively, Nick Bolletieri states in his 2001 Tennis Handbook that, advanced tennis players must not be afraid to go for their second serve. Bolletieri says, "True you will miss some [and double fault] by being more aggressive but in time they will start falling in and your serve will get better."

In the 1977 book Tennis for the Future Vic Braden advises: "to hit the serve hard on a straight line, so that it clears the net by one to six inches and lands one inch inside your opponent's service line the center of your racquet must be ten feet in the air. But you must be 6'6" or 6'7" tall to reach this height."

In 2013 research in Sports Biomechanics by Vaverka & Cernosek studied men and women in all 2008 Grand Slam matches. Statistically

significant correlations between body height and serve speed were found in the categories of maximum serve speed in a match, average 1st serve speed in a match and average 2nd serve speed in a match.

Data from Tennis Abstract (<http://www.tennisabstract.com/cgi-bin/leaders.cgi>) are taken from the pro men's and women's tour. The data show taller players have a better chance to serve the ball "hard" and in. In the 2011 US Open 6'10" John Isner had the highest average 1st and 2nd serve speed. As of October 2018 Isner, is the #1 rated server in the world on ATP World Tour. Additionally, it appears that this advantage may carry over to an advantage in achieving higher rankings. At the time of this article there are 5 players 6'6" or taller in the top ten ranked ATP players.

The current serving statistics (table 1) for the past year are available for the top 100 rated servers on the WTA tour and the top 95 servers on the ATP tour. Since it is known that a higher impact

point when serving gives the player a larger area through which the ball can hit and land in the service box, it can be hypothesized the taller players will be more successful in the categories of serving used to rate professional servers. Since serving is "arguably the most important facet of the game" according to Bruce Elliott PhD. It can be hypothesized that body height should be positively correlated with player rankings.

An evaluation of WTA and ATP statistics in the categories of; serve rank, percentage of 1st serves made, percentage of 1st serve points won, percentage 2nd serve points won, average aces per match, average double faults per match, and percentage of service games won, was done to ascertain whether there is a relationship between a player's height and serve ranking success and whether any of these specific variables are correlated with WTA and ATP ranking success. (See table)

CORRELATIONS FOR THE BEST PROFESSIONAL SERVERS		WOMEN	MEN
1	HEIGHT OF PLAYER TO SERVE RANK	N	Y**
2	HEIGHT OF PLAYER TO % OF 2ND SERVE POINTS WON	N	N
3	HEIGHT OF PLAYER TO % OF SERVICE GAMES WON	N	Y**
4	HEIGHT OF PLAYER TO % OF 1ST SERVES MADE	Y*	N
5	HEIGHT OF PLAYER TO % OF 1ST SERVE POINTS WON	Y**	Y**
6	HEIGHT OF PLAYER TO DOUBLE FAULTS PER MATCH	Y	N
7	HEIGHT OF PLAYER TO AVG ACES PER MATCH	Y**	Y**
8	HEIGHT OF PLAYER TO PRO RANKING	Y	N
9	% OF SERVICE GAMES WON TO PRO RANKING	Y**	Y**
10	AVG # OF DOUBLE FAULTS PER MATCH TO PRO RANK	N	N
11	% OF 1ST SERVICE POINT WON TO PRO RANK	N	N
12	% OF 2ND SERVE POINTS WON TO PRO RANK	Y**	Y**
13	AVG # OF ACES PER MATCH TO PRO RANK	Y**	N
14	% OF 1ST SERVES MADE TO PRO RANK	Y**	N
15	% OF 1ST SERVES MADE TO % OF SERVICE GAMES WON	N	Y**

The height of top male players is correlated with serve rank, aces per match, percent of 1st serve and percent of service games won, but not to ATP ranking.

The heights of female players are not correlated with serve rank or percentage of service games won but are correlated with aces per match and WTA ranking. Interestingly, there is a correlation between taller WTA players and a higher average double fault rate per match.

The height categories that are the same for both men and women are that percentage of 2nd serve points won do not correlate to height. The height of the player correlates to percentage of 1st serve points won. The height of the player also correlates to average number of aces per match.

Of the performance factors listed above, only two categories correlate to tour rankings for both men and women. First, and obviously, the percentage of service games won is correlated to tour ranking success.

Coaches typically advocate getting your 1st serve in a high percentage of the time, but 1st serve percentage, does not correlate to ATP tour rankings. In fact, for all-time career 1st serve percentage, Federer is ranked #192, Nadal #27 and Djokovic's is # 78 at the time of writing this article. None of the players in the top 25 all-time 1st serve percentage leaders have ever reached #1 on the ATP tour.

As coaches, we also typically frown upon double faults. But, on both men's and women's tours, double faults did not correlate to pro ranking. The average # of double faults per match for the top serving men and women is 3.22 and 3.76 respectively. Therefore, double faulting is not a crime if your average is less than four.

The only other serve category that does correlate to ranking success



Photo Credit: ATP World Tour

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on both tours is percentage of 2nd serve points won. Remarkably, we saw that on both tours the height of the server did not show an advantage on percentage of second serve points won. However, if we look at the career all-time leaders of percentage of second serve points won, we find six out of the top ten players have reached the world #1 ranking and Nadal and Federer are ranked #1 and #2 with Djokovic #5. No other serve category has this many world #1 ranked players. The average height of the six players who reached the #1 ranking is 6'0.8" Nadal, Djokovic and Federer are listed at 6'1"-6'2". The average height of the top 95 ATP servers is 6'1.5".

It must be noted that returning serve is a huge factor in ranking level. We are not addressing the subject because a player is not in complete control of his or her returning success. Also, other skills are relevant once the serve is returned. These skills must

also be well used to win a service point.

Males aspiring to achieve high rankings should strive to win 51.24% or better. Females aspiring to make the top 100 servers should strive to win better than 45.6% of their second service points. Ashleigh Barty at 5'5" had the highest percentage of 2nd serve points won in the top 100 on the WTA tour at 51.6 %.

Based on this study Big Bill Tilden might like to reword his characterization of double faults. Also, Bolletieri is correct in encouraging players to go for aggressive second serves. ATP and WTA tour rankings correlate to percentage of 2nd serve points won and the height of the player does not correlate to percentage of 2nd serve points won. At the time of the study the adage "You are only as good as your second serve" is still viable with some modification. You are only as good as the percentage of second serve points won. ✨

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