

# Who are the best tennis players?

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**Abstract:** The greatest players of all time are analysed in this article by using grand slam victories as a measure of performance. The greatest players are also subdivided into court surface. This information could be used in determining naming rights of tennis arenas.

**Keywords:** best tennis players, French Open, Wimbledon

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## 1. Introduction

The Rod Laver and Margaret Court arenas at the Melbourne Park tennis centre are named after two great Australian players. Does this imply that these two are the greatest Australian male and female players of all-time? And how do these players compare with the best of all-time throughout the world? Furthermore, if Roger Federer and Rod Laver competed in the same era, who would be the better player?

A number of criteria can be used to determine a great player such as the number of matches won, tournaments won, grand slam matches won, grand slam tournaments won or the percentage of matches won could be used as criteria to determine a great player. Player ratings and rankings also provide a way of measuring performance. The ATP Rankings, as defined by the Association of Tennis Professionals (ATP) in 1972, are the objective merit-based method used for determining qualification for entry and seeding in ATP tournaments for both singles and doubles. A player's ATP Ranking is based on total points obtained in finishing positions in ATP tournaments and remains in the system for 52 consecutive weeks. A similar system is used for the Women's Tennis Association (WTA) which was formed in 1973. Bedford and Clarke (2000) use an exponential smoothing method based on margin of victory in terms of sets and games won for rating players. The results suggest the exponential method performs as well as the more complicated ATP rating method for both match prediction and tournament seeding.

According to Wikipedia the four grand slam tennis tournaments are the most important tennis events of the year in terms of world ranking points, tradition, prize-money awarded, and public attention. The open era of tennis began in 1968 when the grand slam tournaments agreed to allow professional players to compete. Wimbledon, the first of the grand slams, began in 1877, followed by the US Open (1881), the French Open (1891), and the Australian Open (1905). Beginning in 1905 and continuing to the present day, all four grand slams have been played yearly, with the exception of the 1st and 2nd world wars, 1986 for the Australian Open (due to changing dates) and 2020 Wimbledon (due to COVID19).

This paper will investigate the best male and female singles and doubles players by using the criteria of the number of grand slam tournament wins. The different court surfaces currently used at the French Open and Wimbledon will also be considered in the analysis.

## 2. Analysis

### 2.1 Singles matches

Tables 1 and 2 represent the leading singles grand slam winners for men and women respectively. Roger Federer and Rafael Nadal lead the men's grand slam winners and Margaret Court the women's. Interestingly, the Australian player Roy Emerson won more grand slams than Laver. This could imply that Emerson was a better player than Laver? Winning all four grand slams in the one year (a "grand slam") has been achieved by only four female players and two male players. Laver is the only player in history to win two "grand slams". Many people argue that this feat makes Laver the best male player of all-time, even though Roy Emerson, Pete Sampras, Rafael Nadal, Roger Federer and Novak Djokovic hold more grand slam tournament wins overall.

An understanding of the history of tennis is required when interpreting data across different eras. Before the open era in 1968, professional players were unable to compete in grand slam events. Laver started competing in grand slam events on the senior amateur tour in 1956, before turning professional in 1963. Laver returned to competing in grand slam events in 1968 until retirement in 1977. Laver won his first grand slam singles title in 1960, and from 1970 Laver cut back his tournament schedule, due to contract arrangements, and partly due to back and knee injuries.

*The question of interest is how many grand slam events would Laver have won in the five years of turning professional between 1963 and 1968?*

Laver was at the peak of his game from his first grand slam in 1960, followed by 1961 and 1962, and then returning to grand slam tennis as a professional in 1969 and 1970 – for a total of five years. These five years equate to an average of  $11/5 = 2.2$  grand slam wins per year. Assuming Laver would have won  $5 * 2.2 = 11$  grand slam events in the five years of turning professional before the open era; Laver would have won a total of  $11 + 11 = 22$  grand slams events. Therefore, it could be argued that Laver was a better singles player than Emerson and that Federer and Nadal would need to win at least two more grand slams to be as good as or better than Laver in singles. There is another renowned and greatly respected Australian player, whose achievements are overlooked by tennis statistics, namely, Ken Rosewall. Ken won his first grand slam event in Australia in 1953, and having denied Lew Hoad calendar Grand Slam in 1956 by beating him in 4 sets in US Open final in 1956, he turned pro in the following year and returned to grand slam competitions in 1968. Last time he won a grand slam event, was Australian Open, 1972, after which he lost to J. Connors two finals in 1974, being by then 39 years of age. In the span of 8 years of grand slam competitions Rosewall won 8 singles (and 10 double events), 1 single even per year, which makes the hypothetical total of 20, for 20 years of his potential grand slam winning career (1953- 1972), putting him on par with Roger Federer and Rafael Nadal. One should also consider 111 head-to-head career matches of Rosewall vs Laver, where Rosewall holds 64-49 advantage. So, arguably, if we decide to award the hypothetical top spot to Laver, Rosewall should be, at least, equal next alongside Federer and Nadal.

On the women's side of the ledger the competition is a little closer. Serena Williams has won a total of 23 grand slam tournaments, only one behind Margaret Court's record of 24 grand slam tournaments. Steffi Graf is the only player to have obtained a "golden grand slam" by winning all four grand slams and an Olympics Games gold medal in the one year. Her dominance as a player in the late '80s and the '90s still couldn't match Margaret Court's grand slam record. Should Margaret Court be recognised as the greatest female tennis player, similar to the recognition given to Sir Donald Bradman in cricket?

Men grand slam winners	
Number of wins	Player
20	Roger Federer
20	Rafael Nadal
17	Novak Djokovic
14	Pete Sampras
12	Roy Emerson
11	Rod Laver
11	Bjorn Borg
10	Bill Tilden
8	Ken Rosewall
8	Jimmy Connors
8	Ivan Lendl
8	Fred Perry
8	Andre Agassi

Table 1: Leading singles grand slam winners for men

Women grand slam winners	
Number of wins	Player
24	Margaret Court
23	Serena Williams
22	Steffi Graf
19	Helen Wills Moody
18	Martina Navratilova
18	Chris Evert
12	Billie Jean King
9	Monica Seles
9	Maureen Connolly
8	Suzanne Lenglen
8	Molla Bjurstedt

Table 2: Leading singles grand slam winners for women

All four grand slam events have been played on a grass surface. Wimbledon is the only grand slam event played on a grass court today and has always been played on a grass court

surface. The French Open began in 1891 on a grass surface and remained on grass until 1928 when the surface was changed to clay. The US Open began in 1881 on a grass surface; until it was changed to clay from 1975-1977 and from 1978 has been played on a hard court surface. Finally, the Australian Open began in 1905 on a grass surface and remained on grass until 1988 when the surface was changed to a hard court. Players that perform well on grass usually don't perform well on clay and vice versa (Pollard and Barnett, 2010). Sampras was unable to win a French Open title which is played on clay and Federer only recently – in 2009 – won a French Open title. Federer has dominated on the grass courts at Wimbledon. To compare the greatness of players on grass and clay, grand slam titles at Wimbledon and at the French Open are used. Tables 3 to 6 give the results. Rafael Nadal leads the men's French Open titles, and Chris Evert leads the women's French Open titles. Federer leads the men's Wimbledon titles, and Martina Navratilova leads the women's Wimbledon titles.

Men French Open winners	
Number of wins	Player
13	Rafael Nadal
6	Bjorn Borg
4	Henri Cochet
3	Yvon Petra
3	Rene Lacoste
3	Mats Wilander
3	Ivan Lendl
3	Gustavo Kuerten

Table 3: Leading French Open singles winners for men

Women French Open winners	
Number of wins	Player
7	Chris Evert
6	Steffi Graf
5	Margaret Court
4	Helen Wills Moody
4	Justine Henin-Hardenne
3	Monica Seles
3	Hilde Sperling
3	Serena Williams

Table 4: Leading French Open singles winners for women

Men Wimbledon winners	
Number of wins	Player
8	Roger Federer
7	William Renshaw
7	Pete Sampras
5	Novak Djokovic
5	Laurie Doherty
5	Bjorn Borg
4	Rod Laver
4	Reggie Doherty
4	Anthony Wilding

Table 5: Leading Wimbledon singles winners for men

Women Wimbledon winners	
Number of wins	Player
9	Martina Navratilova
8	Helen Wills Moody
7	Serena Williams
7	Steffi Graf
6	Suzanne Lenglen
6	Blanche Bingley Hillyard
6	Billie Jean King
5	Venus Williams

Table 6: Leading Wimbledon singles winners for women

## 2.2 Doubles matches

The US Open was the first of the grand slam men's doubles which began in 1881, followed by Wimbledon (1884), the Australian Open (1905), and the French Open (1925). The US Open was the first of the grand slam women's doubles which began in 1889, followed by Wimbledon (1913), the Australian Open (1922), and the French Open (1925).

Tables 7 and 8 represents the leading grand slam doubles winners for men and women respectively. Mike Bryan has won the most grand slam men's doubles titles with a total of 18, followed by John Newcombe with 17. Martina Navratilova has won the most grand slam women's doubles titles with a total of 31. When combining both singles and doubles grand slam titles, Roy Emerson and Martina Navratilova have won the most with 28 and 49 titles respectively. One of the problems with observing doubles titles is that great singles players nowadays tend not to play in grand slam doubles events, to conserve energy for the main singles draw.

Men grand slam doubles winners	
Number of wins	Player
18	Mike Bryan
17	John Newcombe
16	Roy Emerson
16	Todd Woodbridge
16	Bob Bryan
14	Adrian Quist
13	John Bromwich
13	Tony Roche
12	Mark Woodforde
11	Neale Fraser

Table 7: Leading grand slam doubles winners for men

Women grand slam doubles winners	
Number of wins	Player
31	Martina Navratilova
21	Louise Brough Clapp
21	Margaret Osborne duPont
21	Pam Shriver
19	Margaret Court
19	Elizabeth Ryan
18	Natasha Zvereva
17	Gigi Fernandez
16	Billie Jean King

Table 8: Leading grand slam doubles winners for women

### 2.3 Mixed Doubles

Mixed doubles is played the same as doubles, but with one man and one woman per team. This form of tennis is rare in the professional game because the men's and women's tours are organised separately (by the ATP and WTA, respectively). However, all four Grand Slam tournaments hold a mixed doubles competition, alongside the men's and women's doubles, featuring many of the same players. The Hopman Cup also includes mixed doubles matches which originated in 1989. Additionally, there have been mixed doubles events at the Summer Olympics on various occasions (In 1900, from 1912 until 1920 and again since 2012).

Mixed doubles originated at the US Open in 1887, at Wimbledon in 1913, at the Australian Open in 1922 and at the French Open in 1925. For the same reason given for doubles matches, great singles players nowadays tend not to play in grand slam doubles events let alone grand slam mixed doubles events, to conserve energy for the main singles draw.

Table 9 represents the leading mixed doubles grand slam players where Margaret Court has won the most with 21.

Leading mixed grand slam winners	
Number of wins	Player
21	Margaret Court
15	Doris Hart
11	Owen Davidson
11	Billie Jean King
10	Margaret Osborne duPont
10	Ken Fletcher
10	Martina Navratilova
10	Leander Paes
9	Elizabeth Ryan

Table 9: Leading grand slam mixed doubles winners

### 3. Results

Tables 10 and 11 summarise the above analysis to give an indication to the greatest tennis players. It is interesting to note that Australian tennis players currently hold the most number of female singles grand slam wins (Margaret Court with 24), the most number of male combined doubles and singles grand slam wins (Roy Emerson with 28), the most

number of combined singles, doubles and mixed doubles by a male (Roy Emerson with 28) and the most number of combined singles, doubles and mixed doubles by a female (Margaret Court with 64).

Most number of grand slam wins of all-time	Player
Men's singles	Roger Federer and Rafael Nadal
Women's singles	Margaret Court
Men's singles at Wimbledon	Roger Federer
Women's singles at Wimbledon	Martina Navratilova
Men's singles at the French Open	Rafael Nadal
Women's singles at the French Open	Chris Evert
Men's doubles	John Newcombe
Women's doubles	Martina Navratilova
Men's combined singles and doubles	Roy Emerson
Women's combined singles and doubles	Martina Navratilova
Men's combined singles, doubles and mixed doubles	Roy Emerson
Women's combined singles, doubles and mixed doubles	Margaret Court

Table 10: Summary of leading grand slam winners of all-time

Most number of grand slam wins by an Australian	Player
Men's singles	Roy Emerson
Women's singles	Margaret Court
Men's doubles	John Newcombe
Women's doubles	Margaret Court
Men's combined singles and doubles	Roy Emerson
Women's combined singles and doubles	Margaret Court
Men's combined singles, doubles and mixed doubles	Roy Emerson
Women's combined singles, doubles and mixed doubles	Margaret Court

Table 11: Summary of leading grand slam winners by an Australian

## Conclusions

This paper has identified great male and female singles, doubles and mixed doubles tennis players, using the criteria of the number of grand slam tournament wins. The different court surfaces currently used at the French Open and Wimbledon was also considered in the analysis. The results indicate that Rod Laver and Margaret Court are currently the best male and female singles players respectively and deservingly have arenas named after them at Melbourne Park. As of July 2008 the original Vodafone arena changed names to be called the Hisense arena for a six-year naming rights deal with Melbourne Park. If this arena is named after a player in the future, Roy Emerson and John Newcombe should be major contenders based on their grand slam tournament wins. It is interesting that Martina Navratilova has won the most number of combined singles and doubles titles with 49, (compared to Margaret Court with 43), but Margaret Court has won the most number of combined singles, doubles and mixed doubles titles with 64 (compared to Navratilova with 59). Therefore, it could be argued that Margaret Court is the best tennis player of all time.

Note that Nadal is currently the age of 34 and Djokovic is currently the age of 33. Whereas Federer is the age of 39. There is a good chance that either Nadal (with 19 slams) and Djokovic (with 17 slams) could overtake Federer (with 20 slams) in total slams by the end of their career, and become the best male singles tennis player of all time (if they were to reach 22 grand slams). Also, at the time of his retirement at the age of 32 in 2003, many regarded Sampras as the greatest male singles player of all time winning 14 grand slams and overtaking the previous record of 12 grand slams set by Roy Emerson in 1967. Sampras averaged  $14/13=1.08$  slams over 13 years. Assuming Sampras could have played to the age of 38 then based on his averaged performance from winning his first grand slam in 1990 to his last grand slam in 2002 at age 31, Sampras could have potentially won  $7*1.08 + 14 = 21-22$  slams. Of course, Sampras played best on grass winning 7 Wimbledon titles and would have been competing against Federer who also plays best on grass and currently holds the record of 8 Wimbledon titles. In fact, the only time Sampras played Federer was in the fourth round of the 2001 Wimbledon Championships where Federer defeated Sampras in 5 sets. Federer won his first grand slam at Wimbledon in 2003 and assuming Sampras could have played to the age of 38, Sampras would have been competing against Federer until 2009. Also, Djokovic won his first grand slam title at the Australian Open in 2008 and Nadal won his first Wimbledon title in 2008. Although the competition from Federer, Djokovic and Nadal may have prevented Sampras from possibly winning an estimated 21-22 slams (based on his averaged performance from the years 1990-2002 and assuming he would have kept playing to the age of 38), there is some evidence to suggest that he would have won more than 14 grand slams.

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