Trends in Singles Play Intensity on the ATP Tour

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Has Tennis Become Too Demanding?

John Isner and Nicholas Mahut, Wimbledon 2010
Study Objective

Was the Isner-Mahut 11hr and 5-minute marathon at the 2010 Wimbledon an anomaly or a sign that match play has gotten increasingly arduous over time?

This study sought to shed light on this question by analyzing trends in matches played and match duration over 20 years of the ATP Tour.
### ATP Dataset

<table>
<thead>
<tr>
<th>Years</th>
<th>1991-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tournaments</td>
<td>All 250 Level and Higher*</td>
</tr>
<tr>
<td>Play</td>
<td>Singles Only</td>
</tr>
<tr>
<td>Players</td>
<td>End-of-Year Top 100</td>
</tr>
<tr>
<td>Total Players</td>
<td>482</td>
</tr>
<tr>
<td>Total Matches</td>
<td>100,460 (Qualifying+)</td>
</tr>
<tr>
<td>Source</td>
<td><a href="http://www.atpworldtour.com">www.atpworldtour.com</a></td>
</tr>
</tbody>
</table>

* Excluding Davis Cup and the Olympics
500 Series and Above: Tournaments & Surfaces

Total Tournaments
Grass
Carpet
Hard
Clay

Champ Series
Super 9
Tennis Masters Series
ATP 1000
500 Series and Above: Tournaments & Surfaces

• Tournaments in the 500 series and higher declined by 2 between 2003-2008, returning to the number 24 of the mid-1990s with the introduction of the Masters 1000s in 2009.

• Over the first 20 years of the ATP Tour, carpet has been displaced by the hard court surface, which now makes up 70% of the most prestigious tournaments on the Tour.

• Grass has consistently been the least-played surface, with just 1 tournament above the 250 level.
Q. Are ATP players playing more matches today than 20 years ago?
Total ATP Matches Per Year

![Graph showing the total ATP matches per year from 1991 to 2012. The x-axis represents the tour year, and the y-axis represents the total matches (median). The graph shows a general trend with slight fluctuations.]
Total ATP Matches Per Year

- More matches were played per season in the mid-1990s than any later time in Tour history.

- The mean number of matches reached a low of 42 in 2004, a difference of 8 from the high of 50 in 1993.

- The number of matches played has been rising steeply since the mid-2000s.
Total ATP Matches Per Year By Surface

- Play on carpet surface made up 20% of Tour play in the early 1990s but has now been entirely displaced.

- As play on clay has declined, hard court play has steadily increased, sharply since the mid-2000s.

- The proportion of play on grass has remained relatively constant.

- Today’s ATP top 100 player will play an average of 27 matches on hard, 13 on clay, and 5 on grass court surfaces.
Q. Are players investing more in the top-tier tournaments today than in the past?
Increasing Concentration on 500-Level and Above
Q. How has the number of points per match changed over Tour history?
Total Points Per Match

Graph showing the change in total points per match across different years from 1991 to 2012. The graph indicates a peak around 1997, followed by a gradual decrease until 2012.
Total Points Per Match

- A 6-point decline in the average points per match is due to changes on grass and hard court.

- Matches on grass continue to take the most points to play. In 2012, the average grass court match took 30 more points than hard or clay court matches.

- The points per match for clay and hard court matches have been historically close, but clay court matches have exceeded hard court in recent years.
Q. Has the intensity of rallies on the ATP increased over time?
Play Intensity By Surface

![Graph showing play intensity by surface over time.](image-url)
Play Intensity

• After a dip in the intensity of play in the mid-1990s, the length of rallies has been on rise.

• In 2012, the average length of points was 42 seconds overall (including play and time between points) → the longest duration in ATP Tour history.

• The most dramatic rise in point lengths has occurred for grass court play.

• Although the average intensity of rallies has always been greatest on the clay surface, hard court rallies approached clay court lengths in 2012.
Q. What are the implications of trends in points played and intensity for match duration?

Rafael Nadal and Novak Djokovic
Duration = Intensity × Total Points
Match Duration

- Match lengths have followed a V-shaped pattern, with the period of shortest match lengths occurring in the mid-1990s, following the pattern of play intensity.

- The V-shaped trend was observed for grass, clay and hard court surfaces.

- The increase in match duration over time shows that the rise in play intensity has outstepped the general decrease in points played per match.

- In 2012, matches on the Tour were an average of nearly 110 minutes → an all-Tour high.
Q. How have changes to the schedule and duration of play affected overall time on court?
Days on Court Overall

Time On Court (Days)

Tour Year
Days on Court by Surface

![Graph showing time on court (days) by tour year for different surfaces: Grass, Carpet, Hard, and Clay.](image-url)
Days on Court

• Since the late 1990s, time on court has increased by nearly half a day on average → returning to the high of 3.5 days observed when the Tour was established.

• Over the past decade, the amount of matchplay spent on hard court surfaces has continued to rise and now represents an average of more than 2 total days of match time.
Q. Is there a winner’s curse in tennis?
Days On Court By Rank

Top 30

31-60

61-100

Tour Year

Time On Court (Days)

Grass
Carpet
Hard
Clay
Summary

- The ATP Tour has been characterized by dramatic changes in surface and playing strategy over its brief history.

- Since the early 2000s, Tour play has gotten increasingly demanding as player’s have shifted from serve-and-volley to grinding out wins from the baseline.

- Without changes to the Tour schedule or surface speeds, the ATP season is on track to become more onerous on players (especially top players) with each Tour year.
Please send further questions to me at
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