



# Designing a sustainable structure for tennis competitions at the national and regional level

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## ABSTRACT

Tennis is a sport with many players and followers, as it has many positive effects on the health, well-being, and social inclusion of participants. In the last ten years, tennis has undergone major changes in terms of organization, promotion, and marketing. Tennis is the most popular racquet sport worldwide, but in some countries, there is a clear trend towards growing interest in padel and pickleball. All this brings many challenges and opportunities for global tennis organizations, regional and national federations, and individuals (e.g., club managers, coaches, parents, and players). The aim of this article is to present some ideas on how tennis can be made more sustainable to create a more player-friendly development experience and ensure that more tennis players play and stay in the sport for longer.

**Key words:** tournaments, tennis players development, competition formats.

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## INTRODUCTION

According to the latest figures, tennis has more than 87 million players worldwide (International Tennis, 2021). It is one of the sports that can be practiced by both young and old as a recreational or competitive sport, and it has been shown to have many positive effects on the health of veteran tennis players (Pluim et al., 2007). Apart from the Grand Slam tournaments and the ATP Masters 1000 tournaments, interest in tennis tournaments or individual matches depends on the players' previous performances and rankings (Chmait et al., 2021). This difference in interest was evident in the situation experienced by the Polish player Hubert Hurkacz, seeded eighth, after his victory in the first round of the ATP tournament in Monte Carlo. He did not receive a single question in English or Polish at the press conference (BBC, 2021). This is just one of many examples of how the media is only interested in the extremely successful world stars of tennis and how other tennis players play only a minor role in the sport, both in terms of the media and financially.

The team competitions, including the oldest, the men's Davis Cup and the women's Billie Jean King Cup, are also undergoing changes in terms of organization, competition formats, marketing, and advertising. At the same time, tennis has the world's most ramified competition system, which has been at an obvious crossroads over the last decade. The world tennis organizations (ITF, ATP, WTA, and the Grand Slams) are looking for new formats that will attract the best players and spectators to the stadiums and various platforms (Futterman, 2023).

World tennis organizations as well as the most famous tennis players are active in searching ways to increase the fans interest in professional tennis. The Covid-19 pandemic has presented tennis with new challenges that require different solutions



(Crespo & Jabaloyes, 2021). Some players have also expressed their views: Roger Federer suggested combining women's and men's tournaments more often (Rossingh, 2020), and Novak Djokovic went one step further and founded a new tennis players' union (PTPA, 2024). New organizations such as the Universal Tennis Rating (UTR) with its ranking and competition system, promotions and new business model are also present on the tennis ecosystem (UTR, 2024). On the other hand, padel and pickleball have more and more followers, some of them used to play tennis, and some tennis coaches are also teaching these two variations or have already switched to teaching padel or pickleball (The Economist, 2023).

## THE STATE OF COMPETITIVE TENNIS TODAY

These challenges exist not only at a global level but also at the local levels of tennis: the national tennis associations, the tennis clubs, the coaches and the juniors, the entry professionals and their parents.

The first challenge of competitive tennis or long-term player development is sustainability. This can best be illustrated with a catchphrase that the sports sociologist and expert on alpine skiing Prof. Dr. Kresimir Petrovic knows, namely that there are many chosen ones in top-class sports, but only a few called. In tennis, 6,000 adult male and 4,600 female players took part in 1,135 tournaments in 73 countries on the ITF World Tennis Tour over the year 2023. The figures are even higher for juniors; 9,700 male and 8,100 female tennis players striving for success played in 922 tournaments in 131 countries (McLean, 2023). The number of juniors, entry-level professionals, and professionals who play tennis is high compared to other racquet sports and even compared to high-performance table tennis. Of course, many tennis players have a wide variety of options if they do not meet the extremely high requirements of professional tennis and are not among the 100 or 50 best players in the world. Many juniors choose to study in the USA, where they can play in the NCAA system and complete their study with a scholarship (Gonzalo, 2013). On the one hand, this is a good option for tennis players (i.e., education for life, less mental pressure in terms of tennis competition goals, creating a global network of contacts, etc.), on the other hand, it is a challenge for those organisations who support athletes on their path in the long term, especially national tennis federations and clubs. For instance, Freer (2024) concluded that the relationships between college tennis attendance and professional tennis success are complex.

Financing the development of young tennis players is another important issue. Only a small number of young tennis players are supported by some national federations, mostly Grand Slam tournament-hosting nations and some of the best-resourced countries. It is precisely these countries that have the know-how, and permanent financial, material, and human resources to support a player who can make it into the world's top tennis players (Varmus et al., 2022). For the vast majority of young tennis players, financing the annual training and competition program is a major challenge that is solved by funding from the family budget, tennis academies, clubs and associations, sponsors and equipment suppliers as well as management agencies (Cakravastia et al., 2023).

The third and very important aspect in the development of tennis players is the competition system. This also has a direct influence on the first two. The current system requires a strong commitment, both financially and in terms of dedication. In many cases, the competition system requires young tennis players to take part in 20 or more competitions per year from the age of sixteen. As a result, they must be on the on the tour for six months, which in turn means huge financial costs, an inability to train regularly, and challenges their social integration (Luna et al., 2023). The conditions for progress are already very tough in the youth categories and are more challenging at the entry-professional level in the Futures and Challenger tournaments. According to data by Reid and Morris (2011), even the most successful young men and women take on average 4,5 years to break into the top 100 of the ATP ranking list.

The British Lawn Tennis Association estimates the cost of training a player between the ages of 5 and 18 at around 385,000 dollars. The U.S. Tennis Association estimated in 2010 that the average annual cost for a "highly competitive" professional tennis player is \$143,000, including \$70,000 for coaching and \$60,000 for travel. Only the top 164 ranked players on the men's tour would break even at that cost (Bloomberg, 2015).

What measures can be taken to create a more sustainable development of youth tennis from junior to professional levels that is less stressful for tennis players, coaches, and parents on the one hand and the environment on the other? Some ideas that national tennis associations can use to develop concrete measures to achieve the above goal are suggested below.

### 1. The transition from ranking to rating must be accompanied by a change in the competition system

The way athletic performance is evaluated in tennis is an extremely important area within the competitive system. In general, there are two ways to evaluate performance in tennis: 1) the ranking list, which is based on the tournament results (elimination round) achieved in a particular tournament; 2) a rating system, which is based on algorithms that are determined by the competition, the opponent and the result. The most used worldwide are the ITF World Tennis Number (WTN) and the Universal Tennis Rating (UTR).

The ITF WTN algorithm calculates the number of players every week and enables the comparison of all players in the world, regardless of whether they are competitive or recreational players. Beginners start at 40, professional players are close to 1. Most countries that are members of the ITF have adopted this way of scoring results in tennis (WTN, 2024).

The UTR rating measures tennis players' skills on a common scale regardless of gender, age or geographical location. UTR calculates match rating based on, 1) prediction of differences between players and number of games won in a match; 2) tournament format, competitiveness, reliability, and time of the match (UTR, 2024).

A study by Mayew and Mayew (2023) examined the classification accuracy of the two ratings. It concludes that WTN and UTR ratings are equivalent measures of playing ability due to their ability to predict match outcomes. These results provide preliminary empirical evidence that is important for tennis organizations making rating implementation decisions, tennis coaches seeking to play parity, tournament directors seeding players, and college coaches selecting potential recruits.

However, it is also necessary to adapt these changes to the competition system. This means that the number of participants in junior competitions in all age groups, for both genders, and at all competition levels (national, regional, world) must be adjusted so that each tennis player plays at least one match per day. This means that "instead of the "knock-out" system, in which half of the players in the singles are eliminated after the first day, a "Round Robin" system or a combination of both systems should be introduced. For example, if the competition lasted 5 days, then on the first day we would draw the possible opponents from a drum according to current playing strength, on the next day it would be drum two, on the third day three, and so on. On the fifth day, the players with 4, 3, 2, 1, or no wins would compete against each other in the same group. This would also increase the likelihood of the games being more competitive. Research has shown that non-competitive matches that end with a score of 6:1 6:1 or similar do not benefit the winner or the loser (UTR, 2024).

An important difference in using a rating system instead of a ranking list is the basic motivation, which currently exists mainly at the entry level of professionals and juniors. When tennis coaches and players plan and select tournaments according to their position on the ranking list, they choose the tournaments where they have a better chance of being placed in the draw and thus of competitive success. A review of the ITF World Tennis Tour Tournament Information, which the ITF produces each year to assist tennis players, shows large differences in playing strength (average of the top eight players on direct acceptance) and cut-offs for the main draw and qualifying tournaments between tournaments of the same level in different countries. For this reason, tennis players often travel to less developed tennis regions or countries because it is easier to collect points there.

The rating system would encourage tennis coaches and players to pay attention to highly competitive tournaments. Players who compete against good tennis players can progress faster and improve their rating (Torres-Luque et al., 2011). The criteria for choosing a tournament would be the appropriate level and the distance to the (nearest) venue. In this way, more tennis players would participate in higher level competitions in their own country or region, and only the best tennis players would travel and participate in strong tournaments in faraway countries. This would certainly also reduce travel costs for young tennis players. One of the advantages of the rating system is also the motivational aspect, which makes tennis players realize that every point, every game and every set is important, as the result of a single match has a big impact on the rating.

In addition to a larger number of matches, the rating system would have many advantages: easier planning (status information could be known several weeks before the tournament), easier travel planning (precisely defined arrival and departure times), easier organization of competitions (daily number of games known in advance). In the case of a minor non-participation, the vacant places in the draw may be filled by tennis players from the city or region in which the tournament is taking place who have the appropriate ranking, rating or level of play. Finally, we must not forget the psychological aspect, which is particularly important for young athletes, as the pressure would be reduced by a greater number of guaranteed matches. Coaches could indicate in their annual plans the expected number of matches in each training period.

Tennis competitions could last between 2 and 7 days, depending on the organizer's conditions, the level of competition, and the number and age of potential tennis players. Such competitions could be combined with "Round-Robin" and the "knock-out" system and would always determine the tournament winner in the end

## 2. Introduction of the age category up to 21 years

Since the professionalization of tennis 50 years ago, 16 women and only 8 men have won their first Grand Slam tournament when they were still teenagers. In the men's game, 17 years passed between the victory of teenager Rafael Nadal in Paris 2005 and that of Carlos Alcaraz in New York 2022. Since 2020, there have been three Grand Slam winners who are teenagers. At this point, however, it must be emphasized once again that extremely successful teenagers are the exception rather than the rule and become serial winners (mainly men)

after winning their first Grand Slam tournament (with some exceptions for women). Highly successful juniors ranked in the top 10 of the ITF junior rankings take an average of 4.5 years to break into the top 100 of the professional rankings.

In many sports, there are categories up to the age of 21 in addition to the usual youth categories. This includes extremely globally branched sports such as soccer or cycling. In 2017, the Association of Tennis Professionals in Milan organized the ATP next Gen competition for the 8 best players in this age category for the first time.

Tournaments for tennis players (male and female) up to the age of 21 would be ideal for those just starting out in professional tennis (e.g. entry-professionals). This would significantly reduce the pressure on tennis players and give them more time to make a gradual transition from junior to professional tennis. A good example of how rules can influence negative phenomena is the (Otis et al., 2022) study, which found that the change in age requirements and the introduction of new mandatory player development programs by the WTA in 1995 had a significant impact on longer career durations, a higher likelihood of 10- and 15-year careers and a lower risk of early retirement for female tennis players.

There are several important reasons for the introduction of this age category: 1) the career of today's tennis players is getting longer and longer even after the age of 30; 2) the transition from the youth to the professional category is extremely demanding and time-consuming and requires a lot of financial resources and demanding training; 3) most tennis players, apart from child prodigies, do not mature in their personality until after the age of 21. This measure would send a clear message to young tennis players, coaches and parents that they always could develop, even if they are not among the 100 best in the world at the age of 19.

## 3. Organizing competitions by level of play and not by age

The influence of chronological and biological age on the level of tennis games and the performance of young tennis players has been repeatedly examined (Vilela Brito, 2020).

The study by Novak et al. (2012) concludes that the differences in sexual maturity in young tennis players are large and that the existing competition categories up to the age of 12 and 14 are inadequate. The conclusions suggest that the official proposals for competitions in this category need to be changed, as it is believed that the reduced span of chronological age allows for fewer differences in the biological age of tennis players. We have three proposals for changing the tournament system for the early age categories. The first would be a competition organized according to the time of birth in the year rather than the calendar year. Some European tennis federations have this way of defining age groups. Secondly, that the categories are not grouped together, but that the young tennis players compete within a year. And thirdly, that tennis players do not compete according to age, but according to their level of play (e.g. WTN). By organizing tournaments in which the level differences between tennis players are as small as possible, the so-called number of competitive matches would increase, i.e. the losing player wins more than 50% of the minimum number of games required to win. For example, if player A beats player B 6-4, 6-4, the match is "competitive" because at least 12 games are required to win and player B has won 8 games (more than 50% of 12).

#### 4. Clear recommendations for tennis 10"

The practical experience of coaches and those who integrate the idea and concept of "ITF Play and stay" into their education and training programs is extremely positive, and a large number of very young tennis players and beginners benefit from it because they learn tennis earlier and better and are more satisfied with the game (Martínez-Gallego et al., 2022).

The study by Farrow and Reid (2010) showed that participants practicing with a standard ball and court had a significantly poorer learning experience compared to the other ball and court combinations. The scaling of tasks and equipment proved to be a useful means of simplifying the task for very young players and beginners, whilst presenting the key sources of information within the practice environment in a way that was linked to ball perception.

This positive influence may decline if coaches and parents decide to skip the red, orange, and green levels of play. This means that a 9-year-old player will not play on the orange court with the orange ball but start with the regular ball on the green court. Such an approach often has many negative effects on a young tennis player, such as the development of suboptimal technique, increased use of extreme grips, a more defensive game, and the development of a limited number of game situations (e.g. baseline play only) (Farrow & Reid, 2010).

We, therefore, believe that the National Tennis Associations should further clarify and disseminate the guidelines and playing conditions for red, orange, and green courts, balls, competitions, and teaching concepts. The use of a white balloon and red balls for beginners cannot be the only achievement in the use of adapted equipment, but it is recommended that tennis coaches strictly apply the whole red-orange-green concept for all age groups of tennis players up to 11 years old (Hanson et al., 2022).

#### 5. Planning and organizing tournaments

Many coaches involved in the development of ITF junior or entry-level professional tennis players encounter the biggest challenges when planning and organizing competitions (Reid et al., 2009). Since the planning of registration, participation, and travel to ITF tournaments for men, women, and juniors depends on the player's ranking, tennis coaches often encounter challenges in this process. In particular, the final information about the tennis player's status in the tournament (main draw or qualifying) is sometimes published very late. For many, this means a weekly challenge and stress in choosing a tournament and organizing a trip to the tournament (Perri et al., 2023).

If in advance a certain number of tennis players for an individual tournament will be selected based on rating (e.g. 24), without qualifications, it would make planning and organizing competitions decisively easier and more long-term. Since the number of days on which competitions and matches take place would be known in advance, the planning of transportation (e.g. flight, train tickets) would also be easier. Organizing competitions in places that can be reached by train can also contribute to sustainability.

If a certain number of tennis players were selected in advance for the individual tournaments based on the ranking list (e.g. 24) without qualifications, the planning and organization of the competitions would be much simpler and more long-

term. Since the number of days on which the competitions and matches would take place would be known in advance, planning transportation would also be easier.

#### 6. The use of modern technologies in the development of young tennis players

Raschke and Lames (2019) presented the concept of video-based tactics training as a qualitative method for match analysis. The results showed significant improvements in the cognitive ability to interpret tactical behaviour in real matches of players where tennis coaches conducted video-based tactics training.

More and more matches at different levels of competition (e.g., juniors, entry professionals, professionals) can be monitored on open or paid platforms, which allows tennis coaches to view and analyze matches even when they are not present at competitions. This is very welcome as data can be used even more effectively (ITF, 2024). We propose that live streams be stored in tennis players' profiles, allowing for later viewing, analysis of recordings, and in the long term, learning and development. Following the accessibility and prevalence of recording tools games, it would be necessary to also revitalize courts at competitions where young tennis players (e.g. 12 and under) play. If the number of players at the tournament is optimized, competitions could be run with fewer courts, which would allow for the recording of matches. This would reduce the number of matches that are currently played on the first day of a tournament with 64 or 48 tennis players. This would be an important step from quantity to quality and would have a major impact on the tactical development of tennis players. We are convinced that the videos saved matches will be supported by excellent performance analysis tools and opportunities to increase the efficiency in the development of tennis players and the business marketing opportunity these services may provide from the website organizer tournaments (Filipic et al., 2021).

#### CONCLUSION

Competitions are a potent stimulator for developing tennis and tennis players (Browsers et al., 2012). Elite tennis players are always setting new milestones and standards in tennis development. In the past, coaches often only followed elite tennis players who brought innovation to the game. Bjorn Borg helped us discover the throwing motion, John McEnroe the versatility in tennis, Boris Becker the effectiveness of the game at the net, Pete Sampras the biomechanical model of the serve, Andre Agassi the all-important return of serve, not to mention the last big four (Roger Federer, Rafael Nadal, Andy Murray, Novak Djokovic) who drastically changed the level of tennis and took it to new heights (Baker & McHale, 2014).

The world is changing, and tennis is changing with it. Tennis coaches should not just follow what they learn from the new best tennis players, but we must actively participate in the development of tennis. We think it is necessary to start where it matters most, at matches and competitions. If we can create such a competitive system that guides tennis coaches, players and parents on the right path, then tennis players will have fewer problems on this challenging and long-term path, which is full of pitfalls, problems and opportunities. We are convinced that more tennis players will choose competitive tennis and stay on this path longer. In short, tennis needs new ideas and changes..

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The author declares that he has no conflicts of interest.

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