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The relationship between international performances at young ages and later success in tennis: A bottom up and top down approach

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Background

The process of talent identification and development is challenging and often discussed by national sport federations, coaches and researchers (Abbott & Collins, 2004; Schönborn, 1984; Stojan, 1984). The primary aim of talent identification is to recognise current participants with the greatest potential to excel in a particular sport (Russell, 1989). International athletes appear to be getting younger (Galenson, 1995; Hecimovic, 2004; Rowland, 1997; Wiersma, 2000) and therefore, talent identification in tennis is often based on tournament results achieved at a young age (Unierzyski, 2005). In general, national tennis federations and sponsors prefer to invest time and money in tennis players with good on court results at a young age (Unierzyski, 2005). However, not much is known about the accuracy of youth performances as an indicator for later success.

Objectives

The aim of this paper is to examine the relationship between performances at young ages and later success in tennis. More specifically we examine to what extent performances at U14 youth tournaments and junior level are an indicator for later success.

Methods

This study used retrospective data from past performances of male and female tennis players. Three types of data were collected, namely U14 tournament results, U18 junior rankings from the International Tennis Federations (ITF), and senior rankings from the Women's Tennis Association (WTA) and the Association of Tennis Professionals (ATP). Data were collected between 1988 and 2008.

Bottom up and top down analyses were used to determine different relationships. A first bottom up analysis was used to examine the relationship between performances of 1,897 male and 1,624 female players at three U14 youth tournaments and their ranking at senior level. In a second bottom up analysis, we examined the relationship between rankings of 202 male and 175 female U18 players at junior level (U18) and rankings of these players senior level. A top down analysis was used to examine how 68 male and 60 female senior top 20 players performed at U14 youth tournaments and at junior level.

Results

The bottom up analysis for U14 youth tournament players showed that youth tournament players with better tournament results have a higher chance to be successful at senior level compared to less successful U14 youth tournament players. Despite the increasing chance for successful youth players, good performances at young ages are no guarantee for later success as a lot of successful youth players do not perform at senior level.

The bottom up analysis for junior (U18) top 20 ranked players showed that the chance for these players to reach the senior top 200 is moderate (66% for male and 65% for female players) and the chance to reach the senior top 20 is small (17% for male and 11% for female). Further analysis showed that the younger male players reach the junior top 20 the higher their chance to be successful at senior level. For female players, only 15 year old or younger players had a greater chance to be successful, while the chance for 16, 17 and 18 year old players was almost equal.

In the top down analysis performances of senior top 20 players at junior level were examined. More than three quarters of the senior top 20 players reached a junior top 200 ranking at a younger age and almost half of the senior top 20 players also reached the junior top 20. The age at which senior top 20 players perform in the junior and senior rankings can be very divergent. Female players seemed to perform two years earlier than male players at junior and senior level.

Conclusion

This research revealed that good performances at young ages are an indicator for later success. However, there are factors like coaches, facilities, environment that need to be factored in for a better picture. This research demonstrates the significance of various ages at which performances are becoming more important in the talent identification of talented players. These results must be taken into account in the process of talent identification and development as they contribute to the knowledge of coaches and performance directors and their decision making on talent identification.

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