

Are Performances at Young Age a Good Predictor of Later Success? The Development of a Youth Elite Sport Index

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Keywords: performance pathway, excellence, athlete development

Abstract

Research Question

Many young athletes aspire the greatness of elite sport success, but only few athletes reach the required level of performance. The development of expertise is sport specific and demands commitment to practice on the road to excellence [1]. But when can we conclude someone has the prospective to become a sporting expert? Can a gold medal at the Youth Olympic Games be a good prediction of their real Olympic potential? On what base can (Olympic) youth performances be an sufficient forecast of later world class sport success? Can we draw conclusions based on adolescence performances? An overview of the performance development of elite sport athletes can give a answer to these questions.

Theoretical Background

It is difficult to prognosticate the sports results of young talented athletes because their results are related to a range of factors that are interwoven with each other [2]. Based on the dynamic process of performances, Tilinger (2005) examined the results of prominent world class track and field athletes. The investigation disclosed differences between sprinters, throwers and jumpers looking at the beginning of specialized training, of the age in which they attained their top performances, and of the number of years of specialized training necessary to attain their top performances [3]. His findings confirm the 10-year/10 000 hours rule which stipulates that a 10-year commitment to high levels of training is the minimum requirement to reach the expert level [4,5]. American Psychologist, Benjamin Bloom stated as well that no matter the initial characteristics, there is a long and intensive process of encouragement, nurturance, education and training necessary to attain extreme levels of excellence in a particular field [6].

Methodology

By examining the performances of international world class judo and tennis athletes at young age during international sporting tournaments, the aim is to discover if there is a possible ideal performance pathway to international sporting success. Therefore, we will develop a performance based index of athletes during their development stage that

gives the opportunity to compare athletes' sportive curriculum on the basis of their international elite youth sport performances. Asked for the results at the important youth tournaments (which are selected in cooperation with the Flemish sport federation and different elite athletes), we compare the results of different world class athletes. By distributing index points based on their individual results, a performance path can be constructed and evaluated. These findings can uncover critical stages in the development of youth elite sport athletes. By doing so, the aim is to make a sport specific comparison of the development of different international athletes, evaluate the performances of young (Flemish) top athletes during several years with regard to their future results and compare these results with their international age groups.

Results

The analysis of the results of 62 Belgian Judo elite athletes (including several Olympians) who all performed at the European Championships, World Championships or Olympics between 1997 and 2007, revealed different performance based career paths, although this generation contained several Olympians. While judo is a late specialisation discipline, two female Olympic medal winners already gained access to international sport success at the age of 16 and won a bronze medal at senior European Championships at their 17th. Other Olympic athletes became only just successful at senior level after several years of preparation for world class competition, but achieving Olympic and world class success. A third group of athletes broke through at the age of 23. Without earlier international success, these athletes succeeded in winning European Championship, World Championship and Olympic medals. From this, we can conclude that the critical age in judo to attain top performances is in the early twenties. Additionally, sport performances at young age can be a predictor for later success in judo, but is not a necessary condition. In tennis different findings emerge. Here we could clearly find that female athletes start to perform at an earlier stage than men. Some girls reach the ITF-top 10 at their 15th, while successful male elite athletes do around their 17th. In the next stage of this research, comparison between the performance career paths of international judo and tennis athletes can reveal more insight in the performance based development of elite athletes and the role of chronological age in mediating the capability to predict world class performances.

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