

Developmental and professional activities of elite badminton players

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Introduction

The activities that athletes participate in during their development contribute significantly to skill acquisition and the attainment of expert performance (for examples, see Baker, Côté, & Abernethy, 2003; Ford et al., 2012; Law, Côté, & Ericsson, 2007;). To date, no research has been conducted examining the developmental activities of expert athletes in racket sports, including badminton. The aim of this research is to examine the amount and types of developmental and professional activities engaged in by elite badminton players in Europe and Malaysia.

Method

Professional badminton players from Malaysia ($n = 17$; *males* = 8) and Europe ($n = 9$, *males* = 3; *Great Britain* = 3; *Italy* = 4; *Spain* = 2) completed a badminton-specific version of the Participation History Questionnaire (PHQ; Ford et al., 2012) in order to identify the activities they engaged in during their development and professional career. The PHQ contains three sections. The first section elicits information on badminton-specific milestones, such as the age at which participants first took part in badminton or first participated in World Championships. The second section provides information on their engagement in three badminton activities: practice; competition; and play. The hours per week and months per year in each of the activities, as well as the weeks when players were injured per year, were recorded for each year from the current year back to the year in which participants began playing the sport. The third section provides information on engagement in other sport activities. The hours accumulated in each of the three badminton activities during childhood (6 to 12 years of age) and adolescence (13-18 years of age), as well as the hours as a professional during adulthood (19-25 years of age) were calculated for both groups. The number of other sports was calculated for each phase of development.

Results

Malaysian players

The current age of the Malaysian players was 20.4 yrs ($SD = 3.1$). Their current median world ranking was 124, with a range from the lowest rank of 41 to the highest of 954. Average start age in badminton was 8.1 years ($SD = 1.2$). Start of supervised training and competition occurred approximately two years later at the age of 9.9 years ($SD = 1.0$). First participation in youth national and international competitions was at 11.5 years ($SD = 1.7$) and 12.4 years ($SD = 3.7$), respectively. First participation at a senior national and international level was at 15.8 years ($SD = 1.9$) and 16.8 years ($SD = 1.8$), respectively. Five of the players first participated at a World Championships at 16 to 23 years age.

Figure 1a shows the hours accumulated in the three badminton activities during the developmental years (childhood, adolescence) for the Malaysian players. In childhood, the amount of badminton hours over the 5 years from the average start age of 8 years of age and over a 40-45 week season each year was 4-5 hrs a week in practice, 3 hrs a week in play, and less than 1 hr a week in competition. In adolescence, the amount of badminton hours equated over a 40-45 wk season each year to 16 hrs a week in practice, 7 hrs a week in competition, and less than 2 hrs a week in play. The Malaysian players participated in a median of 1 other sport in childhood, with a range from 0 to 4 sports, although one player engaged in 8 other

sports. In adolescence, nine of the players engaged in 1 other sport, whereas the rest did not participate in other sports. The number of other sports is relatively low compared to previous research with other athletes in different sports (e.g., Baker et al., 2003).

Only six of the players were 20 years of age or older, whilst only three were 25 years of age or older. Between 19-21 years of age, the amount of badminton hours equated over a 40-45 wk season each year to 19-20 hrs a week in practice, 10-11 hrs a week in competition, and less than 1 hr a week in play. Between 22-25 years of age, the amount of badminton hours equated over a 40-45 wk season each year to 22-23 hrs a week in practice and 10 hrs a week in competition. The Malaysian players did not engage in any other sports in adulthood.

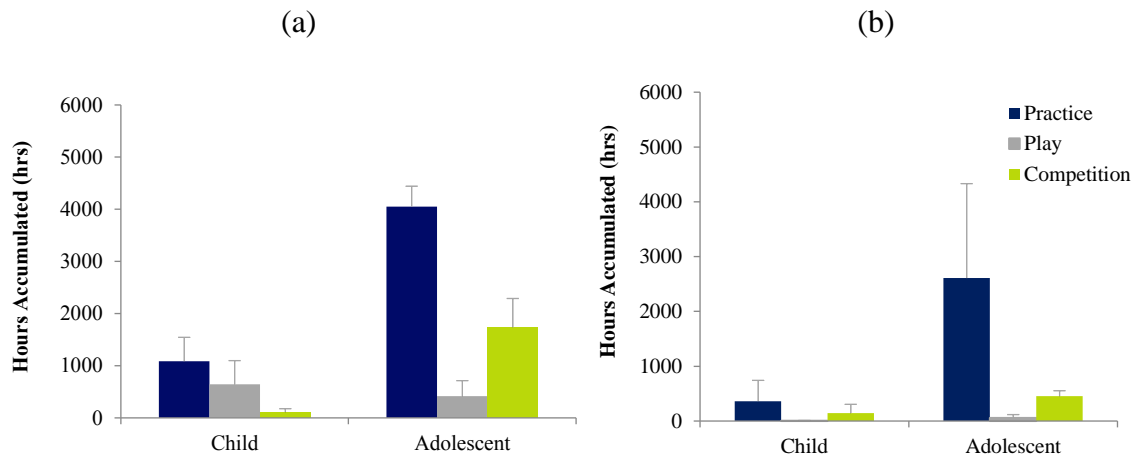


Figure 1. Hours accumulated by (a) Malaysian and (b) European players in the three badminton activities (practice, play, competition) during the two developmental phases (childhood, adolescence).

European players

The current age of the European players was 20.9 yrs ($SD = 4.1$). Their current median world ranking was 354, with a range from the lowest rank of 1,747 to the highest of 21. Average start age in badminton was 9.4 ($SD = 2.9$) years, which is later than Malaysian players. They began supervised training at the age of 10.5 ($SD = 2.5$) years and competition at the age of 11.5 ($SD = 2.1$) years. First participation in youth national and international competitions was at 12.7 ($SD = 2.2$) and 14.2 ($SD = 2.1$) years of age, respectively. First participation at a senior national and international competition was 15.6 ($SD = 1.3$) and 16.9 ($SD = 1.1$) years of age, respectively. Six of the players first participated at a World Championships at 17 to 25 years age.

Figure 1b shows the hours accumulated in the three badminton activities during the developmental years for the European players. In childhood, the amount of badminton hours over the 4 years from the average start age of 9 years and over a 40-45 week season each year equated to 2-3 hrs a week in practice, and less than 1 hr a week in play and competition. In adolescence, the amount of badminton hours equated over a 40-45 wk season each year to 10-12 hrs a week in practice, 1-3 hrs a week in competition, and less than 1 hr a week in play. Hours in badminton during childhood and adolescence were lower for European compared to Malaysian players. The European players participated in a median of 2 other sports in childhood, with a range from 0 to 9 sports. In adolescence, the players engaged in an average of 2 other sports. The number of other sports is higher compared to the Malaysian athletes, but lower compared to athletes in some other sports (e.g., Baker et al., 2003).

Only 5 of the players were 20 years of age or older, whilst only 3 were 25 years of age or older. Between 19-21 years of age, the amount of badminton hours equated over a 40-45 wk season each year to 17-18 hrs a week in practice, 1-2 hrs a week in competition, and less than 1 hr a week in play. Between 22-25 years of age, the amount of badminton hours equated over a 40-45 wk season each year to 25 hrs a week in practice and 5-6 hrs a week in competition and 1 hr a week in play. During adulthood, European players accumulated fewer hours in competition and more hours in play compared to the Malaysian players.

Discussion

Players started in the sport at 8-9 years of age and engaged in badminton-specific practice and competition activities during childhood, with the Malaysian players accumulating more hours in these activities compared to the European players. Players engaged in a low number of other sports during childhood, similar to soccer players (Ford et al., 2012). The number of hours in badminton-specific practice and competition activities increased significantly in adolescence, and again in adulthood where it became a full-time job and several participated in the World Championships. In general, the Malaysian players accumulated more hours in badminton activities during adolescence and adulthood when compared to the European players. Data on the developmental activities of expert badminton players enables coaches to optimise these activities for aspiring young players so that they acquire the necessary attributes to produce expert performance in adulthood.

References

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