Sporting milestones and career progression of male Australian junior international level team sport athletes

Melissa Hopwood\textsuperscript{1,2}

Damian Farrow\textsuperscript{1,3}, Clare MacMahon\textsuperscript{1}, & Joseph Baker\textsuperscript{2}

\textsuperscript{1} Victoria University, Melbourne, Australia
\textsuperscript{2} York University, Toronto, Canada
\textsuperscript{3} Australian Institute of Sport, Canberra, Australia
Introduction

• Athlete developmental histories are frequently collected to identify the factors associated with sport expertise
  (E.g. Bloom, 1985; Baker et al. 2003; Côte, 1999; Gulbin et al. 2010; Helsen et al. 1998; Memmert et al. 2010, Moesch et al. 2011; Ward et al., 2007)

• Identification of the ages at which highly skilled athletes reach important sporting milestones:
  – contributes to our understanding of the ‘pathway to expertise’
  – assists in the creation of developmentally appropriate youth sport programs
  – provides a marker to assess athlete development
Aims

- To explore the ages at which athletes reach important milestones in their sporting careers
- To explore the time course of career progression from sport initiation to participation in junior international level competition
Methods

- Participants
  - Male, Australian, current junior national team members

n = 24  
Age = 16.8±0.9

n = 13  
Age = 17.7±1.4

n = 6  
Age = 18.1±1.8
Methods

• Data collection
  – Developmental History of Athletes Questionnaire
    *(Hopwood et al. 2010, Hopwood et al. 2011)*

• Statistical analysis
  – Separate one-way ANOVAs for sport-based differences in:
    ▪ Age at attainment of career milestones
    ▪ Number of years from sport initiation to each milestone
  – Post-hoc tests for significant findings
    ▪ p < .05
Results

• Age at attainment of important sporting milestones
General milestones – Age when you first:

- Participated in any format
- Regular supervised practice
- Regular unsupervised practice
- Non-sport specific training
- Off-season training
- Stopped all other sports
- Idea of becoming elite athlete
- Decision to become elite athlete
- Leisure time devoted to sport
- Moved house for sport
- Close relationship with coach

Significantly different to football p<.05
Significantly different to football & basketball p<.05
Junior local competition milestones - Age when you first:
Junior state competition milestones - Age when you first:

- Participated in competition
- Starting player
- Top 5 players overall
- Best player for your position
- Best player overall

* Significantly different to football p<.05
* Significantly different to football & basketball p<.05
Junior national competition milestones - Age when you first:

- Participated in competition
- Starting player
- Top 5 players overall
- Best player for your position
- Best player overall

* Significantly different to football p<.05
Δ Significantly different to football & basketball p<.05
Junior internat. competition milestones - Age when you first:

- Participated in competition
- Starting player
- Top 5 players overall
- Best player for your position
- Best player overall

Significantly different to football
p < 0.05

Significantly different to football & basketball
p < 0.05
Results

• Age at attainment of important sporting milestones
  – Significant differences between sports for almost all milestones except those relating to participation at the junior international level of competition
  – Volleyball players reach almost all milestones up to and including becoming a starting player at the international level of competition significantly later than football players
  – Basketball players also reach a number of general milestones plus all milestones at the junior local and the junior state levels of competition significantly later than football players
Results

- Time course of career progression
General milestones –
Number of years from first participation to first:
Junior local competition milestones – Number of years from first participation to first:

- Participated in competition
- Starting player
- Top 5 players overall
- Best player for your position
- Best player overall

- Football
- Basketball
- Volleyball

* Significantly different to football p<.05

∧ Significantly different to football & basketball p<.05
Junior state competition milestones – Number of years from first participation to first:

- Significantly different to football (p < 0.05)
- Significantly different to football & basketball (p < 0.05)
Junior national competition milestones – Number of years from first participation to first:
Junior international competition milestones – Number of years from first participation to first:

- Football
- Basketball
- Volleyball

* Significantly different to football p<.05
\(\land\) Significantly different to football & basketball p<.05
Results

• Time course of career progression
  – Few significant differences between sports for general milestones and milestones relating to participation at the local and state levels of competition
  – Volleyball players and basketball players appear to reach the national and international levels of competition with significantly less years of experience in their sport than football players
Discussion

• Absolute ages at reaching important career milestones appear to be different between sports
  – Football as an early specialisation / early engagement sport? *(Ward et al. 2007; Ford et al. 2009)*
  – Necessity or availability of developmental programs?

• The relative time course of career progression is similar for sub-elite levels of competition however the duration of the transition from sub-elite to elite levels of competition varies
  – Competition structure?
  – Depth of competition?
Implications

• Training
  – Need for developmentally appropriate programming during the transition from state level competition to national level

• Competition
  – At what age should national and international competitions commence?

• Skill acquisition research
  – 10 year rule not uniform across all sports
Future research

• More athletes
• More sports
• More countries
• Females
• Senior / open level competition
• Practice / competition hours
• Skill level differences
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Questions

melissa.hopwood@live.vu.edu.au