#### University of Windsor Scholarship at UWindsor

Relative Age Effects: An International Conference

**Conference Schedule** 

Oct 17th, 11:30 AM - 12:00 PM

#### **Mechanisms of Relative Age Effects**

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# **Mechanisms of Relative Age Effects**

David J. Hancock

INDIANA UNIVERSITY KOKOMO

# **RAEs: Why Do They Happen?**





# 1. Sport Structure Mechanisms

#### **Age Bands**

• Governing bodies have to group children together somehow

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Up to 730 days difference! (leap year)



### Age Bands

- Governing bodies have to group children together somehow
- On January 1, 2018...
  - Child born January 1, 2011 is 2557 days old
  - Child born December 31, 2011 is 2193 days old

Only been alive 85.7% as long as first child!

That's the equivalent of a 40- vs. 34-year-old, or 21- vs. 18-year-old

# Age Bands

• Can we avoid it?



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• Challenges for governing bodies...

Andronikos et al., 2016; Hurley et al., 2001



# **Depth of Competition**

• Different sports have different meanings in different locations



# **2. Developmental Mechanisms**









### Growth

#### Average 8-year-old

- 58lbs •
- 51"
- Plays Novice hockey
- Distinct physical advantage

#### Average 7-year-old + 1 day

- 51lbs
- 48"
- Plays Novice hockey
- Distinct physical disadvantage

#### Does not guarantee sport skill (dis)advantages

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#### **Maturation**

- Timing/tempo of maturation not as closely linked to chronological age
  - Still more likely that relatively older children are more mature than younger peers
- For early maturers:
  - Cognitive superiority
  - Advanced coordination
- Does not always equate to better skill...

Figueiredo et al., 2009; Haywood & Getchell, 2014



#### **Developmental Mechanisms**

- Relatively older = more likely to have accelerated growth and maturation
- Accelerated growth and maturation ≠ better sport skills
- So what leads to advantages for relatively older children?

# **3. Social Mechanisms**

### **RAE Influences**





### **RAE Influences**





# The Influence of People

- Across contexts, people place value on certain characteristics that *might* drive relative age effects
  - Sport: growth = athletic ability
  - Education: cognitive maturity = academic ability



# The Influence of People

- Beliefs (whether accurate or inaccurate) can alter behaviors, leading to confirmation of original beliefs
  - Sport: elite team, coaching, playing time = athletic ability
  - Education: advanced classes, additional work, notifying parents = academic ability



# The Influence of People

- Self-fulfilling prophecy
  - Pygmalion Effect
    - Expectations (high or low, true or false) alter behaviors, allowing expectations to be met
    - First National Trust Bank



Hancock et al., 2013a; Merton, 1948; Rosenthal & Jacobson, 1968

## The Influence of People: RAE Case Study

- Parents
  - Aware of relative age effects
  - Believed their children received advantages due to being older (elite teams, more practice, more competition, better coaching, etc...)
- Coach
  - Aware of relative age effects
  - "If two kids have similar skill, I'm taking the bigger one"

# **Pygmalion Effect: Parents**

- Parent beliefs might drive initial enrollment bias
  - Register relatively older children sooner than relatively younger children
  - Leads to earlier gains in practice, competition, and instruction
- Parent beliefs might lead to higher expectations for relatively older athletes
  - Pay for additional sport camps, specialized coaching
  - Join elite teams, with more extensive travel

Hancock et al., 2013a; Hancock et al., 2013b



# **Pygmalion Effect: Coaches**

- Coaches might not initiate relative age effects
  - Appear to be selecting teams from an already skewed talent pool
- Coach beliefs might lead to higher expectations for relatively older players
  - Selections based on size and "talent/potential"
  - Provided better instruction, more feedback, more playing time

Hancock et al., 2013a





#### **Takeaway Messages**

- Sport structure mechanisms inherently facilitate relative age effects
- Developmental mechanisms have potential influence on relative age effects
- Social mechanisms might have the strongest influence on relative age effects
  - But might also be the area in which researchers can have the most influence

### **Questions Still to be Answered**

- If social mechanisms are the major influence, how can we minimize them?
- Parents
  - Why are parents not enrolling their relatively younger children?
    - Fear of injury? Child not physically/cognitively ready?
  - Can we increase parents' expectations for their relatively younger children?

#### **Questions Still to be Answered**

• If social mechanisms are the major influence, how can we minimize them?

Coaches

Can we make them aware of selection biases?

3:15 PM	Helping talent scouts to overcome the RAE
	David Mann, Vrije Universiteit Amsterdam
	Room 320, Norman Bethune College, York University (Toronto, ON)
	3:15 PM - 3:45 PM

If so, can we ensure equal treatment/expectations regardless of relative age?



### **Questions Still to be Answered**

- If social mechanisms are the major influence, how can we minimize them?
- Sport Governing Organizations
  - Are there sufficient grassroots programs to ensure early enrollment regardless of relative age? And are parents aware of these programs?
  - Are coaches educated on relative age effects as it relates to talent identification?
  - Is it feasible to institute rotating cut-off dates?



### **Questions?**

• Thank you Jess, Joe, Sean, and Laura



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