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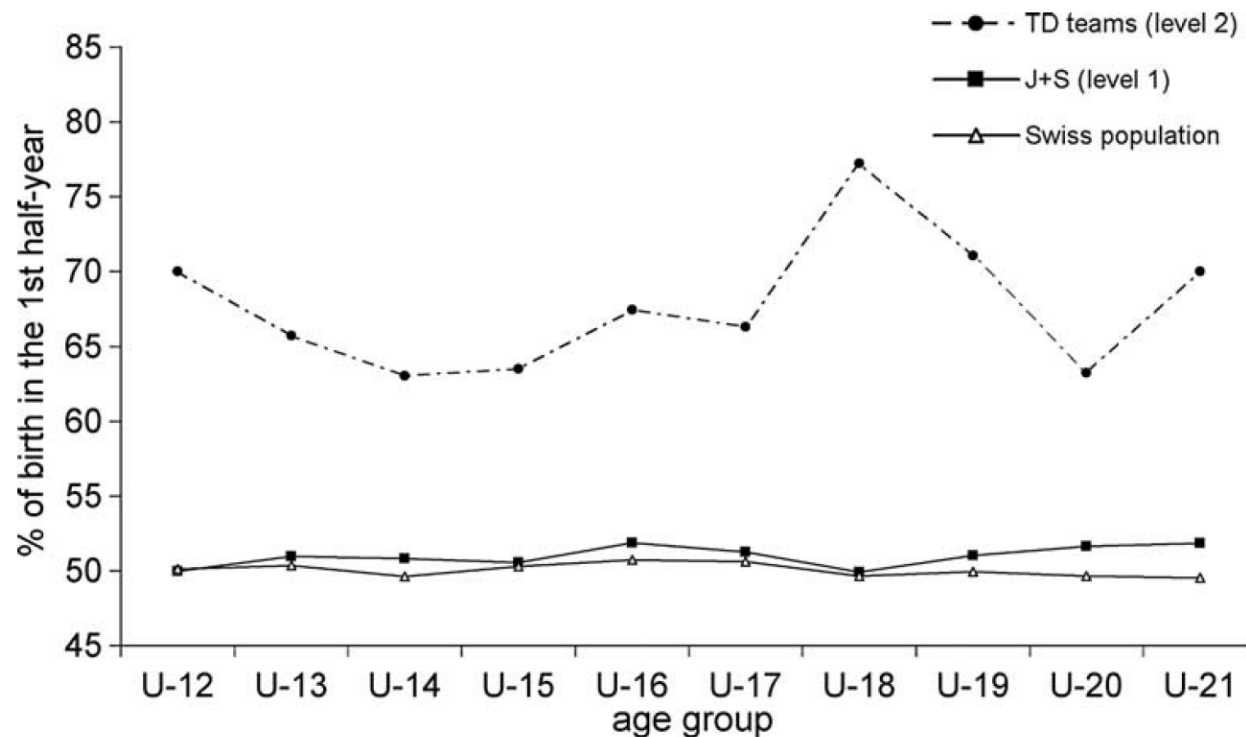
# Relative age effect at the London Paralympic Games in three different sport disciplines

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# Relative age effect (RAE)

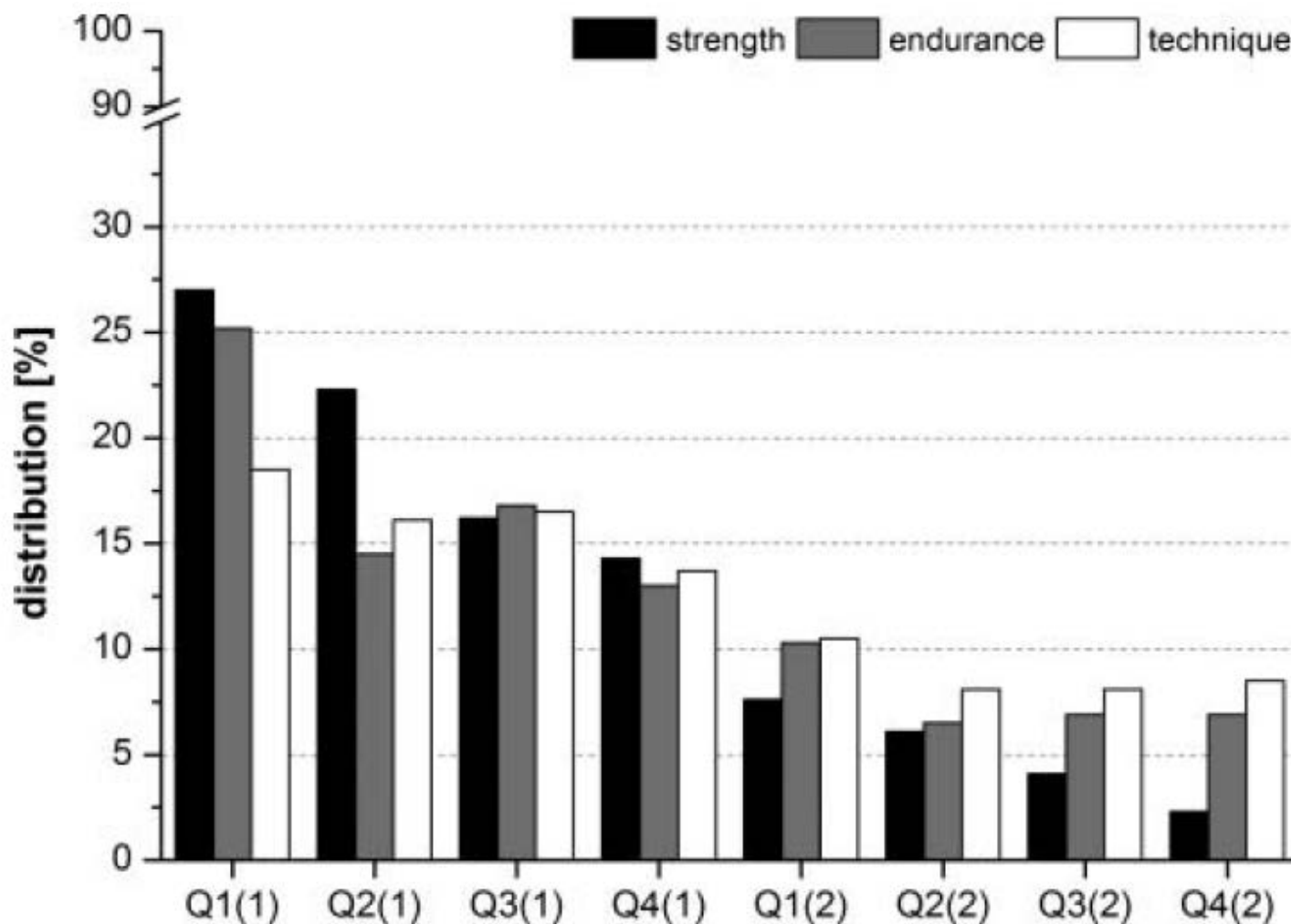
- A long-known phenomenon in squad selection



# Relative age effect (RAE)

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- A long-known phenomenon in squad selection
- Based on differences in physical development
- Can lead to physical, emotional, cognitive and motivational differences (Raschner et al., 2012)
- Most studies in team sports (e.g. basketball, handball, ice hockey, soccer, baseball) with RAE (Cobley et al., 2009)
- RAE could also be found in endurance sports such as biathlon or cross country skiing (Raschner et al., 2012)



**Figure 2** Quartile distribution of all YOG participants according to the type of sport.

# Shooting sports federation (female)

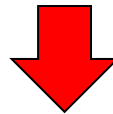
**Table 1.** Distribution of female license holders (2006-2007).

	Q1(%) (expected)	Q2(%) (expected)	Q3(%) (expected)	Q4(%) (expected)	Total	$\chi^2$	P
<b>Adults</b>	<b>2,498</b> (24.56) (2,498)	<b>2,674</b> (26.29) (2,673)	<b>2,606</b> (25.62) (2,565)	<b>2,393</b> (23.53) (2,435)	<b>10,171</b>	<b>1.399</b>	<b>0.706</b>
<b>18-20</b>	<b>156</b> (26.71) (141)	<b>146</b> (25.00) (151)	<b>145</b> (24.83) (148)	<b>137</b> (23.46) (144)	<b>584</b>	<b>2.231</b>	<b>0.526</b>
<b>15-17</b>	<b>227</b> (28.44) (193)	<b>184</b> (23.06) (203)	<b>192</b> (24.06) (206)	<b>195</b> (24.44) (196)	<b>798</b>	<b>8.501</b>	<b>0.037</b>
<b>13-14</b>	<b>128</b> (25.10) (121)	<b>136</b> (26.67) (130)	<b>124</b> (24.31) (132)	<b>122</b> (23.92) (127)	<b>510</b>	<b>1.256</b>	<b>0.739</b>
<b>11-12</b>	<b>118</b> (24.79) (113)	<b>119</b> (25.00) (120)	<b>120</b> (25.21) (123)	<b>119</b> (25.00) (120)	<b>476</b>	<b>0.268</b>	<b>0.966</b>
<b>&lt; 11</b>	<b>72</b> (25.35) (68)	<b>79</b> (27.82) (72)	<b>68</b> (23.94) (73)	<b>65</b> (22.89) (71)	<b>284</b>	<b>1.737</b>	<b>0.629</b>
<b>TOTAL</b>	<b>3,199</b> (24.95) (3,149)	<b>3,338</b> (26.03) (3,370)	<b>3,255</b> (25.38) (3,234)	<b>3,031</b> (23.64) (3,070)	<b>12,823</b>	<b>1.738</b>	<b>0.628</b>

# Is there a RAE in Paralympic sports?

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- Not investigated so far
- Hypothesis: NO! → Why not?
  - Less athletes engaged in Paralympic sports
  - Specific talent selection difficult
  - Assumption of a balanced distribution of accidents or other health conditions over all dates of birth and age groups

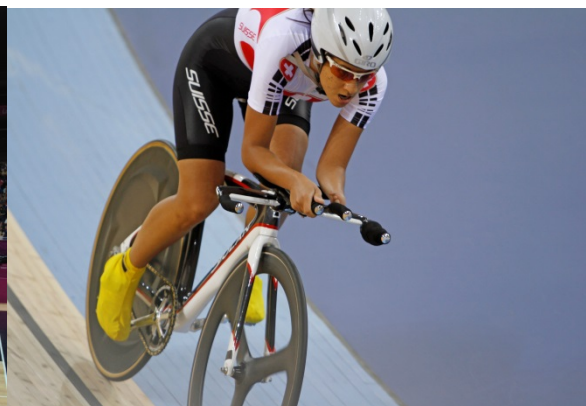


**RAE in Paralympic sports?  
Differences between male and female athletes?**

# Methods

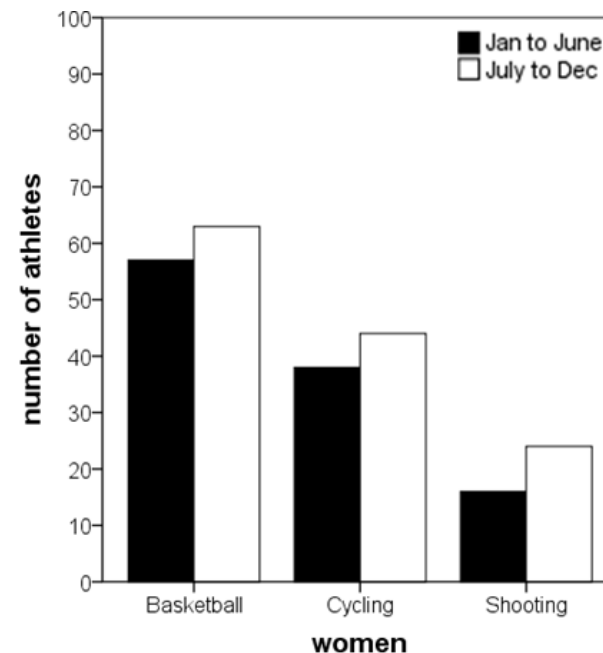
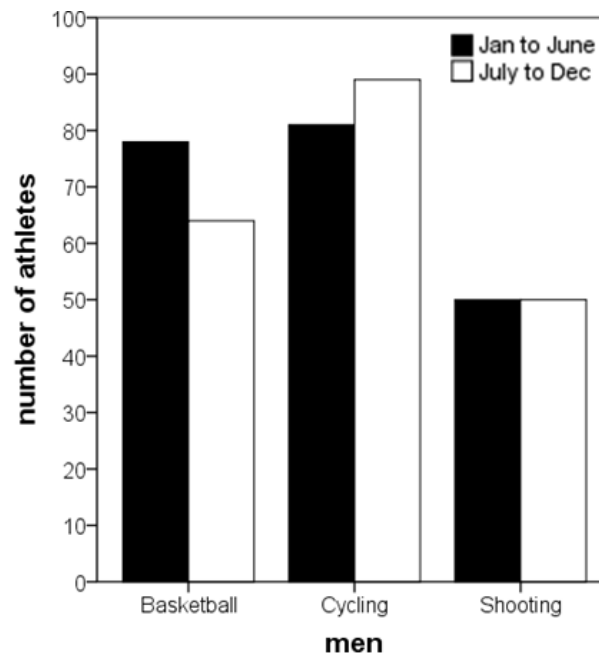
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- Data of three sports disciplines (basketball, cycling, shooting) of the London Paralympic Games ([www.london2012.com](http://www.london2012.com)) analysed
- Male and female athletes of each sport discipline divided into two groups based on date of birth



# Results

- A total of 654 data sets (412 men, 242 women) analysed
- No differences in RAE between different disciplines for men ( $p=0.71$ ) and women ( $p=0.43$ )





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- A total of 654 data sets (412 men, 242 women) analysed
- No differences in RAE between different disciplines for men ( $p=0.71$ ) and women ( $p=0.43$ )
- 51.7% of all athletes born from July-December

# Conclusions

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- In contrast to the existing literature in able-bodied, there seems to be no RAE in Paralympic athletes, independent of the sports discipline
- Other factors than the relative date of birth seem to play a more pronounced role to become a Paralympic athlete

# Thank you for your attention!

