

1 Abstract

2 **The presence of the relative age effect within the**  
3 **identification of talent for professional cycling**

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11 **Abstract:**

12 **Introduction:** This study aimed to investigate the influence of the relative age effect on talent  
13 selection within professional cycling. **Methods:** In total, 2854 cyclists, from top-25 countries on  
14 the world ranking, met the two inclusion criteria's, which were 'being part of a Union Cycliste  
15 International (UCI) Continental team (CT) between 2005 and 2016' and were 'born between 1986  
16 and 1997'. Data was gathered from an online database proyclingstats (PCS). Information in  
17 which quarter of the year a cyclist was born and, if they made it to professional level or not was  
18 captured. In addition, cyclists were categorized based on the age they started riding for a CT,  
19 which was noted based on the four years that cyclists are part of the U23 category (i.e. U23<sub>year1</sub>,  
20 U23<sub>year2</sub>, U23<sub>year3</sub>, U23<sub>year4</sub>). Differences between expected and observed frequencies of birth  
21 months in each quarter were investigated with the Chi-square ( $\chi^2$ ) goodness of fit test. **Results:**  
22 No relative age effect was found within the cyclists that made it to professional level. However,  
23 a relative age was found in riders that did not make it to professional level. When looking within  
24 this group and when they started riding for a CT, relative age effects were found for cyclists  
25 starting at U23<sub>year1</sub> and U23<sub>year2</sub>, showing that there was a higher chance of being selected in those  
26 years when born in the first quarter of the year. However, this did not result in a higher chance  
27 of becoming a professional cyclist. **Discussion:** These results indicate that the RAE influences the  
28 talent selection process for CT teams. Cyclists born in the third and fourth quarter of the year  
29 have therefore fewer opportunities to be part of a CT team in their first and second year in the  
30 U23 category, although this effect diminishes at an older age and on professional level.

31 **Keywords:** Talent selection, Talent development, performance, professional cycling.

