

Abstract

Motor coordination may be the key to success in youth cycling

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Abstract: Identifying the potential of young cyclists is difficult and requires insights in what kind of performance needs to be predicted, and in how this performance can be accurately measured. The main aim of this study was to examine whether the results of a (non-)sport specific test battery for young cyclists is related with their race performance two to three years later. The test battery, consisting of three motor coordination, five physical, and two cycling specific measurements, and was evaluated in a group of 114 U15 (13.0 – 14.9 years of age) and 69 U17 (15.0 – 16.9 years of age) male road cyclists. To assess if this test battery could indicate career attainment outcome, competition results from national and provincial competitions were retrospectively gathered for the U17_{year2} and U19_{year2} category (two to three years later). Two separate four stage hierarchical regressions were applied. The results of the first full model ($F=7.031$; $p<0.001$; $R^2=0.251$) revealed that after controlling for maturity and relative age effect and the performance variables, only motor coordination was a significant predictor of competitive success in the U17_{year2} category. Motor coordination uniquely explained 5.2% of the variation. However, in the second full model neither the covariates nor motor coordination, physical performance, or cycling specific performance in the U17 category could predict competitive success in the U19_{year2} category ($F=0.724$; $p=0.608$; $R^2=0.056$). Applied to training and coaching, the current study underlines the importance of general motor coordination in youth cycling. However, considering the reduced predictive value from the U17 category onwards, these tests alone do not seem to be sufficient to reliably predict future success. In general, the results can serve as guidelines for federations and coaches to identify and develop potential cyclists.

Keywords: Road cycling, youth, generic test battery, competition performance, talent identification