

## ABSTRACT

- Title:** Effect of climbing activity on somatic and fitness characteristics in youth.
- Objectives:** The aim of this thesis was to assess the effect of climbing activity on fitness (upper body strength) and somatic (body composition) changes in youth in real conditions.
- Methods:** We had 91 children participating in this study, who were attending climbing course in the climbing center Praha Ruzyně. Their age was  $10,4 \pm 3,0$  years in average and their climbing ability was on UIAA scale from 4<sup>th</sup> to 7<sup>th</sup> degree. We detected information about age, climbing experience, and actual climbing performance. Furthermore, we measured height, weight and body composition and we used the tests for measuring upper body strength: hand grip, bent-arm hang and finger hang.
- Results:** Dependence between strength tests (average of three measurements) and climbing level of RP (UIAA) was not statistically confirmed. There was not found the influence of climbed meters to changes in each tests of strength. There was no change in the grip strength test in average, during the exercise intervention. In the bent-arm hang test and the finger hang test, there were significant changes that were not depending on climbing experience of children.
- Conclusions:** In this study was not confirmed any of the above hypotheses. However, it was found that advanced climbers ( $RP \geq 6$  UIAA) had better results in all tests than beginners ( $RP < 6$  UIAA). Children with higher climbing experience achieved better results (average of three measurements) in the bent-arm hang test and the finger hang test.
- Keywords:** Sport climbing, strength, anthropometry, school age