

## **Abstract**

**Title:** Determining the dependence between the selected common strength tests and a field test at flatwater canoeing athletes

**Aims:** The aim of the study is to determine the dependence between the common strength tests and a field test on a flat water kayak K1.

**Methods:** We used quantitative research with testing and measurement methods to provide answers and information about dependence between the common strength tests and the field test on water. The ensemble consists of 8 random selected kayakers who participate in Czech Cups at flatwater canoeing. The endurance strength of the upper limbs and torso was measured by repetitions for 2 minutes in a bench- press exercise and lying lift exercise with half of their own weight. Short-term endurance was measured on a flatwater kayak on a flat water for 2 minutes with flying start. The relationships between endurance strength of upper extremities and short-term endurance at flatwater canoeing athletes were determined by using Spearman's rank correlation coefficient. The relationship determined between selected general strength tests and field test at 8 random selected kayakers was compared with relationship determined at 23 kayakers, all selected from final A at Czech championship 2019.

**Results:** Using the Spearman's rank correlation coefficient, we found that between the individual strength exercises that are included in the common strength tests and the water performance test, the statistical dependence is not too tight according to the correlation level chosen with value  $(r) = 0.29$  with bench- press exercise and negligible  $(r) = -0,07$  with the lying lift exercise. In the total sum of repetitions on bench press and lying lift exercises, the dependence with the field test was also assumed to be low with a value  $(r) = 0.05$ , which means negligible dependence.

**Keywords:** Flatwater canoeing, Endurance power, Short-term endurance, General testing, Field testing