

## **Abstrakt**

**Title:** Comparison of stroke efficiency of sprint kayakers in K1 and K2 category

**Objectives:** The aim of this work is to compare the performance of a single kayak (K1) and a double kayak (K2) using strain gauge testing and video recording.

**Methods:** To obtain data, we used foil strain gauges attached to the paddle and two tri-axial accelerometers (G-link 200) placed at the front and rear of the boat. We used Lord Microstrain's Sensor Connect software to process the data.

**Results:** The mean acquisition time on K1 was  $0.305 \pm 0.016$  s and on K2  $0.290 \pm 0.018$  s. The maximum acceleration on K2 was  $0.84 \text{ m}\cdot\text{s}^{-2}$  less, the maximum force was 2.40 kg less. The maximum force for kayakers was recorded after 0.161 s on K1 and 0.153 s on K2 from the start of the stroke, whereas the maximum acceleration was after  $0.113 \pm 0.016$  s on K1 and  $0.104 \pm 0.016$  s on K2. The mean angle at the point of maximum force was  $106 \pm 9^\circ$  on K1 and  $109 \pm 7^\circ$  on K2, and at the point of maximum acceleration the athletes had the same angle on K1 and K2, only the standard deviation differed. Through this work, we found that the angle at maximum force can affect the time to reach maximum force from the start of the stroke.

**Key words:** Canoe Sprint, difference between K1 and K2, strain gauge measurement, stroke graph, stroke comparison.