

## **ABSTRACT**

**Title:** The effect of fatigue on the reaction time of judges during the karate competition

**Objectives:** To determine whether fatigue affects the reaction time of karate referees during a competition, and how fatigue and consistency in referees' performance change over the course of the event.

**Methods:** The research was designed as an observational study with a quantitative within-subject approach, involving a total of 36 participants from the group of referees of the Czech Karate Federation. Data collection took place during the 2nd Round of the National Karate Cup 2025. On each of the two competition days, three separate measurements were conducted. A choice reaction test on mobile phones and a standardized fatigue questionnaire were used for science purposes.

**Results:** Statistical analysis revealed a rising level of fatigue on both days. Fatigue reached its highest level during the final measurement of each day. Contrary to expectations, the participants' reaction times became faster despite the increasing level of fatigue. Consistency in performance remained unchanged.

**Conclusion:** The study successfully achieved its objectives and answered the research questions. During the competition, participants showed increasing fatigue, improved reaction speed, and maintained performance consistency. It is recommended that the topic continue to be studied further, as this could contribute to a better general understanding of the phenomenon.

## **KEYWORDS**

Karate; Visual skills; Cognitive functions; Kata; Kumite