



## Intelligence-differences in fractal properties of motor timing

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### POSTER

Temporal control of voluntary movements, especially performed at personal tempo (PT), conceptualized as typical - opposed to maximal, has been a neglected topic in the existing studies on neuropsychological basis of intelligence.

Accordingly, the present study investigated differences between dynamics of temporal control of repetitive finger movements (tapping) performed at PT in superior-intelligent (SI) and average-intelligent individuals (AI). To test this hypothesis, nonlinear elements for reconstruction of dynamical properties of motor timing was applied. Results suggested that in both SI and AI group fractal properties of tapping performance can be observed. Additionally, intelligence-differences were revealed

These findings supported the notion that (1) 'internal clock system' in the brain could be fractal in its nature, and (2) intellectual giftedness is connected with better than in controls synchronization of neuronal correlates controlled temporal structures of action.

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