

Mental Chronometry

Mental chronometry is the scientific study of processing speed or reaction time on cognitive tasks to infer the content, duration, and temporal sequencing of mental operations. Reaction time (RT; sometimes referred to as "response time") is measured by the elapsed time between stimulus onset and an individual's response on elementary cognitive tasks (ETCs), which are relatively simple perceptual-motor tasks typically administered in a laboratory setting. Mental chronometry is one of the core methodological paradigms of human experimental, cognitive, and differential psychology, but is also commonly analysed in psychophysiology, cognitive neuroscience, and behavioural neuroscience to help elucidate the biological mechanisms underlying perception, attention, and decision-making in humans and other species.

Mental chronometry uses measurements of elapsed time between sensory stimulus onsets and subsequent behavioural responses to study the time course of information processing in the nervous system. Distributional characteristics of response times such as means and variance are considered useful indices of processing speed and efficiency, indicating how fast an individual can execute task-relevant mental operations. Behavioural responses are typically button presses, but eye movements, vocal responses, and other observable behaviours are often used. Reaction time is thought to be constrained by the speed of signal transmission in white matter as well as the processing efficiency of neocortical gray matter.

— *en.wikipedia.org, 2022, Mental chronometry - Wikipedia. [online] Available at: <https://en.wikipedia.org/wiki/Mental_chronometry> [Accessed 20 August 2022].*