Single 'clock' syncs action and perception

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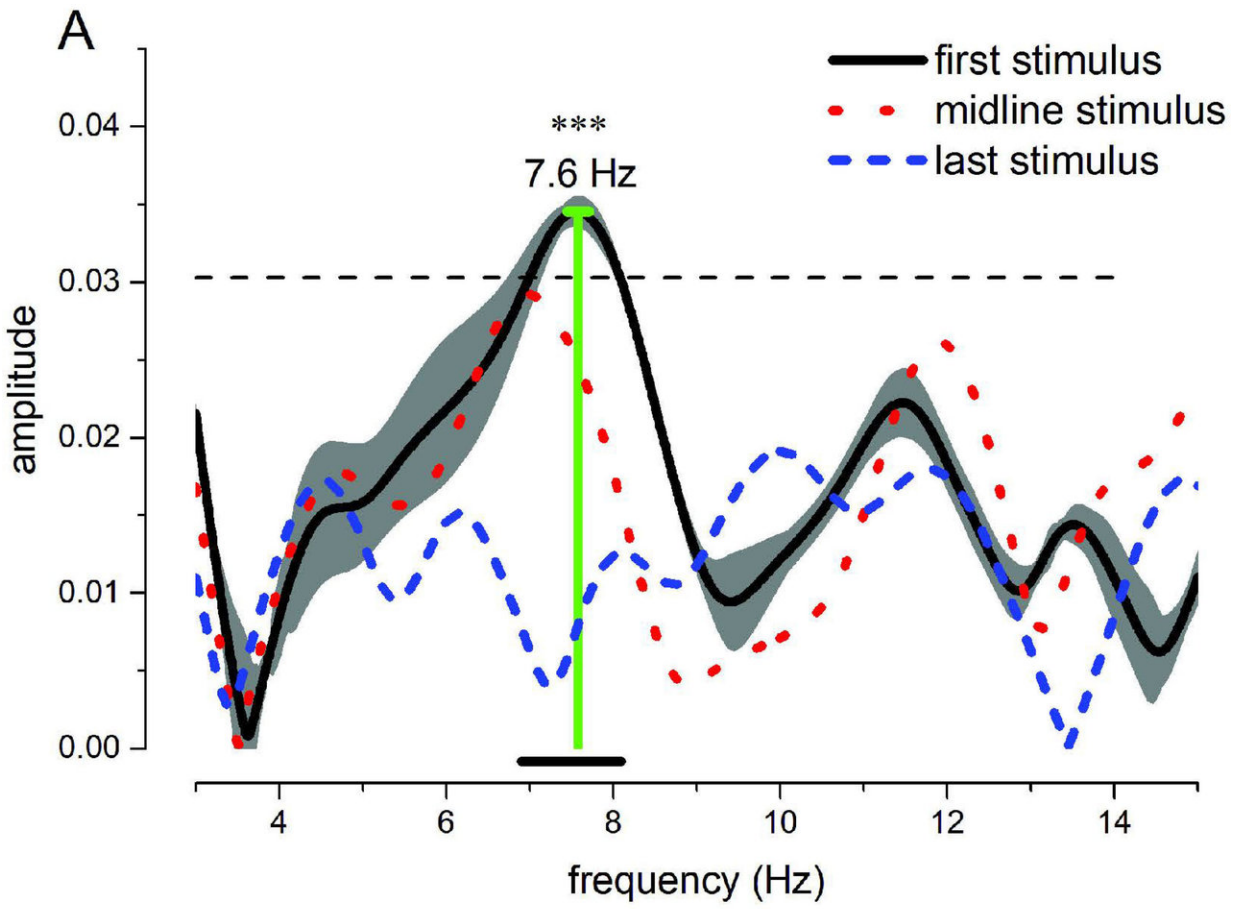

Multivariate glm analysis for the aggregate observer (for the interval range within -450 and 250 ms from action execution). The thick black curve shows the amplitude modulation as a function of frequency, for trials aligned to the first stimulus, the gray shadow reports the interquartile range of the amplitude error estimated with a jackknife resampling; dotted red and dashed blue curve represent the amplitude for trials aligned to midline orlast stimulus, respectively. Only frequencies around 7.6 Hz for trials aligned to the first stimulus were significant (vertical green line; uncorrected p eNeuro (2018)

A difficult task that requires participants to determine which of two stimuli appears first demonstrates how varying rhythms of brain activity may be synchronized to achieve a stable sense of time. The research is published in *eNeuro*.

Rather than processing information at a constant rate, the brain operates at different speeds. To better understand how such differences in processing speed are coordinated, Maria Concetta Morrone and colleagues asked nine participants to judge whether an on-screen blob or a sound was presented before the other by pressing a button.

They found that the participants' decisions regarding the order of the audio-visual stimuli fluctuated with the time between presentation of the stimuli and their button-press. This synchronization occurred before the button-press, demonstrating a link between action preparation and perception.

Overall, the study provides evidence for the influence of the motor system on our sense of time.

More information: Perceptual Oscillation of Audio-Visual Time Simultaneity, *eNeuro*, DOI: 10.1523/ENEURO.0047-18.2018

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