

# Facilitation of temporal regularity on duration judgment: modality general or specific?

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Time perception is crucial because through deciphering temporal structures, we are able to integrate perceptual or action sequences, capture regularities and predict future outcomes. Perceptual timing can be classified into duration-based timing (time judgement) and beat-based timing (temporal regularities) depending on the rhythmic context. Focusing on the relationship between these two timing mechanisms, a previous study showed better performance of time judgement when the two target stimulus-onset asynchronies (SOAs) of click sounds were preceded by a regular auditory click sequence. It is compelling whether such interdependence can be generalized to other modalities. Vision is the most dominant modality for humans, yet visual events are not always accompanied with sound. To test whether temporal regularities can also facilitate time judgement in visual domain, we sequentially presented visual disks with either regular or irregular SOAs, and asked participants to compare the stimulus durations of the last two disks in each series. While all the stimulus durations were constant for each trial, the last one was jittered to be compared with the standard. We observed significantly faster correct reaction times in regular rather than irregular sequences, which indicate that temporal regularity also aids time judgement in visual domain despite poor temporal resolution.

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