

Impact of Implied Motion on Time Perception and Human Spatio-Temporal Dynamics

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The psychological perception of time can expand or contract based on various non-temporal dimensions, one of which is motion. Prior research has established that moving subjects are perceived to last longer than static ones, even when motion is implied through static images depicting dynamic scenes. This study further examines how implied motion and subject category - distinguishing between inert objects and humans - affect time perception. Participants engaged in a temporal bisection task to evaluate the duration of still images that depicted either static or moving, objects or human subjects. Our findings indicate that images of moving subjects, especially humans, are perceived as lasting longer than those of static subjects and inert objects, respectively. Additionally, reaction time analysis revealed a notable interaction between image orientation and duration: participants responded faster to rightward-oriented images at longer durations and to leftward-oriented images at shorter durations, a relationship that was exclusively observed with images of moving humans. These results highlight that both the type of content and the depiction of motion significantly influence time perception. The distinct spatio-temporal associations for moving humans suggest a specialized processing bias, potentially rooted in evolutionary or social factors, underscoring the complexity of how humans interpret temporal information in visually dynamic contexts.

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