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Perceived time varies with different predicted attributes

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Abstract

Predictability associated with an event influences its perceived time. However, the predictions generated about upcoming events can contain information related to different stimulus attributes such as stimulus identity, timing, or location. Based on the wealth of evidence suggesting a dissociable influence of different predictions at the behavioral and cortical levels, we sought to investigate the effect of different aspects of prediction on perceived time. Participants performed three paired-comparison time judgment tasks, each corresponding to different prediction attributes, whilst having their pupil size recorded. Preliminary analysis suggests that the events that matched the predicted identity and timing are perceived to be longer, with a lower sensitivity observed on events that appeared on unpredicted time. Further, the analysis of pupil size during the target presentation revealed a pattern of larger pupil size for the events that matched the predicted identity, as well as, for the events that appeared on unpredicted time. Overall, our results potentially suggest a dissociable influence of various kinds of predictions on perceived time.

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