Crossmodal Processing Effects Through an Eye Tracking Lens

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Abstract

The current experiments used an eye tracker to examine how congruent and incongruent stimuli in one modality affect processing in a second modality. Participants in Experiment 1 had to quickly determine if a stimulus was an animal or a vehicle, and participants in Experiment 2 had to determine if a stimulus had one or two circles (visual), or one or two beeps (auditory). Stimuli were congruent (dog/dog bark, or one circle/one beep) or incongruent (dog/car horn, or one circle/two beeps), and performance was compared to unimodal baseline conditions. Behavioral results in both tasks show that visual stimuli had a larger effect on auditory responding than vice versa – as congruent stimuli sped up responding while incongruent stimuli slowed down responding and decreased accuracy. Oculomotor data acquired via eye tracking mirrored behavioral results, with auditory conditions being more susceptible to interference effects observed through congruency manipulations.

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