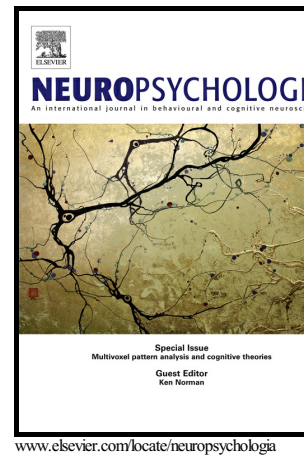


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A matter of attention: Crossmodal congruence enhances and impairs performance in a novel trimodal matching paradigm

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Abstract

A novel crossmodal matching paradigm including vision, audition, and somatosensation was developed in order to investigate the interaction between attention and crossmodal congruence in multisensory integration. To that end, all three modalities were stimulated concurrently while a bimodal focus was defined blockwise. Congruence between stimulus intensity changes in the attended modalities had to be evaluated. We found that crossmodal congruence improved performance if both, the attended modalities and the task-irrelevant distractor were congruent. If the attended modalities were incongruent, the distractor impaired performance due to its congruence relation to one of the attended modalities. Between attentional conditions, magnitudes of crossmodal enhancement or impairment differed. Largest crossmodal effects were seen in visual-tactile matching, intermediate effects for audio-visual and smallest effects for audio-tactile matching. We

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