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Does prediction drive neural alignment in conversation?

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Abstract

A behavioural and two EEG hyper-scanning experiments are presented which investigate how predictive processing modulates the way interlocutors align behaviourally and at the level of the brain (Hasson, 2012; Pickering & Garrod, 2007). In the experiments interlocutors engaged in dyadic interactions performing a semi-controlled semantic association game and where the predictability of the semantic associations was manipulated. The behavioural results showed that both interlocutors were around 400 ms faster in the predictable versus non-predictable conditions. The results of the two EEG studies aim at demonstrating (1) whether we observe brain-to-brain synchronisation between the interlocutors at the level of word semantics, and (2) whether prediction enhances this synchronisation. To our knowledge, this is the first study to directly demonstrate prediction effects in an interaction.