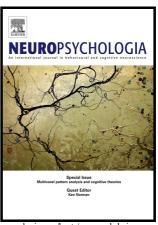
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Neural alpha oscillations index the balance between self-other integration and segregation in real-time joint action.

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Abstract

Shared knowledge and interpersonal coordination are prerequisites for most forms of social behavior. Influential approaches to joint action have conceptualized these capacities in relation to the separate constructs of corepresentation (knowledge) and self-other entrainment (coordination). Here we investigated how brain mechanisms involved in co-representation and entrainment interact to support joint action. To do so, we used a musical joint action paradigm to show that the neural mechanisms underlying corepresentation and self-other entrainment are linked via a process – indexed by EEG alpha oscillations – regulating the balance between self-other integration and segregation in real time. Pairs of pianists performed short musical items while action familiarity and interpersonal (behavioral) synchronization accuracy were manipulated in a factorial design. Action familiarity referred to whether or

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