How mother-infant inter-brain synchrony is affected by the context of the interaction and speech input?

Analysis 2

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Introduction

Previous studies underscore the importance of early social interactions for child language development. Here, we sought to uncover neural mechanisms that support language learning along with these social interactions. More specifically, we investigated how mother-infant inter-brain synchrony at 3 months of age is associated with speech input, and the context of the interaction.

Experimental procedures





Comparison of interpersonal neural connectivity

between one-on-one mother-infant interaction and

mother-infant sitting back-to-back and watching same

Analysis 1







Comparison of interpersonal neural connectivity

between one-on-one mother-infant interaction and

mother-infant interaction in a group context, where

also the father is involved in the interaction



Analysis 3

Exploring how the specific right Temporal - Right Temporal connection during mother- infant 1:1 interaction is related to maternal speech input at the home environment



conclusions

We speculate that one pathway by which early parent-infant face-to-face interactions exert their long-term influence on language development may relate to increased brain-tobrain synchrony, which in turn supports social brain maturation that is involved in language acquisition.