

Title

Relational Neuroscience: Insights from Functional Near-Infrared Spectroscopy
Hyperscanning on Child Development and the Parent-Child Relationship

Abstract

What happens in parents' and children's bodies and brains when they interact? And how do these behavioural and neurophysiological patterns shape child development and the parent-child relationship? In my talk, I will first introduce relational neuroscience as a new area of research dedicated to these questions. A central measure of relational neuroscience is hyperscanning, which simultaneously records behavioural and neurophysiological signals from two (or more) people to measure synchrony—that is, how closely these signals align over time. Drawing on our own studies of parent-child interaction, I will then show how hyperscanning using functional near-infrared spectroscopy (fNIRS) works and what our findings reveal. I will also explain why more synchrony is not always better for optimal child development and the parent-child relationship. Finally, I will discuss practical implications for people and organisations working with children and families, highlighting our collaboration with the UK charity Babygro.