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Testing a dynamic field model of infant visual attention

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Abstract

Many infant experiences are both visual and auditory in nature, but what is the role of auditory cues in visual attention? Using a Dynamic Field model of infant visual attention, we generated simulations of infant looking behaviour in both a tone and no tone version of the Infant Orienting With Attention (IOWA) task. The DF model predicted a significant difference in reaction times and accuracy between the tone and no tone groups with the tone group faster and less accurate. To test this, we ran the IOWA task with 70 infants between 4 and 10 months of age randomly assigned to either a tone or no tone condition. There were no significant between-group differences. We explore these empirical findings using the dynamic field model, extending the model in two directions. First, we utilise Tensorflow tools to optimise the model parameters, and second, we fit the model parameters to individuals.

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