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Ventral anterior cingulate cortex in social decision-making

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Highlights:

- we review the function of ventral ACC in social decision-making
- we focus on recent studies using computational models of social cognition
- subgenual ACC tracks social prediction errors
- perigenual ACC computes indices of self-efficacy
- findings suggest new avenues for studying social disorders

Abstract:

Studies in the field of social neuroscience have recently made use of computational models of decision-making to provide new insights into how we learn about the self and others during social interactions. Importantly, these studies have increasingly drawn attention to brain areas outside of classical cortical "social brain" regions that may be critical for social processing. In particular, two portions of the ventral anterior cingulate cortex (vACC), subgenual anterior cingulate cortex and perigenual cingulate cortex, have been linked to social and self learning signals, respectively. Here we discuss the emerging parallels between these studies. Uncovering the function of vACC during social interactions could provide important new avenues to understand social decision-making in health and disease.

Keywords: subgenual anterior cingulate cortex, perigenual anterior cingulate cortex, computational modeling, social decision-making, prediction error, self-esteem, empathy

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