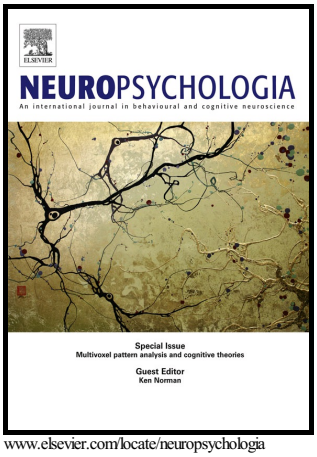

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Testing the importance of the Medial Temporal Lobes in human interoception: Does it matter if there is a memory component to the task?

Joanne Berriman[a], Richard J. Stevenson[a*], Zoe C. Thayer[b, e], Elizabeth Thompson[c], Armin Mohamed[d, e, f], John D.G. Watson[f], Laurie A. Miller[b, e,]

[a]Department of Psychology, Macquarie University, Sydney, NSW2109, Australia.

[b]Neuropsychology Unit, Royal Prince Alfred Hospital, Sydney, NSW2050, Australia.

[c]Department of Radiology, Royal Prince Alfred Hospital, Sydney, NSW2050, Australia.

[d]Neurology Department, Royal Prince Alfred Hospital, Sydney, NSW2050, Australia

[e]ARC Centre of Excellence in Cognition and its Disorders, University of Sydney, Sydney, NSW2006, Australia.

[f]Central Medical School, University of Sydney, Sydney, NSW2006, Sydney, Australia.

[g]Neurology Department, Sydney Adventist Hospital, Sydney, NSW2076. Sydney, Australia.

[*]Communicating author: R.J. Stevenson, Department of Psychology, Macquarie University, Sydney, NSW2109, Australia dick.stevenson@mq.edu.au phone 61-2-98508098; fax 61-2-98508062

Abstract

Interoception is the ability to consciously perceive internal bodily states. Neuroimaging suggests that the insula (IC) and anterior cingulate cortex (ACC) mediate interoception, while studies involving patients/animals with brain lesions suggest the medial temporal lobe (MTL) is particularly important. One reason for these contrasting conclusions may lie in the types of interoceptive task used by these different approaches. Some tasks probably require integration of current physiological state with mnemonic information (e.g., how much one last ate), and these may be especially reliant upon MTL processing. We compared one task that probably requires integration - a water load task - with one that likely does not - a heart-rate tracking task - in two individuals with selective MTL damage (and with intact IC and ACC). A group