

## **Somatic Markers and Memory for Outcomes: Computational and Experimental Evidence**

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### **Abstract**

The most influential theory of what are emotions and how they affect cognition is the Somatic Marker Hypothesis (Damasio, 1994). Most of the evidence supporting this theory, as well as some contrary results (e.g. Maia & McClelland, 2004), comes from a decision-making paradigm known as the Gambling Task.

We propose a revision of the role of somatic markers in cognition. We support our alternative view by describing a detailed computational model that can account for all the experimental data, and successfully reproduce the impairments of patients with different brain lesions. Furthermore, we tested our alternative view by running an experiment with healthy normal participants. The experiment was designed to dissociate the phases of encoding and retrieval of previous negative outcomes in a modified version of the task. An analysis of participants' performances and latencies confirmed that the effect of somatic markers is restricted to the encoding phase.