

PSYCHOLOGY

Decision flows into actions

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Credit: Jemastock/Alamy Stock Vector

The central quest of cognitive psychology is to build and validate models that explain human perception, cognition and action. The core task is to establish which processes constitute the workings of the human mind, and whether they act one after another, or at the same time.

Cristian Buc Calderon, at Ghent University, and colleagues now present a new model that promises to overcome some shortcomings of established approaches. They propose that initiation of an appropriate motor response begins relatively early, in fact, before the decision process regarding the response is entirely completed, using a parallel architecture where past models assumed serial processing. There are two features of observed behaviour in particular that the model can explain better than many previous accounts. First, the model explains the ability to withhold a selected motor response until it is appropriate; second, it accounts for effects of decision processes on motor responses, such as the time it takes to initiate a movement and the path taken in reaching tasks.

A strength of the model is the reference to the neural architecture subserving motor decisions, and both neurophysiological and behavioural evidence will be useful in future evaluations of its ability to explain human behaviour.

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