

Amygdala-Striatal Interactions in Instrumental Learning

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Presentation Abstract Summary In a changing environment, animals have to learn new actions constantly. A key component in learning new goal-directed actions is the expected value of the outcome. Basolateral amygdala (BLA), which projects broadly to dorsomedial striatum (DMS), has been postulated to play a role in signaling the expected value of outcomes. In this study, we designed a set of experiments to investigate the role of BLA to DMS projections in learning novel goal-directed actions. We uncovered that stimulation of neurons projecting from amygdala to DMS is sufficient to reinforce a novel, self-paced action. The action learned was highly sensitive to changes in the action-stimulation contingency, which suggests the animals were utilizing a goal-directed strategy. These findings, taken together with previous studies involving BLA in value tracking, suggest that the projections from BLA to DMS carry value information necessary for the association between action and the current value of the outcome.

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