

# Impact of Social Feedback Stimulus on Information-Integration Category and Rule-based Category Learning

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## Abstract

Social stimulus often triggers a stress response, influencing learning performance depending on the task's nature. Previous research shows that social pressure before learning impairs performance in rule-based (RB) learning tasks, relying on hypothesis-testing mechanisms. Conversely, it may enhance performance in information-integration (II) learning tasks, which depend on procedural memory systems. This study examined the effects of social feedback stimuli (e.g., smiling or angry faces), compared to non-social feedback stimuli (e.g., green circles or red crosses) on performance in RB and II tasks. Participants were assigned to either an RB or II task and received either social or non-social feedback during the task. Results showed that social feedback significantly improved performance in the II task compared to non-social feedback, but did not enhance RB task performance. These results shed light on the distinct cognitive mechanism underlying categorical learning and emphasize the importance of feedback design in educational and training environments.