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A mouse-tracking study of how exceptions to a probabilistic generalization are learned

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Abstract

How are exceptions to a probabilistic generalization learned? The present results suggest exceptions are learned in part by selectively suppressing the competing category, as opposed to only increasing knowledge of exceptions. Participants were exposed to a mini-artificial language with a probabilistic generalization (80-20%) that mapped labels to categories of images (faces and scenes). Mouse-tracking trajectories determined the degree to which the generalization served as a lure to exceptions, compared to a separate baseline condition. Over time, the generalization became suppressed in a context-sensitive way: for exception items only. This extends retrieval induced forgetting, in which a particular item is suppressed due to competition from partial retrieval, to include the entire conceptual category. Post-test revealed high item-specific accuracy, even though category recognition was sufficient for the task.