Learning

The Effect of Verbal and Non-verbal Labels for the Cues in Probabilistic Category Learning

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Learning in a well-established paradigm of probabilistic category learning, the Weather Prediction Task (WPT), has been assumed to be mediated by a variety of strategies reflecting explicit learning processes, such as hypothesis testing, when administered to young healthy participants. Higher categorization accuracy has been observed in the task when explicit processes are facilitated. We hypothesized that furnishing verbal labels for the cues would boost the formation, testing, and application of verbal rules, leading to higher categorization accuracy. We also assumed that cue individuation, as well as exposure to the stimulus set would provide facilitative effects evident in participants' learning performance. To test these hypotheses we trained separate groups of participants for three consecutive days to associate hard-to-name artificial auditory cues to pseudowords or hard-to-name ideograms; or to associate stimulus intensity to colors; a fourth group remained unexposed to the cues. Verbal labels, cue individuation, and exposure to the stimulus set each had an additive effect on categorization performance in a subsequent 200-trial session of the WPT using these auditory cues. This study suggests that cue nameability, when controlled for cue individuation and cue familiarity, has an effect on hypothesis testing processes underlying category learning.