

New Research From Psychological Science

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Read about the latest research published in *Psychological Science*:

[Structure and Implementation of Novel Task Rules: A Cross-Sectional Developmental Study](#)

Frederick Verbruggen, Rossy McLaren, Maayan Pereg, and Nachshon Meiran

The authors tested how children and adolescents performed in new tasks that required learning instructions and structuring the tasks hierarchically. They presented images of cartoon characters that lived on the left or on the right side of the street on a computer screen. Then, they instructed participants to bring the cartoons home in the evening (go phase) and to take them to school (located on the left or right side of the screen) in the morning (next phase) before sending them home. Evening and morning were signaled by light-blue and dark-blue backgrounds, respectively, and the cartoons were moved by pressing the appropriate left or right key. This task required learning both mapping rules and the structure of tasks so as to minimize interference between tasks. All participants responded more slowly when the next phase was incompatible with the learned rules, but the youngest children showed more interference, indicating that the ability to hierarchically structure tasks develops with age. Thus, children were able to learn new rules but had difficulty in discriminating when to use them, showing worse task structuring than adolescents.

[Statistical Learning Creates Novel Object Associations via Transitive Relations](#)

Yu Luo and Jiaying Zhao

Statistical learning can occur without observers being consciously aware of it, for example, when multiple objects regularly appear at the same time. These associations between objects lead to transitive inferences, so objects that have never been directly associated in the real world are associated mentally. The authors tested this idea and its limits in eight experiments. They presented abstract stimuli or names of cities, countries, and parks in a sequence that allowed participants to unconsciously extract associations between the stimuli. After being exposed to the stimuli while performing a cover task, participants completed a task where they had to judge the familiarity of sequences of stimuli. These sequences could be similar to the initial ones, foil sequences, or transitive sequences that could be inferred from the initial ones (e.g., if presented with A-B, B-C, the transitive pair would be A-C). The results showed that participants judged the initial and the transitive sequences as more familiar than the foils, suggesting that they formed transitive inferences. The effect also occurred across categorical hierarchies, with participants making inferences from cities to parks and countries. Thus, new transitive associations between objects may be automatically inferred as a consequence of statistical learning.

[When the Good Looks Bad: An Experimental Exploration of the Repulsion Effect](#)

Mikhail S. Spektor, David Kellen, and Jared M. Hotelling

When choosing from different options, the introduction of a similar-but-worse option tends to increase

the probability that people will choose a similar-but-better option (*attraction effect*). Yet some recent studies showed the opposite—a *repulsion effect*, in which similar-but-worse options “taint” the similar-but-better options, leading to a preference for the competitor over the target. The authors tested the robustness of the repulsion effect and its possible boundaries. In several preregistered experiments consisting of several trials, they asked participants to decide which of three rectangles was the largest, manipulating the characteristics of one of them as a decoy (the similar-but-worse option). The results showed a repulsion effect across experiments, regardless of whether participants were rewarded for correct answers or punished for incorrect answers. However, the arrangement of the options on the screen and their design seemed to influence the effect observed. The repulsion effect diminished when the target and decoy were the most different (i.e., had the largest difference in area). And, when the options were arranged along a horizontal line instead of in a triangle, an attraction effect was more likely than a repulsion effect.