

New Research From Psychological Science

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

[On Learning Natural-Science Categories That Violate the Family-Resemblance Principle](#)

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A classical view of psychology suggests that categories are formed based on family resemblance: Members of a category have a group of features in common that are not shared with members of other categories; however, not all categories have been found to adhere to the family-resemblance principle. In this study, the researchers examined how best to teach dispersed categories (i.e., those categories that do not adhere closely to the family-resemblance principle). The researchers taught college students information about categories of rocks: igneous, metamorphic, and sedimentary. Each of these high-level categories was composed of three subtypes of rocks that were more (compact) or less (dispersed) similar. Participants were taught the compact or dispersed categories of rocks through direct training of only the higher-level categories or through simultaneous training on both the higher-level categories and the subtypes. Higher-level training led to enhanced learning when the categories were compact, but the simultaneous higher-level and subtype training worked better when the categories were dispersed. This finding indicates that the most effective method for learning categories depends on the structure of the to-be-learned information.

[The Whole Warps the Sum of Its Parts: Gestalt-Defined-Group Mean Size Biases Memory for Individual Objects](#)

Jennifer E. Corbett

Given the limited capacity of visual short-term memory, only a small part of what is seen with each glance can be encoded. How, then, is the brain still able to make sense of the world? Studies suggest that the visual system circumvents capacity limitations by chunking information and by engaging in perceptual averaging (i.e., summarizing average properties of similar objects so that redundant detail need not be encoded). To examine how gestalt grouping affects the manner in which information is averaged and remembered, participants were shown a study display showing sets of circles that were defined based on gestalt principles of grouping (similarity, proximity, connectedness, or region). Participants then saw a test display that contained only some of the previously seen circles. The goal of the task was to adjust the size of each test circle to match the size of the circle from the corresponding location in the study display. Adjustment errors were more similar within gestalt-defined groups than between gestalt-defined groups, suggesting that gestalt grouping facilitates perceptual averaging.