

# New Research From Psychological Science

June 03, 2016

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

## [Searching for Category-Consistent Features: A Computational Approach to Understanding Visual Category Representation](#)

*Chen-Ping Yu, Justin T. Maxfield, and Gregory J. Zelinsky*

Categories provide a fundamental structural framework that guides human cognition. When we encounter a single object, we typically understand that it belongs to a hierarchy of different categories that range from very specific (e.g., a sailboat) to very broad (e.g., mode of transportation). What visual features do people use to determine whether an object fits better into one category than another? Drawing on methods from the field of computer vision, researchers developed a generative computational model. The model was trained to identify features consistent with categories ranging from broad to specific using a corpus of 4,800 images of common objects across 68 categories. The researchers found that the results produced by the computational model were consistent with those generated by a group of human participants: Identifying images increases in difficulty as categories become more distinctive and the number of category-consistent features decreases.

## [Vagal Tone and Children's Delay of Gratification: Differential Sensitivity in Resource-Poor and Resource-Rich Environments](#)

*Melissa L. Sturge-Apple, Jennifer H. Suor, Patrick T. Davies, Dante Cicchetti, Michael A. Skibo, and Fred A. Rogosch*

Research shows that children from relatively impoverished backgrounds often find it more difficult than do their wealthier peers to resist a tempting reward in exchange for receiving a larger reward in the future. Although delay of gratification is typically seen as an adaptive trait, some researchers hypothesize that it may be maladaptive when resources are scarce. In two studies, researchers measured children's cardiac vagal tone, a biomarker indicating the ability to respond flexibly to environmental demands, as well as their ability to forego immediate rewards. The studies revealed that high vagal tone was associated with shorter delay of gratification among children from low-socioeconomic-status (SES) backgrounds and with longer delay of gratification among children from higher-SES backgrounds. This finding suggests that high vagal tone functions according to the environmental context. When resources become scarce, high vagal tone may support a shift toward survival strategies that prioritize taking advantage of resources whenever they become available.