New Research From Psychological Science

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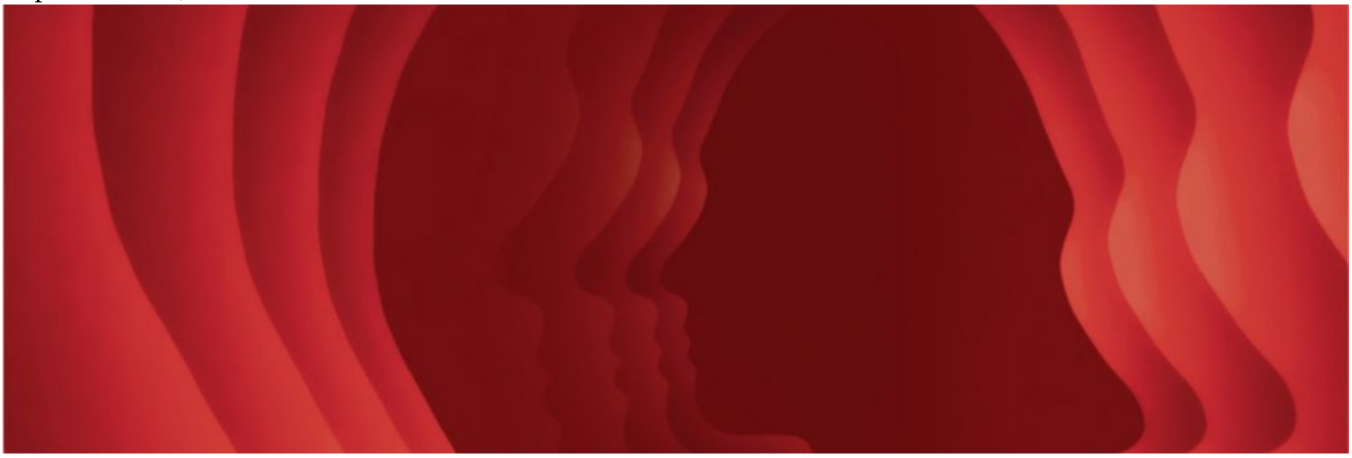

Read about the latest research published in *Psychological Science*:

Extraordinary Altruists Exhibit Enhanced Self–Other Overlap in Neural Responses to Distress
Kristin M. Brethel-Haurwitz, Elise M. Cardinale, Kruti M. Vekaria, Emily L. Robertson, Brian Walitt, John W. VanMeter, and Abigail A. Marsh

Research suggests that similar brain activation in response to our own pain and someone else's pain may underlie our feelings of empathy for others in distress. Is this overlap in the neural representation of pain associated with real-world altruism? Using functional MRI, Brethel-Haurwitz and colleagues measured the brain activity of extraordinary altruists (who had voluntarily donated a kidney to a stranger) and control participants as they experienced increasing pressure on their own thumbnail and as they watched a stranger undergoing the same task. Compared with control participants, altruists showed increased activation in the anterior insula (AI) in response to both firsthand pain and observed pain. At the individual level, activation in the left AI during firsthand pain was associated with left AI activation while observing a stranger's pain, but only among altruists. Despite these differences in relative brain activation, altruists and control participants did not differ in their self-reported empathy for others. The researchers conclude that shared neural representation of pain provides an objective and measurable link between empathy and altruism.

A Comprehensive Meta-Analysis of Spatial Interference From Linguistic Cues: Beyond Petrova et al. (2018)
Zachary Estes and Lawrence W. Barsalou

In the spatial interference effect, words associated with locations (e.g., "bird" implies "top") hinder identification of unrelated targets such as the letter "X" presented at the implied location (in the example, at the top of a display). This effect was initially demonstrated by Estes, Verges, and Barsalou (2008), and in a recent article, Petrova et al. (2018) argued that when the cue word is not presented with at least one other word to provide a spatial context, the effect does not occur (e.g., "bird" would not produce the effect, but “flying bird” would). In this reply, Estes and Barsalou present a meta-analysis of 37 tests of the spatial interference effect. They show, just as Petrova et al. did, that there is no interference effect when (a) there is a long time between the presentation of the cue word and the unrelated target (stimulus onset asynchrony, or SOA) or (b) the language is shallow (i.e., a string of letters is usually pronounced consistently across words, as in Italian) and words can still be read without processing their meaning. However, studies similar to those of Estes et al. (2008), using short SOAs and deep languages (i.e., a given string of letters can be pronounced in different ways, as in English), show a moderately large spatial interference effect.

The Structural and Functional Signature of Action Control

Caroline Schlüter, Christoph Fraenz, Marlies Pinnow, Patrick Friedrich, Onur Güntürkün, and Erhan Genç

People differ in their ability to efficiently use control processes to engage in active goal-oriented behaviors – action control. Schlüter and colleagues investigated whether individual differences in action control can be predicted by the structure and connectivity of specific brain regions. Participants answered the questionnaires of the Action Control Scale, in which they chose either action-control behaviors (e.g., initiative taking) or state-control behaviors (e.g., hesitation) in response to given situations. Then their brains were scanned to obtain an anatomical image (showing structure) and a resting-state image (showing connectivity). Results indicated that participants with a smaller amygdala volume tended to score higher in action control than those with a larger amygdala volume. The connectivity analysis showed that higher connectivity between the amygdala and the dorsal anterior cingulate cortex (dACC), a connection that is assumed to be important for deliberate behavior, was associated with higher action control. Thus, differences in anatomical structure and connectivity of the amygdala seem to be related to differences in action control.