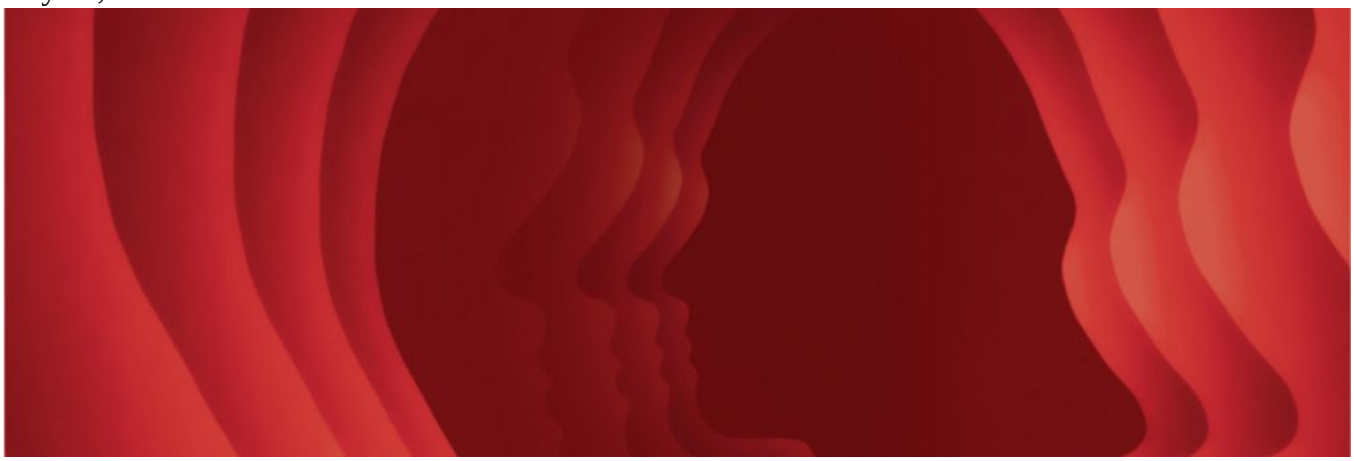
New Research From Psychological Science

July 03, 2019



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

Rationality in Joint Action: Maximizing Coefficiency in Coordination
Georgina Török, Barbara Pomiechowska, Gergely Csibra, and Natalie Sebanz

When people perform actions, they try to be efficient by minimizing the movement needed to achieve the expected goal. For example, at a mall, shoppers might try to walk the shortest route that still allows them to visit all their favorite shops. This research investigated whether pairs of people working together try to minimize the effort required of the group or try to minimize their own effort even if that increases the overall effort for the group. On a touch-screen monitor, participants were asked to move a ball from point A to point B. Between the two points there were obstacles, and participants had to choose between two paths around the obstacles, one longer and one shorter. When performing the task alone, participants tended to choose the shorter path, showing action efficiency. When performing the task with a partner and instructed to only do half of the path, the first participant tended to choose the direction that would lead to a shorter overall path, even if that meant personally having to perform the longer movement. Thus, participants did not choose the path that simply minimized their own or their partner's cost, but they chose the path that minimized their combined cost. These results suggest that people can plan joint actions with their partners in mind and are able to coordinate actions and make decisions that maximize the group's efficiency.

The Protective Effects of Supportive Parenting on the Relationship Between Adolescent Poverty and Resting-State Functional Brain Connectivity During Adulthood
Gene H. Brody, Tianyi Yu, Robin Nusslock, Allen W. Barton, Gregory E. Miller, Edith Chen, Christopher Holmes, Michael McCormick, and Lawrence H. Sweet

Exposure to poverty during childhood has been known as a risk for disrupted brain structure and

function in regions subserving emotional processing, emotion regulation, and executive functioning. However, this association varies widely, and factors such as supportive parenting may protect against some negative effects of poverty, this research suggests. Using functional MRI, the researchers assessed brain structure, including the central-executive and emotion-regulation neural networks, of 25-year-old African American participants living in rural environments in the United States. The participants were recruited from a larger study in which measures of family poverty and supportive parenting (i.e., encouragement, involvement, and communication) had been collected when participants were 11 to 13 and 16 to 18 years old. Participants who had spent more years living in poverty showed less connectivity in the neural networks, which is usually associated with deficits in cognition and emotion regulation, but only if they had received low levels of supportive parenting. Therefore, supportive parenting seems to ameliorate the impact of living in poverty during adolescence on adulthood connectivity in neural networks associated with emotion regulation and executive functioning. The authors suggest that supportive parenting may expose young people who grow up in poverty to cognitive control and problem-solving skills, which they learn through observation and modeling, and affect their brain development during childhood and adolescence.

Mutualistic Coupling Between Vocabulary and Reasoning in Young Children: A Replication and Extension of the Study by Kievit et al. (2017)
Rogier A. Kievit, Abe Hofman, and Kate Nation

In intelligence testing, individuals who score high or low on certain types of cognitive tasks (e.g., verbal tasks) are likely to score similarly in other types of cognitive tasks (e.g., numerical tasks). This effect, known as the *positive manifold*, may arise, or be amplified, by *mutualism*, a mechanism by which cognitive processes engage in reciprocal interactions with each other during development. Kievit et al. (2017) demonstrated that positive reciprocal interactions between vocabulary and reasoning seemed to occur during cognitive development and explained adolescents' positive manifold. The present research replicated and extended Kievit et al.'s 2017 findings by analyzing the scores on vocabulary and matrix reasoning of 6- to 8-year-olds and verifying that a mutualism model explains the results better than other models. Moreover, the mutualistic-coupling effects between vocabulary and reasoning were stronger in younger children than in adolescents. In addition, a simulation showed that the model specifications and the data sample used allowed the support of alternative models (e.g., a model postulating a general intelligence factor, *g*) in case they explained the data better. These findings support the coupling of processes during cognitive development and suggest that mutualism is essential to understanding cognitive development in childhood and adolescence.

Attention Drives Emotion: Voluntary Visual Attention Increases Perceived Emotional Intensity
Kellen Mrkva, Jacob Westfall, and Leaf Van Boven

It is well established that emotion intensifies attention, but can attention intensify emotion? Participants searched for a target image (e.g., a baby, a couple, a palace) among a set of 10 images and then rated each image's emotional intensity and distinctiveness. Participants rated the images they had searched for

as more emotionally intense and more vivid than the images they did not search for, indicating that attention to target images might have increased perceived emotional intensity. The effect seemed to be related to the increased distinctiveness of the images attended to and was larger for neutral images than for positive and negative images, possibly because positive and negative images are inherently more distinctive. Two other experiments used a spatial-cuing procedure in which the participants had to press a key whenever an “X” appeared on the right or left of the screen, thus directing their attention to the image presented on that side of the screen. Participants perceived the spatially cued images as more emotionally intense than noncued images. The effect occurred even when participants were instructed to mentally rehearse the name of the object in the noncued images (e.g., to repeatedly say to themselves “baby” if there were a baby in the image). Taken together, these results suggest that attention may change perception and intensify perceived emotion.