

# New Research From Psychological Science

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

## [Causal Action: A Fundamental Constraint on Perception and Inference About Body Movements](#)

*Yujia Peng, Steven Thurman, and Hongjing Lu*

Research examining causal perceptions that arrive from visual inputs of human action has revealed that humans are sensitive to the timing between limb movements and body displacement. The researchers investigated the tolerance people have for misalignment of limb and body movements by examining how the cause-and-effect relationship in body movements influences the perception and inferences of actions. In the first of two experiments, participants watched point-light actors walk around a checkboard surface that had invisible steps. The researchers manipulated the temporal displacement between body and limb movements by shifting the body movement forward or backward in time relative to the limb movements. Participants judged the point-light walker's movements to be more natural when limb movements preceded body movements than vice versa. Participants were also found to be sensitive to the magnitude of the temporal offsets. This finding suggests that the degree of tolerance people have for temporal misalignment between body and limb movements is constrained by the directionality of the causal relationship between movements.

## [Does One Year of Schooling Improve Children's Cognitive Control and Alter Associated Brain Activation?](#)

*Garvin Brod, Silvia A. Bunge, and Yee Lee Shing*

Children make remarkable improvements in cognitive- and executive-function abilities between the ages of 5 and 7 years, the period during which they enter and begin formal schooling. The researchers examined the neural correlates of these changes in cognitive abilities in a group of children in kindergarten and the first grade. Children's placement in these grades was based in part on parent

preference and children's birth dates leading to overlap in the ages of children in each grade. Over the course of two summers, children completed tests of executive functioning while being scanned in an fMRI. Children exposed to formal schooling demonstrated greater improvements in executive functioning compared with children not yet in formal schooling. Children in formal schooling also displayed greater increases in activation of the right posterior parietal cortex — an area involved in sustained attention — and this increase was correlated with improved accuracy on the executive-function tasks, demonstrating the impact of formal schooling on brain development and function.