New Research From Psychological Science

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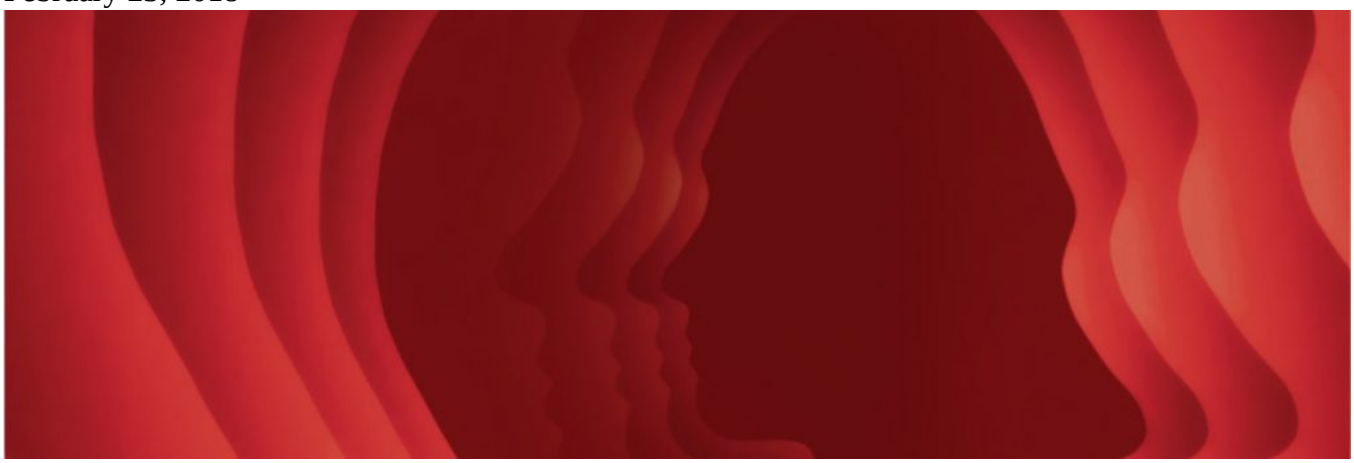

Read about the latest research published in *Psychological Science*:

Positive Attitude Toward Math Supports Early Academic Success: Behavioral Evidence and Neurocognitive Mechanisms
Lang Chen, Se Ri Bae, Christian Battista, Shaozheng Qin, Tianwen Chen, Tanya M. Evans, and Vinod Menon

Having a positive attitude about learning–including a strong interest in the material and confidence that one can learn it–has been linked with actual learning and academic achievement. In this research, the authors explored the neurocognitive mechanisms underlying this relationship, specifically in the domain of math achievement. A behavioral study of 240 children showed that a more positive attitude toward math (measured using a 12-item survey) correlated with stronger math skills, even after cognitive and affective factors such as IQ, working memory, and math anxiety were taken into account. In an accompanying neuroimaging study, the authors investigated whether this relationship was linked with activity in the affective-motivational system (e.g., amygdala, ventral striatum) or the learning-memory system (e.g., hippocampus, medial temporal lobe). The neuroimaging data revealed that a more positive attitude toward math was associated with greater activation of the hippocampus and more efficient memory retrieval as children solved math problems. The findings suggest that the hippocampus plays a unique role in mediating the association between children's attitude toward math and their math achievement.

Genetics, the Rearing Environment, and the Intergenerational Transmission of Divorce: A Swedish National Adoption Study

Jessica E. Salvatore, Sara Larsson Lönn, Jan Sundquist, Kristina Sundquist, and Kenneth S. Kendler
Data show that the adult children of divorced parents are themselves more likely to divorce than are children of continuously married parents. The authors analyzed Swedish national registry data to examine the relative genetic and environmental contributions to the intergenerational transmission of

divorce. In an analysis using a classical adoption design, adopted children resembled their biological parents, but not their adoptive parents, in their history of divorce, suggesting that genetic factors primarily accounted for the association. In another analysis, children who lived with their mothers, but not their fathers, resembled both parents in their history of divorce but showed a stronger resemblance to their mothers, a finding that supports the role of genetic factors and indicates additional influence of the rearing environment. These and other findings provide consistent support for the role of genetic factors and inconsistent support for the role of environmental factors in linking divorce across generations. A genetic predisposition for divorce may reflect a variety of individual differences that contribute to marital instability, the authors conclude.

Pathways Into Literacy: The Role of Early Oral Language Abilities and Family Risk for Dyslexia

Sietske van Viersen, Elise H. de Bree, Marjolein Zee, Ben Maassen, Aryan van der Leij, and Peter F. de Jong

Oral language abilities are thought to contribute to reading comprehension through two developmental pathways, one that works through preliteracy and word-decoding skills and another that works through linguistic comprehension. The authors investigated how early language abilities and family risk for dyslexia influence these two pathways, examining data collected from 237 Dutch children starting in kindergarten and continuing through the sixth grade. A structural equation model confirmed two pathways linking early oral language with reading comprehension at age 12. As expected, one pathway was mediated by preliteracy skills (e.g., letter knowledge, phonological awareness, naming speed) and word-decoding skills (e.g., word-reading accuracy and fluency) and another pathway was mediated by language abilities (e.g., vocabulary knowledge). Early verbal and nonverbal intelligence influenced both pathways but predicted reading comprehension only through language abilities. Family risk of dyslexia, on the other hand, appeared to affect reading ability through preliteracy and word-decoding skills. The findings shed light on the developmental pathways that contribute to literacy in later childhood.

Calorie Labeling Promotes Dietary Self-Control by Shifting the Temporal Dynamics of Health- and Taste-Attribute Integration in Overweight Individuals

Seung-Lark Lim, Molly T. Penrod, Oh-Ryeong Ha, Jared M. Bruce, and Amanda S. Bruce

Drawing from research on attention and decision making, the authors hypothesized that people, particularly those who are overweight or obese, may be more likely to choose unhealthy foods when taste attributes are processed faster than health attributes. They used a computer mouse-tracking paradigm to test whether nutritional information might shift these temporal dynamics. Participants indicated whether they would eat various food items, moving the mouse to the “eat” or “not eat” response on screen. Participants’ mouse trajectories deviated from a straight line more when they were deciding whether to eat an unhealthy food compared with a healthy food, suggesting that decisions about unhealthy foods required additional cognitive effort. The researchers then used participants’ taste and health ratings for the food items to examine how each attribute influenced decision making over time. Individuals who were overweight showed a 230-ms delay in integrating health attributes versus taste attributes relative to individuals who were normal weight or obese; this delay did not occur when calorie information was provided. The results shed light on the temporal dynamics of decisions about food.