New Research From Psychological Science

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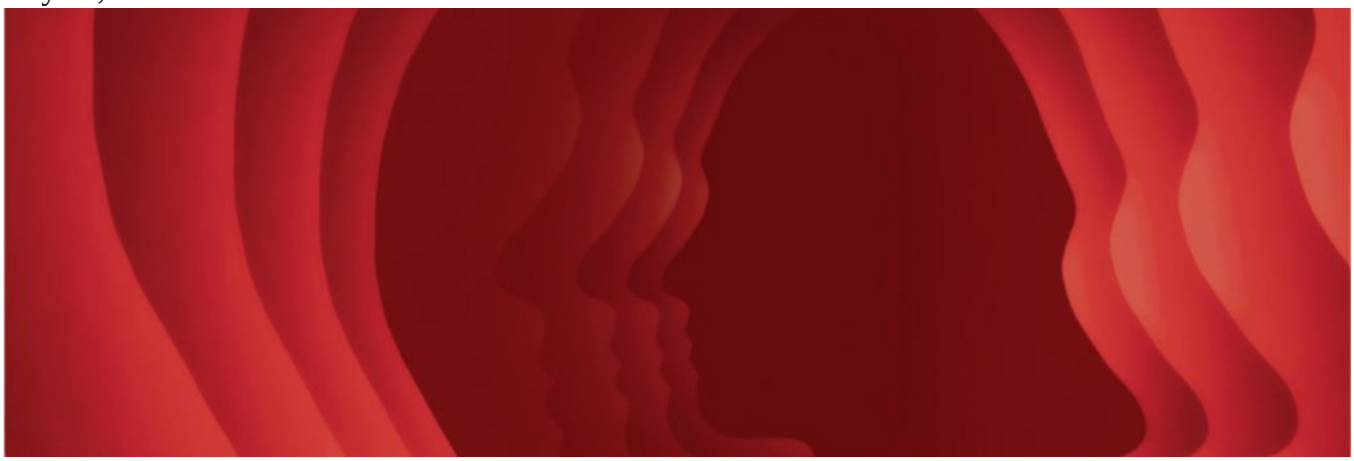

Read about the latest research published in *Psychological Science*:

Perceived Weight Discrimination Mediates the Prospective Association Between Obesity and Physiological Dysregulation: Evidence From a Population-Based Cohort
Michael Daly, Angelina R. Sutin, and Eric Robinson

Obesity has been associated with raised blood pressure, high cholesterol, inflammation, and other forms of physiological dysregulation. But are these effects due to excess body fat or, at least in part, to the widespread stigma and discrimination that people living with obesity experience? A community sample of older English adults (? 50 years old) was followed between 2002 and 2013 as part of a larger study of aging. The researchers calculated participants' body mass index (BMI) as a measure of obesity and assessed participants' perceptions of being discriminated against because of their weight. The researchers also collected measures of physiological dysregulation (e.g., blood pressure, resting pulse rate, cholesterol, white-blood-cell count). Both obesity and perceived discrimination predicted increased dysregulation of cardiovascular, immune, and metabolic functions 4 years later. Moreover, perceived discrimination played a role in the association between obesity and health deterioration. The findings suggest that weight-based discrimination and stigma might act as a daily stressor that increases negative affect and ultimately contributes to obesity-related diseases. Hence, interventions that aim to help people with obesity who are also coping with discrimination might improve their physiological health.

Aversive Imagery Causes De Novo Fear Conditioning
Erik M. Mueller, Matthias F. J. Sperl, and Christian Panitz

Fear responses can be triggered by a neutral stimulus (e.g., a dog) that has been paired with an aversive physical stimulus (e.g., a dog bite). The present research suggests that aversive mental images (e.g., imagining being bitten by a dog) systematically paired with neutral stimuli can also trigger fear

responses. In two experiments, participants were trained to respond to three different visual cues (colored geometric shapes) by imagining a vivid unpleasant event (e.g., stepping on a thumbtack), imagining a neutral event (e.g., stepping on a coin), or avoiding any mental image. Each of the visual cues was then paired with a face exhibiting a neutral expression. Participants rated the faces paired with a visual cue that had been used to elicit an unpleasant mental image as more arousing, unpleasant, and threatening than the faces paired with neutral cues. When shown faces associated with the unpleasant image, participants also displayed a slower heartbeat, a reaction associated with fear responses, and fear-related startle, measured by electromyography of the eye. These effects indicate that subjective and physiological fear responses can be triggered by neutral stimuli that were never paired with repelling physical events but that were paired with a cue for repelling imagery. This might explain how some phobias develop (e.g., a dog phobia in someone who has never been bitten might develop because of imagining being bitten). Thus, aversive imagery might be relevant to understanding and treating anxiety disorders that include fear.

Schema and Motor-Memory Consolidation
Bradley R. King, Nina Dolfen, Mareike A. Gann, Zenzi Renard, Stephan P. Swinnen, and Genevieve Albouy

New information is learned faster if it is compatible with existing knowledge, which, according to the schema model of memory consolidation, occurs because consolidation processes can be accelerated when the new information fits a schema or an abstraction of previous knowledge stored in the neocortex. To investigate whether new motor information can be better learned when it fits previous memories, the researchers had participants perform a serial reaction time task (SRTT) in which they had to press different keys in response to different stimuli (i.e., colored squares presented on a screen). The SRTT established a specific pressing sequence, and participants were later tested on a similar task that required either a compatible sequence (i.e., 75% match with the initial SRTT order and 50% of the same movement transitions) or an incompatible sequence (i.e., only 12% match with the initial SRTT order and 50% of the same movement transitions). Participants were faster and more accurate for the different transitions when the new sequence was compatible with the previously learned sequence, that is, when the new motor information fit the previously learned motor information. This effect occurred even when the beginning of the sequence was not similar to the old one, regardless of explicit awareness of sequences. However, the effect occurred only when motor memory for the old sequence was consolidated overnight. These findings support the idea of a schema model of memory consolidation that can be applied to motor memory. Motor learning might thus be accelerated through the availability of a compatible preexisting motor memory.

Reaching to the Self: The Development of Infants' Ability to Localize Targets on the Body
Jackleen E. Leed, Lisa K. Chinn, and Jeffrey J. Lockman

The ability to localize and reach for targets on one's own body underlies adaptive behaviors such as removing aversive stimuli on the skin (e.g., a crawling spider) or scratching an itch. But how is this ability developed? To find out, the researchers placed vibrating devices on different areas of the head and arms of 7- to 21-month-old infants. Independent observers coded whether infants attempted to reach the device, how successful they were, which hand they used to reach for the device, and how looking at the device was related to its removal. The older infants were, the more successful they were at reaching the devices, regardless of arm or head location. However, infants were more likely to reach for and make

contact with devices at the mouth than at the ears or forehead. For the head, infants tended to use the left hand to reach and make contact with devices on the left, and to use the right hand to reach for and make contact with devices on the right, whereas they used the contralateral hand for devices on the arm. This effect indicates awareness of the impossibility of touching one’s arm with the hand on that arm. Visual localization was associated with successful reaching, but the success of reaching devices without looking was present and increased with age. These findings indicate that infants might be able to localize tactile sensations on their bodies and reach for them before they are able to tell their caregivers what they feel (e.g., tugging the ears may signal an ear infection, even though infants cannot report their discomfort yet).