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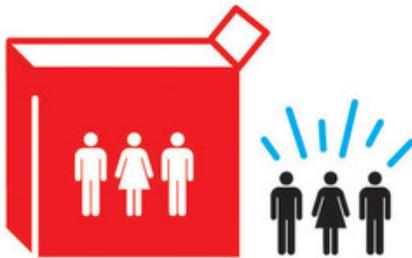
WEEK IN IDEAS | JANUARY 28, 2012

Week in Ideas: Christopher Shea

Psychology

Thinking Next to the Box

Just how potent is the metaphor "thinking outside the box"? Researchers built a 5-by-5-by-5-foot box to find out.



People pondering creative puzzles while being allowed to depart whenever they wished from a rectangular path had more creative answers than those hewing to the path or seated.

Test subjects were given a 10-question word-association test often used to measure one kind of creativity (sample item: What one word links "measure," "worm," "video"?). As they answered, participants sat inside or outside the box or sat in a room sans box.

People sitting outside the box answered more questions correctly than either of the other two groups (and the difference couldn't be explained by claustrophobia or confusion, both of which were measured). Creativity seemed to be spurred by acting out a familiar figure of speech, the researchers said.

In a variation, people pondering creative puzzles while being allowed to depart whenever they wished from a rectangular

path had more creative answers than those hewing to the path or seated.

"Embodied Metaphors and Creative 'Acts,'" Angela Leung and six other authors, Psychological Science (forthcoming)

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Health

Sweating Teen Calories

Do you want to get teens to pay attention to calories? Tell them how long they'd have to jog—a famously unpleasant activity in teenage eyes—to burn them off.

Researchers posted signs next to drinks in four stores in Baltimore patronized by African-American teens, a group seen as particularly at risk for poor nutrition. The signs showed the calories in a typical soda or fruit drink (250); the proportion of daily calories in such a drink (about 10%); or the number of minutes of jogging needed to offset the beverage (50).

Only the jogging signs made a statistically significant difference. The proportion of young patrons who chose a sugary drink after seeing them dropped to 86%, from 93.3%. Especially in poor neighborhoods, the researchers said, young people don't know enough about nutrition for the mere enumeration of calories to shape behavior.

"Reduction in Purchases of Sugar-Sweetened Beverages Among Low-Income Black Adolescents After Exposure to Caloric Information," Sara N. Bleich, Bradley J. Herring, Desmond D. Flagg, and Tiffany L. Gary-Webb, American Journal of Public Health (February)

Medicine

Pain: The Gender Gap

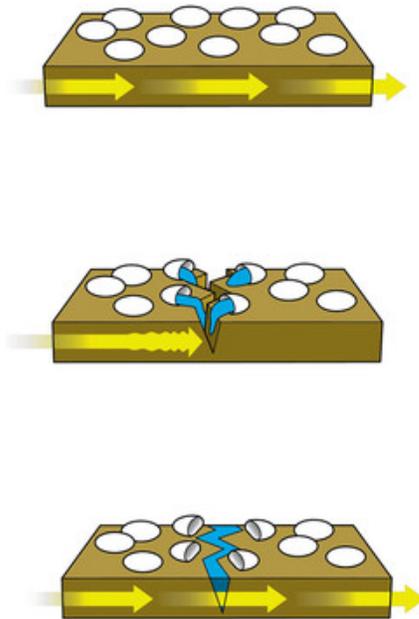
An analysis of the medical records of 11,000 patients at Stanford University's hospital and clinics found that women reported more-severe pain than men did for equivalent disorders. At Stanford, as elsewhere, patients often rate their discomfort on a scale of 0 to 10. The researchers looked at ratings that occurred before analgesics or other treatments were administered.

The divergence was most consistent for musculoskeletal, circulatory, respiratory and digestive problems. Most of the differences in self-assessment were modest, but in some cases they were as large as one point on the 11-point scale. Given the pain reports in the study, that translated to a pain difference of 20% or more.

The results suggest that the day may come when doctors weigh their patients' sex when prescribing painkillers, researchers said.

"Sex Differences in Reported Pain Across 11,000 Patients Captured in Electronic Medical Records," David Ruau, Linda Y. Liu, J. David Clark, Martin S. Angst, Atul J. Butte, Journal of Pain (forthcoming)

Chip, Heal Thyself



Jason Lee

ANATOMY OF A RUPTURE: A circuit (top) breaks, cracking microcapsules filled with a liquid metal alloy. The liquid enters the crack (middle), restoring electric flow (bottom).

You don't repair computer chips, you replace them. But that situation may change if self-healing circuits developed at the University of Illinois at Urbana-Champaign can be perfected.

Researchers created microcapsules a mere 10 microns across, filled with a liquid metal alloy. They then bonded these capsules to the conductive material of a multilevel circuit (gold, in this case). When the circuit was bent to the point where the conductive line broke, the capsules also ruptured, and the liquid metal entered the crack, bringing the circuit back to life in less than 1,000th of a second.

The microcapsules need to be made even tinier before they can be commercially applied, but the approach could also lead to batteries that fix themselves.

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