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Less Pain, Less Joy: A New Look at Acetaminophen

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The drug, found in Tylenol, is an all-purpose damper, a study finds



Illustration: Tim Lahan

Consider this trade-off the next time you have a headache: Would you take a medicine that didn't just ease the pain but muffled your happiness too?

A recent study suggests that acetaminophen—found in Tylenol, Excedrin and a host of other medications—is an all-purpose damper, stifling a range of strong feelings. Throbbing pain, the sting of rejection, paralyzing indecision—along with euphoria and delight—all appear to be taken down a notch by the drug.

For most people, this over-the-counter palliative doesn't demand much thought: Take the right dose and the pain goes away. But it may not be that simple.

In 2010, the psychologists Naomi Eisenberger and Nathan DeWall discovered that a three-week course of acetaminophen [soothed social pain](#), like feelings of exclusion or ridicule. The drug also [assuaged the agony of indecision](#), Dr. DeWall found earlier this year.

Building on this research, a new study, [published in June in the journal Psychological Science](#), shows that acetaminophen affects not just how we perceive physical and psychological pain but how the brain processes strong feelings in general. Though the study was small and limited to college students as subjects, the researchers designed it to meet the high standards of pharmaceutical testing and were able to replicate it.

Led by Ohio State University doctoral candidate Geoffrey Durso, the study compared reactions to 40 photos. Some were run-of-the-mill, some pleasant, others shockingly aversive—including images of fighting in a ravaged city and malnourished children.

A photo can elicit gut-wrenching emotions—or enchant and captivate us. The researchers' goal was to test the painkiller's effects on such reactions. Half of the 85 subjects took 1,000 milligrams of acetaminophen—a standard “extra strength” dose. The rest took a look-alike placebo. Neither the participants nor the researchers knew who had taken what. After allowing time for the medication to take effect, the researchers then asked participants to rate 40 photos using a

standardized test.

“Compared to the placebo, acetaminophen blunted the extremity of their reactions,” said Mr. Durso. And the more intense the emotions, the more acetaminophen muted them. How much did the painkiller dial down the participants’ reactions? “For extremely pleasant stimuli, acetaminophen blunted their emotions by 20%,” Mr. Durso said, and muted reactions to extremely unpleasant photos 10%.

If acetaminophen muffles all kinds of emotional experience, many of our assumptions about mind-body distinctions and how to treat different types of distress may be wrong. “It’s long been thought that positive emotions are one system and negative emotions are another,” said psychologist Baldwin Way of Ohio State, one of the study’s authors. “But if acetaminophen blunts both positive and negative emotions, it’s probably working through the same pathways.”

Like a built-in volume control in the brain, acetaminophen alters the neural circuits that govern our emotional responses in general. Whereas ibuprofen and aspirin inhibit pain by acting right at the site of inflammation, Prof. Way said that acetaminophen acts globally, modifying our reactions to the incoming pain signal. “If you take a painkiller before a run, ibuprofen reduces the pain coming from your knees, whereas acetaminophen reduces how your brain responds to that pain,” he said.

The researchers are now looking at ibuprofen, used in such medicines as Advil and Motrin, to see if it also has psychological effects. What they find may shift how reflexively we reach for pain relief. “Stay tuned,” said Mr. Durso.