

# Over-the-counter painkiller may help ease emotional slights

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Maybe that disgruntled JetBlue flight attendant should have popped a couple of Tylenols. A University of Florida researcher says acetaminophen, an ingredient in the popular over-the-counter pain reliever, may relieve social pain from hurt feelings.

The findings suggest for the first time that emotional and [physical pain](#) are interrelated, said Gregory Webster, a UF psychologist who co-authored the study with a team of researchers.

"We think that social pain piggybacks onto physical pain and the two systems sort of bleed into each other, so that just as you feel emotional distress from physical pain, the social pain of having a romance breakup or getting a horrible grade can translate into feeling sick to your stomach or getting a bad headache," he said.

In the study, to be published in the journal *Psychological Science* and available online, people who took acetaminophen daily for three weeks reported less emotional suffering over time and showed less activity in regions of the brain previously shown to respond to social rejection than those who took the placebo, Webster said.

"Even so," Webster said, "we don't want to tell people to go take Tylenol to cope with their personal problems until more research is done."

The findings have the potential for acetaminophen to be used eventually to treat minor social pains instead of more powerful drugs, Webster said.

Acetaminophen may also show promise in curtailing antisocial behavior, Webster said. Because research has found that being rejected triggers aggression, using acetaminophen to alleviate emotional distress could reduce the likelihood of destructive actions, he said.

"The fMRI (functional magnetic resonance imaging) results from our study show that acetaminophen diminished reactivity in regions of the brain that have been linked to emotional processing, which helps regulate aggression," he said.

The study's participants received functional [magnetic resonance imaging](#) during a computerized game of cyberball, which simulated social rejection. Each participant, accustomed to passing a ball with two computerized images of people who were ostensibly other participants, was suddenly excluded from the exchange as the others pass it back and forth, he said.

"They were not given a reason why, which made it frustrating, which is exactly what we wanted to do," Webster said. "We wanted to give them this feeling of being socially ostracized."

By random assignment, nearly half the participants, 24 women and six men, took a 500-mg pill of acetaminophen immediately after waking up each day and another 500-mg pill one hour before going to sleep, while 24 women and eight men took a placebo. Each night the participants filled out a survey to assess their level of hurt feelings during the day.

Throughout the three weeks, those who took acetaminophen reported significantly fewer hurt feelings on average than participants in the [placebo](#) group, Webster said. In addition, they showed much less activity in areas of the brain linked with emotional feelings, such as hurt and rejection, he said.

"The possibility of this link between physical and [social pain](#) systems is exciting because we live in a dualistic society where people see the mind and body as being very separate," Webster said. "In terms of public policy, it may indirectly support the notion that we should treat mental health issues the same way we treat physical health issues instead of having separate systems for the two."

The connection of mind and body to the extent that pain in one sphere can be transferred at least indirectly to another may have provided an evolutionary edge to our ancestors, he said.

Because humans have an extended infancy compared with many other animals in which they are unable to defend or feed themselves, developing social connections from an early age was crucial, Webster said. As a result, humans' social attachment system may have developed by piggybacking onto the physical pain system and becoming an outgrowth of it in order to promote survival, he said.

"Our findings have important implications because social exclusion is such a common part of life," he said. "People can feel ostracized at work, snubbed by friends, excluded by their partners or slighted in any number of situations."

Provided by University of Florida

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