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Broken Hearts Really Hurt

"Broken-hearted" isn't just a metaphor—social pain and physical pain have a lot in common, according to Naomi Eisenberger of the University of California-Los Angeles, the author of a new paper published in [Current Directions in Psychological Science](#), a journal of the [Association for Psychological Science](#). In the paper, she surveys recent research on the overlap between physical and social pain.

"Rejection is such a powerful experience for people," Eisenberger says. "If you ask people to think back about some of their earliest negative experiences, they will often be about rejection, about being picked last for a team or left out of some social group." People talk about hurt feelings and broken hearts, but Eisenberger realized they might be onto something when she and a colleague noticed how similar their images of brain activity looked in people who had experienced social rejection and others who had experienced physical pain. "We were sitting next to each other and noticed how similar the two brain images looked," she says.

That similarity has held up in later research. Physical pain and social pain are processed in some of the same regions of the brain. Physical pain has two aspects: the sensory experience of pain and the emotional component, in which your brain decides how negative or distressing the pain is. It is the latter that is shared with social pain, although some research has suggested that severe social rejection, like being dumped, can also be processed in the part of your brain that handles the sensory component of pain.

People who are more sensitive to physical pain are also more sensitive to social pain; they feel more rejected after completing a social exclusion task, in which the other two players in a computer version of catch refuse to share the ball. One study even found that people who took Tylenol for three weeks reported less hurt feelings than people who took a placebo. Even Eisenberger was surprised by that. "It follows in a logical way from the argument that the physical and social pain systems overlap, but it's still kind of hard to imagine," she says. "We take Tylenol for physical pain; it's not supposed to work on social pain."

Eisenberger does not recommend taking painkillers so you don't feel social pain. And, besides, there may be value to experiencing the pain of rejection. "I think it's probably there for a reason—to keep us connected to others," she says. "If we're constantly numbing the feeling of social rejection, are we going to be more likely to do things that get us rejected, that alienate us?" There may be some cases where the social pain is too much, though; future research may look at whether it should sometimes be treated.

The research validates the hurt feelings of people who have been socially rejected, Eisenberger says. "We seem to hold physical pain in higher regard than social pain," she says. While bystanders understand that physical pain hurts and can be debilitating, the same empathy doesn't always extend to people feeling social pain. "The research is sort of validating. It suggests that there is something real about this experience of pain that we have following rejection and exclusion."

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For more information about this study, please contact: Naomi Eisenberger at NEISENBE@ucla.edu.

[Current Directions in Psychological Science](#), a journal of the Association for Psychological Science, publishes concise reviews on the latest advances in theory and research spanning all of scientific psychology and its applications. For a copy of "Broken Hearts and Broken Bones: A Neural Perspective on the Similarities Between Social and Physical Pain" and access to other [Current Directions in Psychological Science](#) research findings, please contact **Lucy Hyde** at 202-293-9300 or lhyme@psychologicalscience.org.

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