

Why does feeling low hurt?

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When it comes to pain, the two competing schools of thought are that it's either "all in your head" or "all in your body". A new study led by University of Oxford researchers indicates that, instead, pain is an amalgam of the two.

Depression and pain often co-occur, but the underlying mechanistic reasons for this have largely been unknown. To examine the interaction between [depression](#) and pain, Dr. Chantal Berna and colleagues used brain imaging to see how healthy volunteers responded to pain while feeling low.

Their findings revealed that inducing depressed mood disrupted a portion of the participants' neurocircuitry that regulates emotion, causing an enhanced [perception](#) of pain. In other words, as explained by Dr. Berna, "when the healthy people were made sad by negative thoughts and depressing music, we found that their brains processed pain more emotionally, which lead to them finding the pain more unpleasant."

The authors speculate that being in a sad state of mind and feeling low disables one's ability to regulate the negative emotion associated with feeling pain. Pain, then, has a greater impact. Rather than merely being a consequence of having pain, depressed mood may drive pain and cause it to feel worse.

"Our research suggests depressed mood leads to maladaptive changes in [brain function](#) associated with pain, and that [depressed mood](#) itself could be a target for treatment by medicines or [psychotherapy](#) in this context,"

commented Dr. Berna. Thus, the next step in this line of research will be to examine this mechanism in individuals who suffer from chronic pain, as these individuals also commonly experience depression. The ultimate goal, of course, is to develop more effective treatments. This is good news for the millions of individuals around the world who suffer from chronic pain and depression.

More information: The article is "Induction of Depressed Mood Disrupts Emotion Regulation Neurocircuitry and Enhances Pain Unpleasantness" by Chantal Berna, et al. The article appeared in *Biological Psychiatry*, Volume 67, Issue 11 (June 1, 2010), published by Elsevier.

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