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Social rejection shares somatosensory representations with physical pain.

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Source

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Abstract

How similar are the experiences of social rejection and physical pain? Extant research suggests that a network of brain regions that support the affective but not the sensory components of physical pain underlie both experiences. Here we demonstrate that when rejection is powerfully elicited--by having people who recently experienced an unwanted break-up view a photograph of their ex-partner as they think about being rejected--areas that support the sensory components of physical pain (secondary somatosensory cortex; dorsal posterior insula) become active. We demonstrate the overlap between social rejection and physical pain in these areas by comparing both conditions in the same individuals using functional MRI. We further demonstrate the specificity of the secondary somatosensory cortex and dorsal posterior insula activity to physical pain by comparing activated locations in our study with a database of over 500 published studies. Activation in these regions was highly diagnostic of physical pain, with positive predictive values up to 88%. These results give new meaning to the idea that rejection "hurts." They demonstrate that rejection and physical pain are similar not only in that they are both distressing--they share a common somatosensory representation as well.

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- [Can the functional MRI responses to physical pain really tell us why social rejection "hurts"?](#) [Proc Natl Acad Sci U S A. 2011]

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