

Heartbreak puts the brakes on your heart

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Social rejection isn't just emotionally upsetting; it also upsets your heart. A new study finds that being rejected by another person makes your heart rate drop for a moment. The study is published in *Psychological Science*, a journal of the Association for Psychological Science.

Research has shown that the brain processes physical and social pain in some of the same regions. Bregtje Gunther Moor, Eveline A. Crone, and Maurits W. van der Molen of the University of Amsterdam and Leiden University in the Netherlands wanted to find out how social pain affects you physically.

For the study, volunteers were asked to send the researchers a photograph of themselves. They were told that for a study on first impressions, students at another university would look at the photo to decide whether they liked the volunteer. This was just a cover story for the real experiment. A few weeks later, each volunteer came to the laboratory, had wires placed on their chest for an [electrocardiogram](#), and looked at a series of unfamiliar faces—actual students from another university. For each face, the volunteer was asked to guess whether that student liked them. Then they were told whether the person actually "liked" them or not—although this was merely a computer-generated response.

Each participant's [heart rate](#) fell in [anticipation](#) before they found out the person's supposed opinion of them. Heart rate was also affected after they were told the other person's opinion—if they were told the other student didn't like them, the heart dropped further, and was slower to get

back up to the usual rate. The heart rate slowed more in people who expected that the other person would like them.

The results suggest that the [autonomic nervous system](#), which controls such functions as digestion and circulation, gets involved when you're socially rejected. "Unexpected [social rejection](#) could literally feel 'heartbreaking,' as reflected by a transient slowing of heart rate," the researchers write.

Provided by Association for Psychological Science

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