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Who says love hurts? Romantic partners alter our perception of pain

By Jesse Bering



My mother used to say, “there’s somebody out there for everybody.” It sounds sweet, I know, but when you realize she would say this only in jaw-dropping

astonishment at seeing a loving couple out in public in which both partners were, shall we say, aesthetically shortchanged in some eye-catching way, my dearly departed mother somehow doesn’t sound like such a Polyanna anymore. But she got it basically right. When two people are in [love](#), the world whittles away to them alone, and as new research findings suggest, a mere reminder of that other person can make everything seem a little more manageable—even, as it turns out, physical pain.

In a study published this month in *Psychological Science*, psychology graduate student [Sarah Master](#) of the University of California, Los Angeles, and fellow researchers invited 25 couples into their laboratory for a study on [pain](#) perception. The females—in this study, anyway—got to be the recipients of the experimentally induced pain stimuli. While the male partner was away in another room having his photographs taken for later use in the study, the woman was instructed to place her arm through an opaque curtain. An experimenter on the other side of the curtain first assessed each woman’s “pain threshold” for thermal stimulation, which produces a sharp, acute, prickling pain sensation within about a tenth of a second.

Once the investigators determined each woman’s subjective pain threshold for moderate discomfort—operationalized as a score of “10” on a pain-rating scale of 0 to 20—they proceeded to the experiment, in which the women were subjected to 84 further pain trials. Ouch! Unbeknownst to the female participants, half of these thermal stimulations were administered at the women’s individually predetermined pain threshold levels, and half were set at 1° C above these moderate discomfort levels. In other words, 42 randomly spaced trials during the course of the experiment involved a degree of pain that exceeded the women’s earlier self-reported

tolerance for discomfort. This means that at least half of the trials really would have been more than a little painful under normal, all-else-being-equal, baseline conditions.

As in the assessment trials, the participants were again asked to verbally rate each trial's "unpleasantness" on a sliding scale. And here's where the [romantic partner](#) comes into the picture. The 84 experimental trials were further divided into seven different conditions of six pain stimulation episodes. That is to say, during each painful trial, the woman was either:

- (1) holding the hand of her partner (as he sat behind a curtain)
- (2) holding the hand of a male stranger (again, with the man behind a curtain)
- (3) holding a squeeze ball
- (4) viewing her partner's photographs—the ones taken earlier—on a computer screen
- (5) viewing photographs of a male stranger
- (6) viewing photographs of a chair
- (7) viewing a fixation crosshair

Curiously, the women reported experiencing a slightly greater reduction in pain while viewing their partners' [photographs](#) than they did even for the partner hand-holding condition (although I should point out that the difference between these two experimental conditions was statistically non-significant). More importantly, pain felt under both of these "partner" conditions was significantly less than for all of the other conditions.

It's unclear from these findings exactly why viewing a photo of a loved one ameliorates pain—perhaps even more so than actually holding that same person's hand. Master and her coauthors interpret these data as an example of cognitive priming. Seeing a photo of one's partner stirs up pleasant mental representations of that person, thoughts that have a measurable palliative effect on pain. Unfortunately, the authors do not speculate as to why physical contact with a loved one pales in comparison to simply viewing that person's photo. One possibility may be that, when a loved one is physically present, the sufferer can become distressed by the other person's worrying. A photo of a smiling partner, in contrast, is stripped of those unsettling emotional cues and more easily transports the sufferer to a happier place.

The researchers thus conclude:

The findings suggest that bringing loved ones' photographs to painful procedures may be beneficial, particularly if those individuals cannot be there. In fact, because loved ones vary in their ability to provide support, photographs may, in some cases, be more effective than in-person support.

Fascinating indeed. I must say, however, that I am a bit skeptical about the generalizing of these findings to all romantic relationships. Unfortunately, the researchers do not tell us about the quality of the relationships in the couples used in the study. But I can certainly imagine some instances where, due a strained marriage or some rankling issue such as infidelity, seeing the face of a loved one could actually *intensify* pain. What a clever clinical test of relationship dissatisfaction that would be.

I, for one, would largely prefer a photo of my [dog](#) beside me during a root canal.

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