

# Feeling insecure about your relationship? Your biology may play a role

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Imagine tracking your feelings during daily interactions with your romantic partner. What would you learn? That's what approximately 100 heterosexual couples in Montreal did each day for 3 weeks during a

study run by researchers from McGill University. They were interested in whether a fairly common genetic variant in the opioid system, seen in about a quarter of the population, was associated with feelings of insecurity in romantic relationships. Their results, published in the journal *Molecular Psychiatry*, suggest that, in some cases, there may indeed be a link.

The researchers discovered that, when faced with their partner's quarrelsome, sarcastic, or dismissive behavior, those with a particular variant in a gene involved in the opioid system (which is related to pain and reward), tended to feel more insecure in their relationships when their partner displayed more quarrelsome behavior than usual.

## **Tracking arguments & insecurity daily**

For about three weeks, each partner in close to 100 Montreal [heterosexual couples](#) who live together kept a daily diary of every interaction that lasted 5 minutes or more. In it they noted their own behavior, including when they were quarrelsome, distant or sarcastic, and rated their [feelings](#) of insecurity about the [relationship](#) that resulted from these interactions. They were asked to send in the reports daily, without any discussion with their mates. Typically, each couple reported separately an average of 30 interactions a day. Those with the gene variant were identified using a saliva sample. The researchers then correlated this with diary information about feelings of insecurity linked to a partner's quarrelsome behavior.

## **Feeling the pain of difficult relationships**

"Earlier research has shown that this gene variant is seen in insecure mother-infant attachment in [non-human primates](#), and in feelings of social rejection in humans," said senior author Jennifer Bartz, a

professor in McGill's psychology department. "But no one had looked at this gene in romantic couples' interactions as they unfold in the natural setting of daily life before. Through experiments like this one, we are beginning to gain a better understanding of the biological underpinnings of attachment, and the idea that the human attachment system may rely on the opioid system."

This work is part of a broader literature suggesting that, in the course of our evolutionary history, primitive pain-regulating mechanisms may have been "borrowed" to regulate our attachment to close others, on whom we depend on nurturance and survival. This is perhaps why threats to these close bonds may be experienced as viscerally painful.

## **A heightened sensitivity to difficult interpersonal events**

"We know that individuals differ in how sensitive they are to negative interpersonal events within their close relationships. This research suggests that some of that individual variability is underpinned by [genetic differences](#) in the opioid system," said Ms. Kristina Tchalova and Dr. Gentiana Sadikaj, who are co-first authors on the study. "From a clinical perspective, this work suggests a potential risk factor in the relationship between social stress/loss and maladaptive psychological functioning. Future research will be needed to see whether individuals carrying this genetic variant are particularly susceptible to developing psychological problems in response to interpersonal stressors."

**More information:** Kristina Tchalova et al. Variation in the  $\mu$ -opioid receptor gene (OPRM1) and experiences of felt security in response to a romantic partner's quarrelsome behavior, *Molecular Psychiatry* (2019). [DOI: 10.1038/s41380-019-0600-4](https://doi.org/10.1038/s41380-019-0600-4)

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