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PRESS RELEASE

Geneva | July 29th, 2020

Arguments between couples: our neurons like mediation

Third-party mediation has a positive impact on the outcome of arguments between couples, as evidenced by the increased activity in key areas of the brain that form part of the reward circuit.

When couples argue, mediation by a third party improves the outcome of the confrontation. But that's not all: mediation is also linked to heightened activity in key regions of the brain belonging to the reward circuit - this is the main conclusion of a study carried out by scientists from the University of Geneva (UNIGE) and published in the journal *Cortex*. The experiment consisted of giving couples behavioural questionnaires and subjecting them to functional magnetic resonance imaging (fMRI) prior to and following a session in which the two partners argue. Couples who received active mediation reported higher satisfaction than non-mediated couples at the end of the conflict. Heightened activation in the nucleus accumbens, a key region in the reward circuit, was also identified in the mediation group compared to the control group. This is the first time that a controlled, randomised study has succeeded in demonstrating the advantages of mediation for couple conflicts and identifying a related biological signature.

“We know from numerous studies that thinking about romantic love and your romantic partner activates the so-called reward circuit in the brain, which is associated with feelings of pleasure and motivation,” begins Olga Klimecki, a researcher at the Swiss Center for Affective Sciences (CISA) and in UNIGE’s Faculty of Psychology and Educational Sciences. “Until now, however, we didn’t know the impact that couple conflict, and mediation by a third party, could have on this activation. It was precisely to fill this gap that we devised our study.”

To conduct their experiment, the researchers enrolled 36 heterosexual couples (for statistical reasons and for comparison with previous studies) who were monogamous (according to the statements made by the couples themselves) and who had been together for at least a year. Before coming to UNIGE, participants had to check off a list of 15 standard subjects (in-laws, sexuality, finances, household chores, time spent together, etc.) which most often fuelled conflict with their partner.

Sources of conflict

“We then invited participants to start a discussion about one of these subjects,” explains Halima Rafi, a doctoral student in the Faculty of Psychology and Educational Sciences, and the article’s first author. “Some of the couples chose a box ticked by both partners. Others preferred to start on a subject that only one of the partners considered a source of conflict. This worked just as well, if not better. The first ten minutes were a generally little embarrassing, but things then began to flow with an impressive naturalness, and inevitably ended in conflict.”

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DOI: 10.1016/j.cortex.2020.04.036

The session, which lasted one hour, was accompanied by a professional mediator who mediated the dispute in half of the cases. In the other half, the mediator remained entirely passive. Participants completed a behavioural questionnaire before and after their argument to measure their emotional state. In each couple one member's brain activity was measured before and after the dispute while they were shown images of their romantic partner or images of an unknown person.

General deactivation

Data from the questionnaires indicated that couples who benefited from active mediation were better at resolving conflicts, were more satisfied with the content and progress of the discussion, and had fewer residual disagreements.

“As for the neuroimaging results,” continues Rafi, “the activations before the conflict replicated earlier studies on romantic love, showing an activation pattern in brain regions such as the striatum and orbitofrontal cortex. After the dispute, we quite logically observed a general deactivation in both groups in the regions associated with romantic love, including the striatum.”

By contrast, when comparing couples who received active mediation with those who did not, the researchers found that the former tended to have greater activation in the nucleus accumbens after the conflict, which is a key region in the brain's reward circuit. Moreover, the participants who felt the most satisfied after the resolution of the conflict also had the highest nucleus accumbens activation when looking at their romantic partner compared to an unknown person.

“Our results suggest, for the first time, that third-party mediation has a significant and positive impact on the way couples argue, both behaviourally and neurally,” concludes Klimecki. “This biological signature for romantic love is very interesting because it cannot be manipulated in the same way that an answer to a questionnaire could be. We would now like to continue the research and see, for example, whether we can measure similar effects in conflicts of a different type and not necessarily concerning love.”

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