

# Mirror-sensory synesthetes show more empathic and altruistic behaviour

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About one in fifty people has it: mirror-sensory synesthesia. This means they can feel it in their own bodies when they see others get hurt or touched, like seeing someone cut one's finger or getting a hug. New research by Radboud cognitive neuroscientists shows that these synesthetes show more empathic and altruistic behaviour.

In the research the mirror-sensory synaesthetes rated pictures with pain as more negative and more arousing than controls, and images of positive touch as more positive and more calming. Also measured was, among other things, their [heart rate](#), pupil dilation and [skin conductance](#), but these bodily responses of arousal and stress during picture viewing were not different for synesthetes.

## Altruism and empathy

Mirror sensory synesthetes show more empathic [behavior](#) than others. So far, only questionnaire data had demonstrated this enhanced empathy. The researchers now show that the synesthetes also report enhanced affect when looking at pictures depicting situations involving pain and touch.

Empathy motivates us to help others even when this comes with a cost to the self. Hence it was expected that the highly empathic synesthetes would behave more altruistic. This was tested in a setting where they could decide to share an amount of money with someone they had never

met. The synesthetes demonstrated enhanced altruistic behavior donating more money as predicted.

The results add to our understanding of the relationship between empathy and costly helping behavior, supporting the interpretation that enhanced [empathy](#) leads to enhanced altruistic behavior. The study is the first to reveal the stimulating influence of mirror-sensory synesthesia on prosocial behaviour.

**More information:** Kalliopi Ioumpa et al. Enhanced self-reported affect and prosocial behaviour without differential physiological responses in mirror-sensory synaesthesia, *Philosophical Transactions of the Royal Society B: Biological Sciences* (2019). [DOI: 10.1098/rstb.2019.0395](#)

Provided by Radboud University

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