

Journaling inspires altruism through an attitude of gratitude

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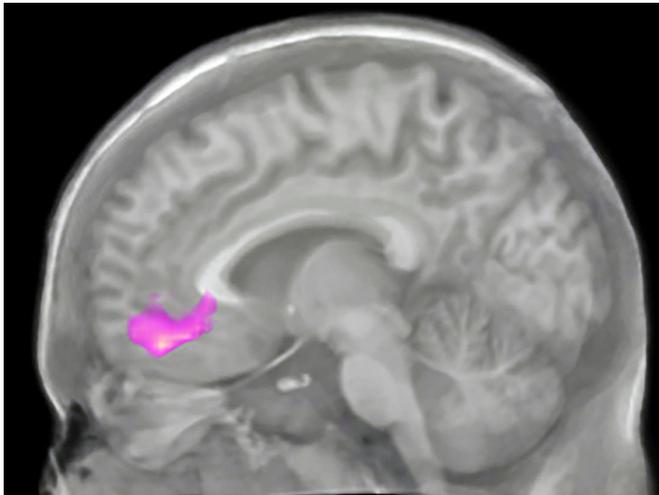


Image captured with functional MRI shows the location in the brain's ventromedial prefrontal cortex where an increase in neural altruism occurred for a group of women who wrote about gratitude daily for three weeks in an online journal in a study conducted at the University of Oregon. The same response was not seen in a group of women whose journal entries did not touch on gratitude. Credit: Christina Karns

Gratitude does more than help maintain good health. New research at the University of Oregon finds that regularly noting feelings of gratitude in a journal leads to increased altruism.

The study, published in the journal *Frontiers in Human Neuroscience*, sought to determine whether personal altruistic traits could be increased with a writing intervention.

Initially, participants were assessed through questionnaires and brain scanning by [magnetic resonance imaging](#). During their first run through the MRI, the participants viewed transactions in which a sum of money was donated to a local food bank or routed to themselves.

"We found that across the whole group at the first session, people who reported more altruistic and grateful traits showed a reward-related brain response when the charity received money that was larger than when they received the money themselves," said Christina M. Karns, director of the UO's Emotions and Neuroplasticity Project in the Department of Psychology.

Results of functional MRI, which measures the metabolism of oxygen in active brain cells, showed that [altruism](#)-related activity increased in the [ventromedial prefrontal cortex](#), an area deep in the brain associated with altruism in previous studies, including one led by study co-author Ulrich Mayr that found increases in pure altruism as people grow older.

Next, to test the journaling intervention, the 33 women, ages 18-27, who participated in the study were randomly assigned to two groups. In one, 16 wrote daily in an online journal, responding to prompts with questions related to [gratitude](#). The other 17 received neutral daily prompts not focused on gratitude.

Three weeks later, the participants returned for functional MRI scanning as they repeated the questionnaires and viewed transactions of money going to the [food bank](#) or themselves.

"We found that activity recorded in the ventromedial prefrontal cortex shifted in the people in the gratitude-journaling group," Karns said. "This group, as a whole, increased that value signal toward the charity getting the money over watching themselves get the [money](#) as if they were more generous toward others than themselves."

Research on positive thinking and practicing gratitude previously has shown benefits to improved health and general well-being, but the new research, Karns said, was designed to explore gratitude with a philosophical perspective. This

perspective emphasizes more than gratitude's benefit to oneself, focusing on the downstream benefits of gratitude to others in society.

To do that, she used a variety of questionnaires to discreetly explore the participants' feelings about altruism, combining them with the transaction-viewing exercise developed by the co-authors for use in earlier studies.

The new study's results indicate, Karns said, that the part of the brain that supports feeling a reward is flexible, allowing for changes in values of a "neural currency" linked to feelings of altruism.

"Our findings suggest that there's more good out there when there is gratitude," Karns said.

Whether the changes brought about by gratitude journaling endure and are realized more generally are open questions, Karns said. For example, the study focused on only women to reduce variables related to gender.

"I would like to do a longer-term study with more people to see how this holds up in the real world," she said. "I would love to have a large enough sample to see if there are gender differences and how they manifest. Does this feeling last? How often do you have to journal to be most effective?"

More information: Christina M. Karns et al, The Cultivation of Pure Altruism via Gratitude: A Functional MRI Study of Change with Gratitude Practice, *Frontiers in Human Neuroscience* (2017).
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