

How brain processes contribute to different types of delusions

August 13 2024



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Delusions—fixed false beliefs—can be tricky to study. And it's not yet clear how the brain gives rise to these departures from reality. Further, there are many types of delusions. Those with persecutory delusions or paranoia, for example, believe others have harmful intentions toward them, while individuals with delusions of control believe others have command over their thoughts.

[In a study published](#) in the journal *Brain*, Yale researchers began to tease apart how brain processes contribute to different types of [delusions](#).

For the study, [volunteers](#) with either paranoid or non-paranoid delusion-like beliefs performed two computer tasks. In one, the rules for winning changed over time, requiring participants to update their beliefs. The second [task](#) evaluated to what extent established information blocked participants' learning of new information.

"Essentially, the tasks were aimed at observing how people formed beliefs and how they changed them," said Philip Corlett, an associate professor of psychiatry at Yale School of Medicine.

"We found that people with delusion-like beliefs performed differently than healthy individuals. But we also found that people with paranoid and non-paranoid beliefs performed differently than each other, which hasn't been observed before."

The findings, says Corlett, suggest that learning dynamics have a significant role in how different types of delusions arise, which could inform how to predict risk of psychosis across individuals.

More information: Rosa Rossi-Goldthorpe et al, Different learning aberrations relate to delusion-like beliefs with different contents, *Brain* (2024). [DOI: 10.1093/brain/awae122](https://doi.org/10.1093/brain/awae122)

Provided by Yale University

Citation: How brain processes contribute to different types of delusions (2024, August 13) retrieved 14 August 2024 from <https://medicalxpress.com/news/2024-08-brain-contribute-delusions.html>

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