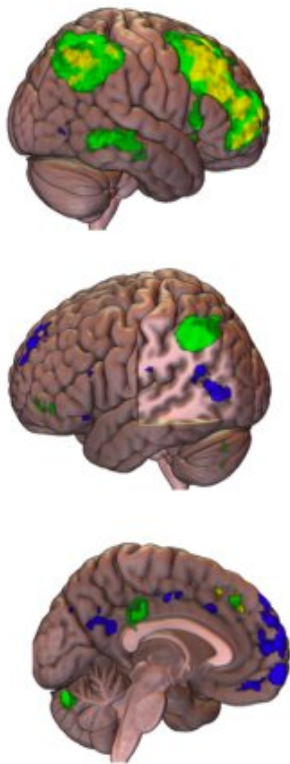


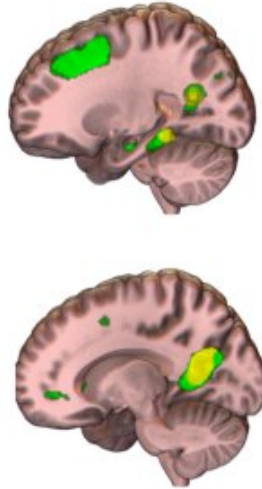
# Investigators shed new light on brain activity related to dissociative symptoms

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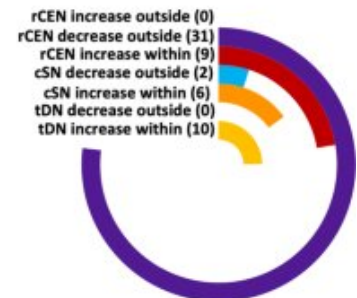
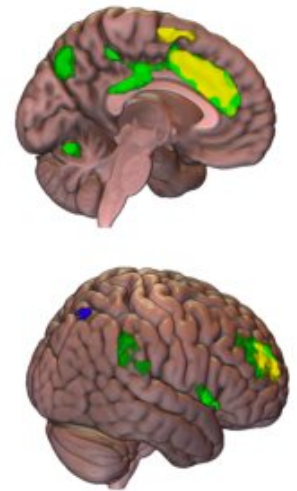
Right Central Executive Network



Medial temporal Default Network



Saliency Network



Triple network model of pathological dissociation. Credit: *Neuropsychopharmacology* (2022). DOI: 10.1038/s41386-022-01468-1

Trauma can cause dissociative symptoms—such as having an out-of-body experience, or feeling emotionally numb—that may help an individual cope in the short term but can have negative impacts if the symptoms persist for a long period of time.

In a new study recently published in *Neuropsychopharmacology*, a team led by investigators at McLean Hospital, the largest psychiatric affiliate of Harvard Medical School and a member of Mass General Brigham, has identified regions within [brain networks](#) that communicate with each other when people experience different types of dissociative symptoms.

"Dissociation and severe dissociative disorders like [dissociative identity disorder](#) or 'DID' remain at best underappreciated and, at worst, frequently go undiagnosed or misdiagnosed," said co-lead author Lauren A.M. Lebois, Ph.D., director of the Dissociative Disorders and Trauma Research Program.

"The cost of this stigmatization and misdiagnosis is high—it has prevented people from accessing appropriate and [effective treatment](#), caused prolonged suffering, and stunted research on dissociation. In addition, given that DID disproportionately affects women, [gender disparity](#) is an important issue in this context."

Lebois and her colleagues' study included 91 women with and without histories of childhood trauma, current [post-traumatic stress disorder](#), and with varied levels of dissociative symptoms. Participants completed a [functional magnetic resonance](#) imaging scan so that investigators could gain insight into their [brain activity](#).

"The [novel methods](#) we used to study brain connectivity are critical for understanding the role these network disturbances play in dissociative disorders," said co-senior author Lisa D. Nickerson, Ph.D., director of the Applied Neuroimaging Statistics Lab at McLean Hospital.

The scientists found that different dissociative symptoms were uniquely associated with connections of areas in brain networks that are responsible for cognition and emotion processes. "We found that dissociation common to post-traumatic stress disorder and dissociation central to DID are each linked to unique brain signatures," said Lebois.

The team hopes that a better understanding of the brain correlates of dissociation will help to rectify historical misunderstanding about dissociation and DID, destigmatize these experiences, and contribute to reducing gender-related health disparities.

"We also hope it will increase awareness of dissociative symptoms—and that, ultimately, clinicians will be more likely to assess for and consider these symptoms, and to connect patients with timely and appropriate treatment," said co-senior author Milissa Kaufman, MD, Ph.D., director of the Dissociative Disorders and Trauma Research Program.

It is important to note the unique brain signatures of different dissociative symptoms may point to new therapies, the study authors said. "In the future, we could target brain activity related to dissociation as a treatment in and of itself," said co-author Kerry J. Ressler, MD, Ph.D., chief scientific officer for McLean.

**More information:** Lauren A. M. Lebois et al, Deconstructing dissociation: a triple network model of trauma-related dissociation and its subtypes, *Neuropsychopharmacology* (2022). [DOI: 10.1038/s41386-022-01468-1](https://doi.org/10.1038/s41386-022-01468-1)

Provided by McLean Hospital

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