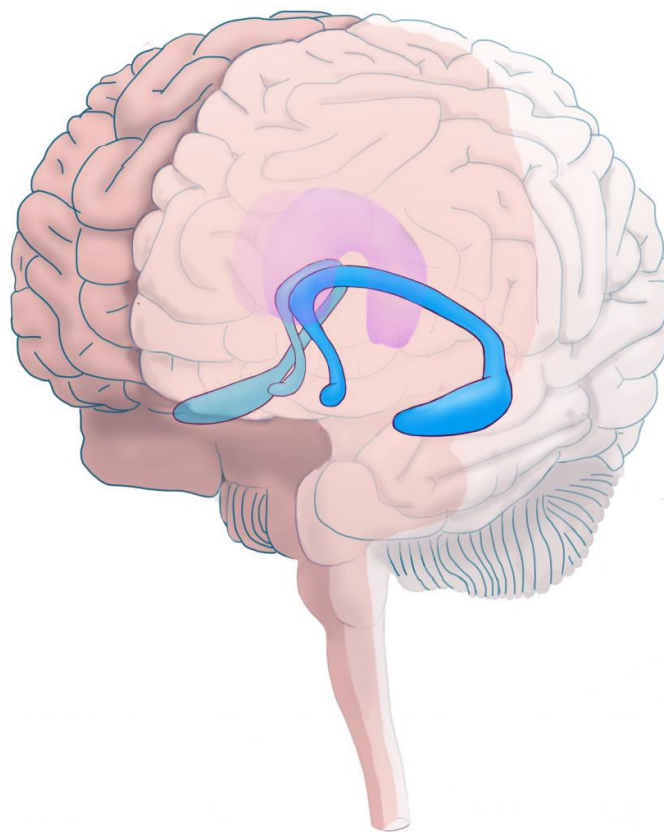


# Brain's hippocampal volume, social environment affect adolescent depression

May 17 2017, by Karen Nikos-Rose

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The hippocampus, in blue, located in the medial temporal lobe of the brain. It is a part of the brain that deals with emotions./UC Davis Illustration by Jay Leek  
Credit: Jay Leek, UC Davis

Research on depression in adolescents in recent years has focused on how the physical brain and social experiences interact. A new University of California, Davis, study, however, shows that adolescents with large hippocampal volume were more, or less, susceptible to feelings of depression depending on how unsafe—or conversely—protected they felt in their home and community environments.

Hippocampal volume refers to the overall size of the hippocampus, a [brain](#) structure below the cerebral cortex. Traditionally, research has shown that a smaller hippocampus is implicated in [depression](#), but this study showed that a larger hippocampus may indicate a greater ability for adolescents to take advantage of the support in their environments and overcome fear, anxiety and depression.

"As adolescents with more severe [depressive symptoms](#) are at greater risk of developing clinically diagnosed depressive disorders in adolescence and beyond, our results have important implications for prevention and intervention strategies. With this knowledge, we can better prevent and treat depressive symptoms in the teen years," said Amanda Guyer, professor of human development and family studies with the UC Davis Center for Mind and Brain. She is a co-author of the study.

The study also pointed out that as neuroimaging becomes more feasible in diagnosis, the findings could prove helpful in identifying individuals' risk for depression early on.

The research represents a significant step forward to better understanding the complex interactive role of biological and environmental factors in both risk and resilience to depressive symptoms, the study found.

The study looked at 209 youths, conducting scans of their brains in 11th or 12th grades. Researchers monitored youth for self-reported depression symptoms, looking at students' exposure to family connectedness—centered inside the home. Researchers also monitored youths' exposure to issues outside their home, such as crime in their community.

The teens involved in the study were of Mexican origin, a group which is a group at heightened risk for depression, the authors state.

The study, "Hippocampal Volume as Amplifier of Effect of Social Context on Adolescent Depression," is co-authored by faculty from the UC Davis Center for Mind and Brain, and the departments of psychology and human ecology. It appeared May 13 in *Clinical Psychological Science*.

**More information:** Roberta A. Schriber et al. Hippocampal Volume as an Amplifier of the Effect of Social Context on Adolescent Depression, *Clinical Psychological Science* (2017). [DOI: 10.1177/2167702617699277](https://doi.org/10.1177/2167702617699277)

Provided by UC Davis

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