

Sex-related differences in the brain may affect pathways to substance abuse in adolescents with bipolar disorder

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A new study has found that adolescents suffering from bipolar disorder are more likely to develop substance use disorders if they have lower gray matter volume in the brain, a clue that can help in the design of better methods for early detection and more targeted prevention and treatment.

Dr. Hilary Blumberg, senior author of the study pointed out that bipolar and <u>substance use disorders</u> often develop together in adolescence, and this co-occurrence increases the risk of <u>adverse outcomes</u> such as suicide. "This study provides the first insight into the regulatory brain systems that may underlie this elevated risk," added lead author Dr. Elizabeth Lippard.

Importantly, the investigators also found that the gray matter reductions had different patterns in females and males.

"Our findings provide further evidence that sex matters in neuroscience research and demonstrate the importance of examining differences between girls and boys, women and men," said co-author Dr. Carolyn Mazure. "We don't know what we don't study. And what we don't know can't be used to help others."

"It is critical to continue to work to understand sex differences in the development of brain pathways to these disorders to improve <u>early</u>



detection, treatment, and prevention," Blumberg said.

More information: Elizabeth T.C. Lippard et al. Brain circuitry associated with the development of substance use in bipolar disorder and preliminary evidence for sexual dimorphism in adolescents, *Journal of Neuroscience Research* (2017). DOI: 10.1002/jnr.23901

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