

## ***Sex-Specific Transcriptional Changes in Response to Adolescent Social Stress in the Brain's Reward Circuitry***

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**Summary:** This paper focuses on the synergistic relationship between stress and sex during a key period of neurodevelopment, adolescence, as it relates to risk for subsequent responses to drugs of abuse. Using RNA-seq, Walker et al. discovered dramatic basal sex differences in the transcriptome of mice in the reward circuitry of the brain after cocaine exposure in adulthood, despite similar behavioral responses to the drug in males and females. In addition, they found adolescent social isolation stress led to a lessening of sex differences in the brain's transcriptomic response to adult cocaine exposure, with males showing a 'feminization' of gene expression. Overall, these studies suggest stress during adolescence has robust effects on subsequent transcriptomic response to drugs of abuse that are dramatically dependent upon biological sex.

**Link:** <https://doi.org/10.1016/j.biopsych.2021.02.964>