

BraiNY Journal Club Presents:



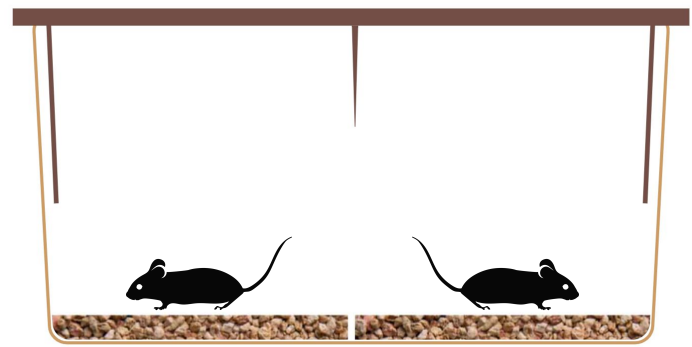
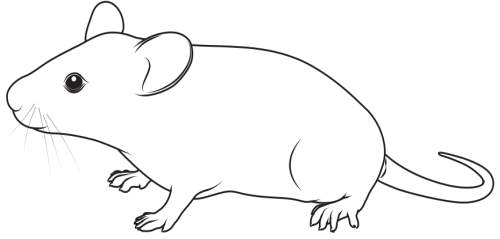
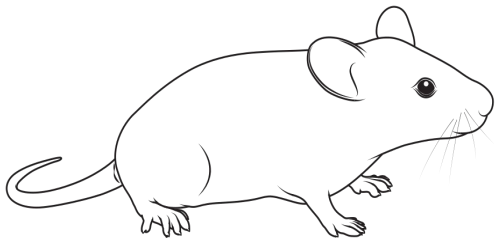
Controllable stress elicits circuit-specific patterns of prefrontal plasticity in males, but not females

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Rebecca M. Shansky

Presented by: Yerram Pooja Chowdary & Sahana

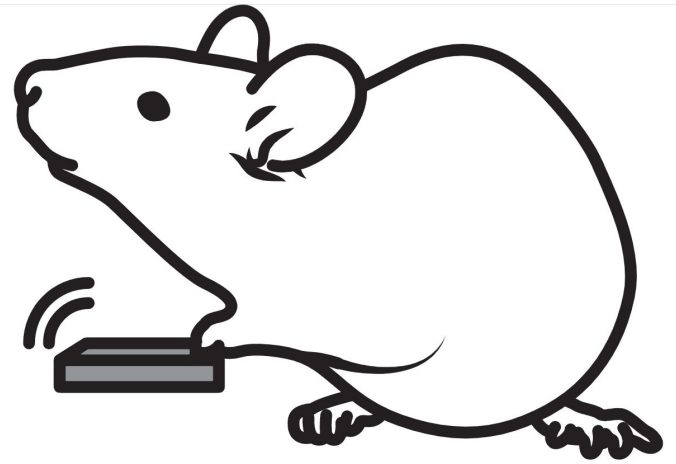
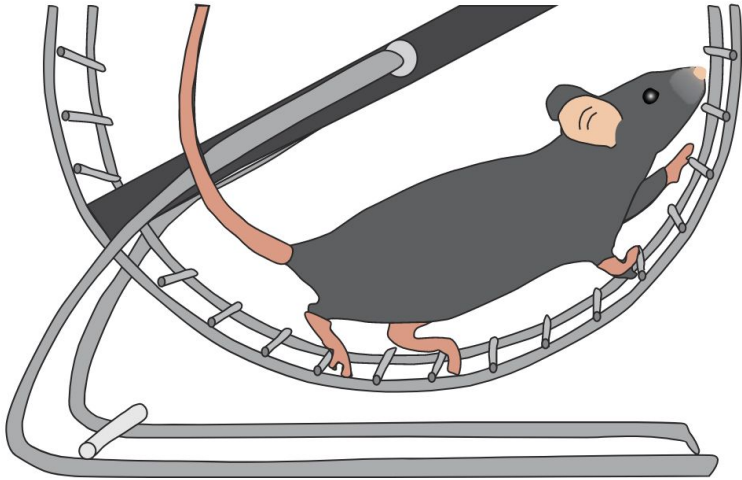


Introduction:



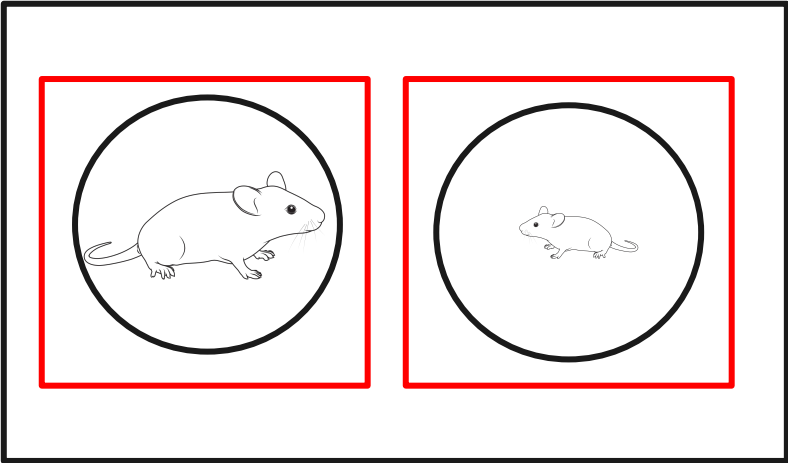


Methods: Study 1 -

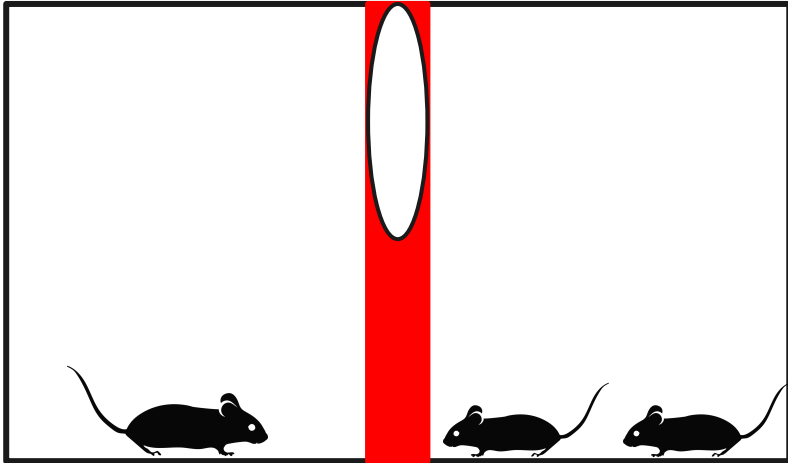




Juvenile Social Interaction

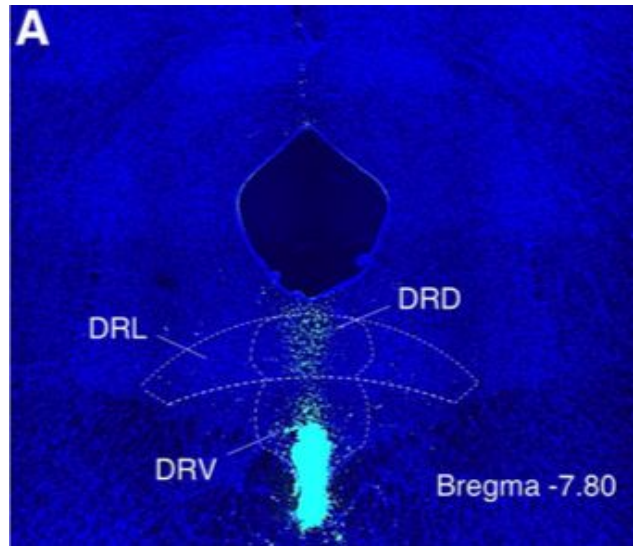
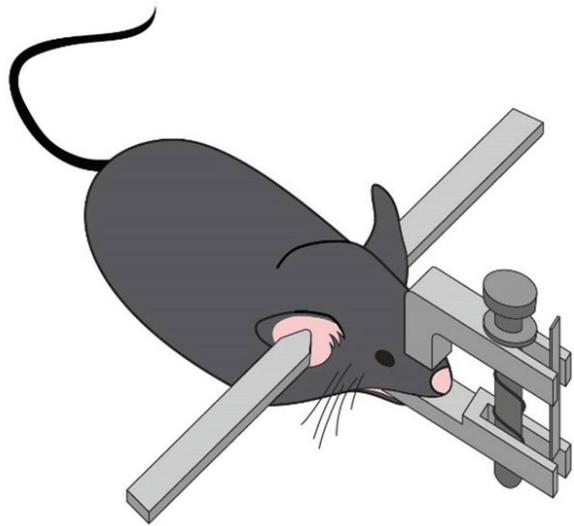


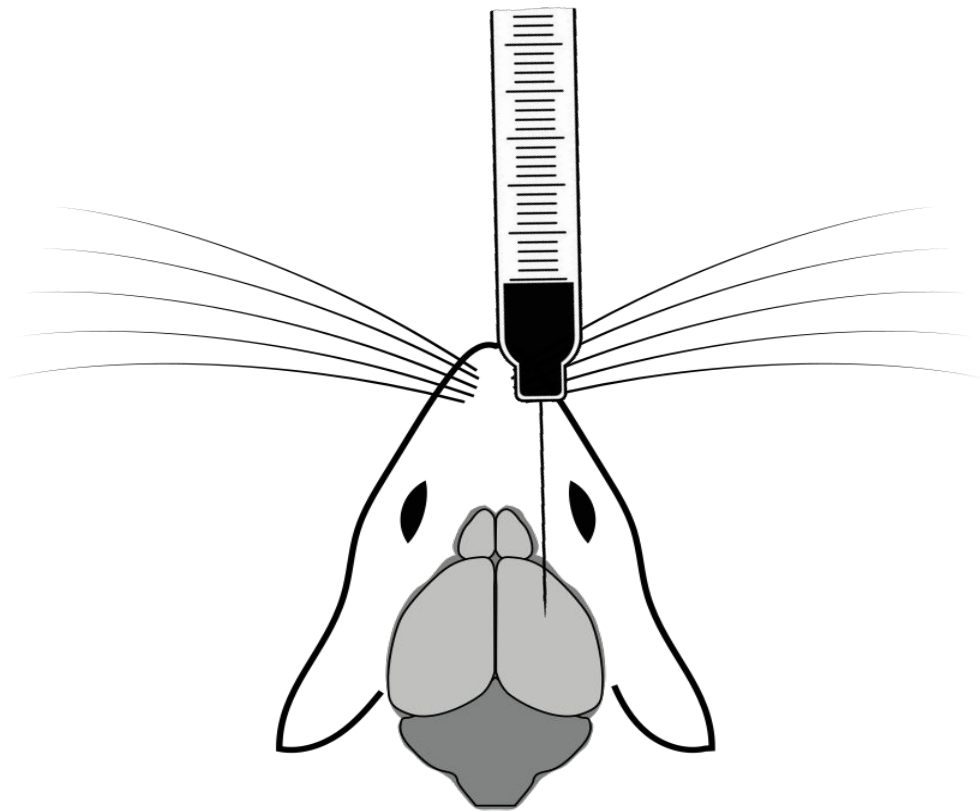
Shock elicited freezing

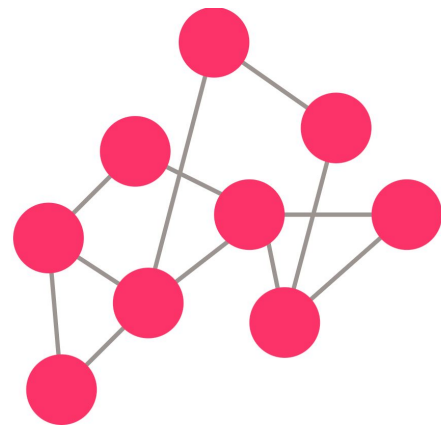
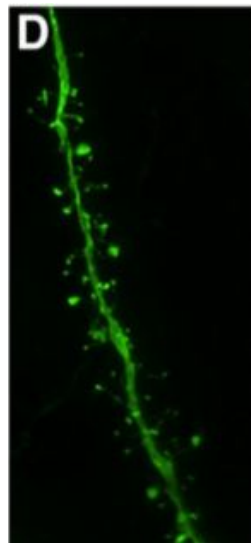
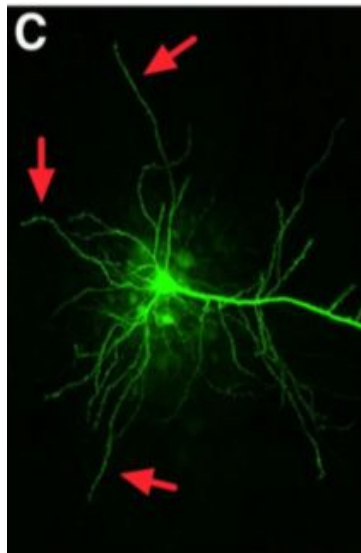
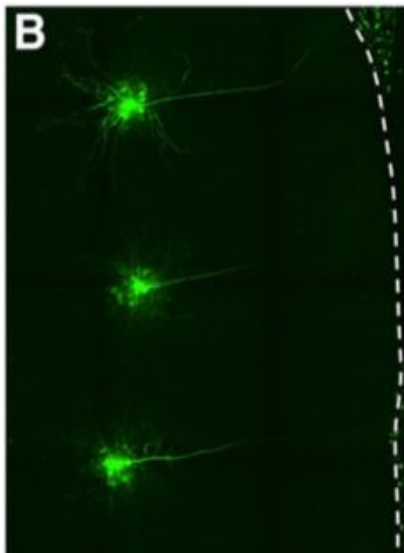




Study 2





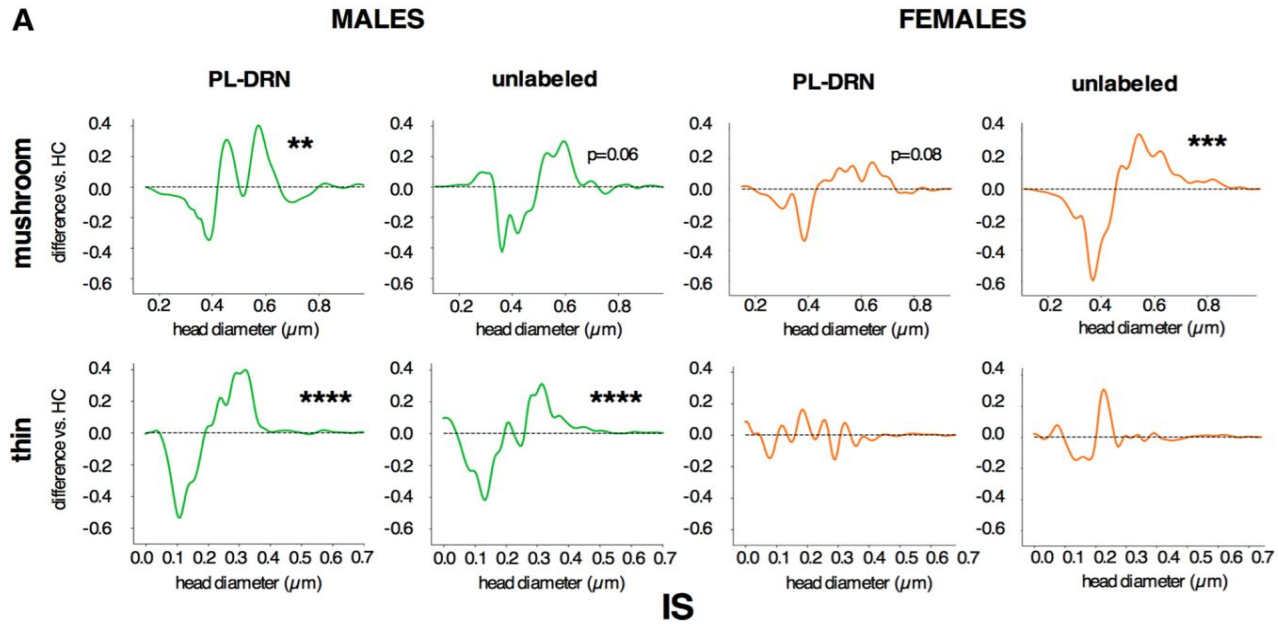




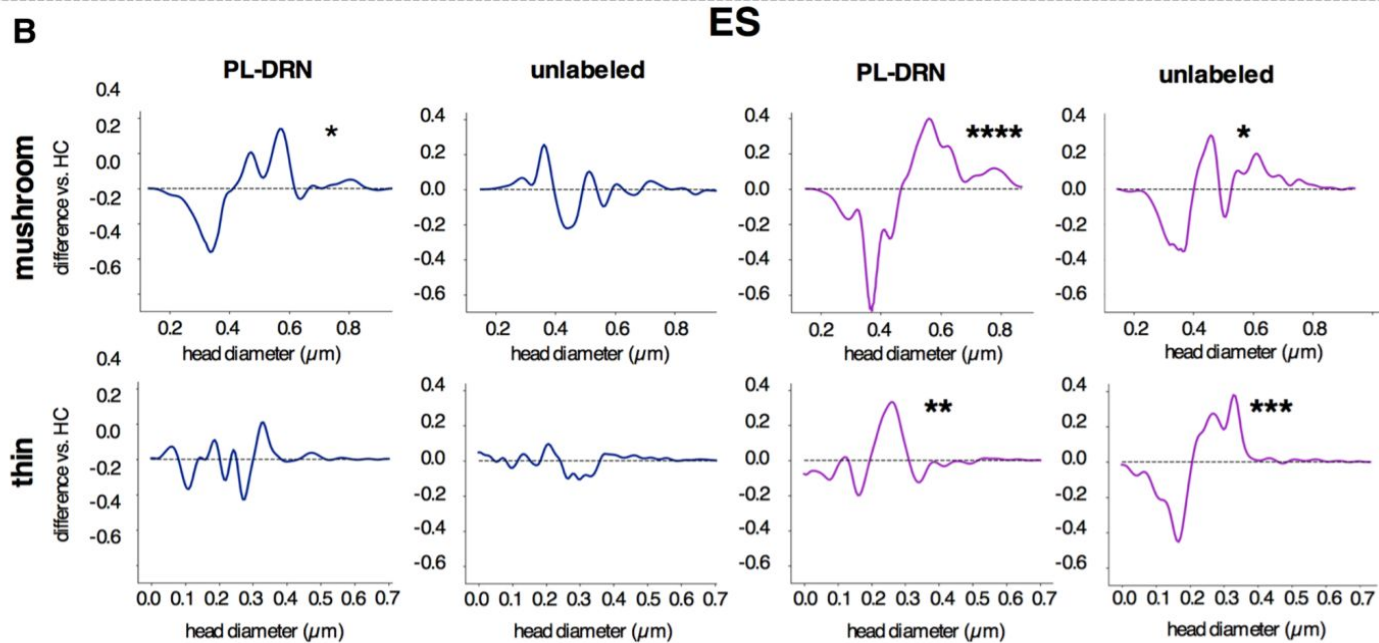
Results

1. Wheel turn ES/Yoked IS.
2. JSE test.
3. Shock elicited freezing.

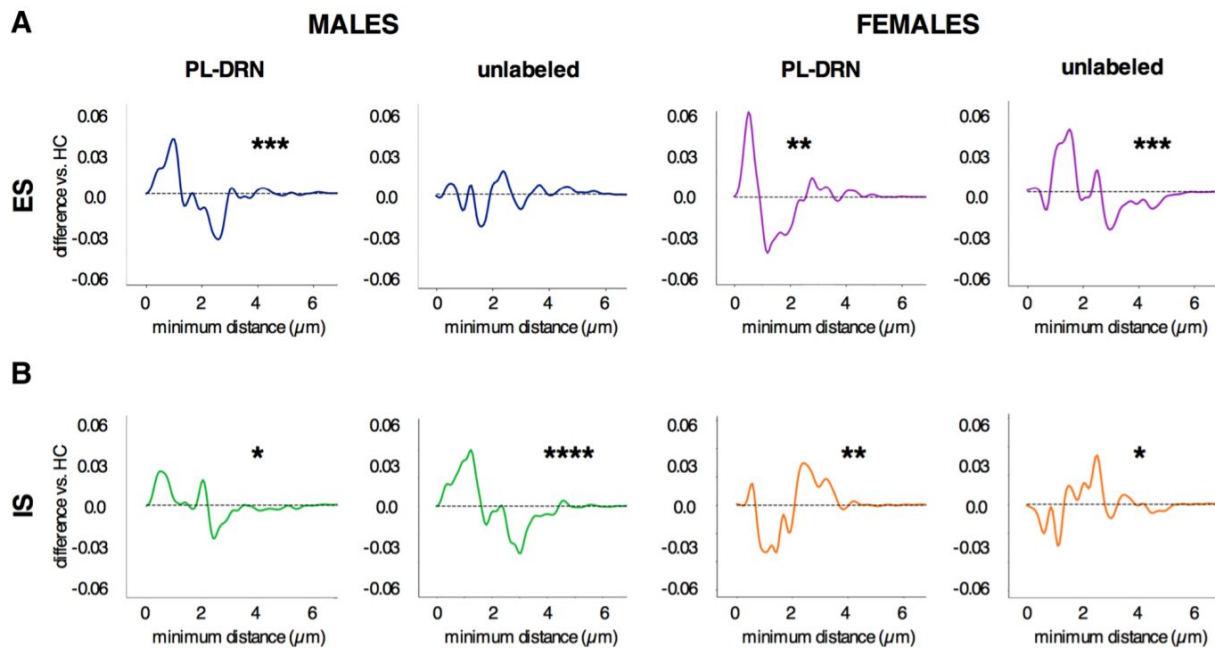
Results: Effect of IS on spine head



Effect of ES on spine head



Effect of ES and IS on spine clustering





Discussion/Conclusion:

- ES protected only males.
- ES elicited PL-DRN circuit-specific changes in spine head diameter and clustering in males, but global, non-specific changes in females.
- ES blocks the behavioral effects of the shock stressor by activating DRN-projecting PL neurons that inhibit DRN 5-HT activation during shock exposure only in males but not in females.

Acknowledgements



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- Special thanks to [SciDraw.io](#) for rat vectors!
- Baratta, M., Gruene, T., Dolzani, S., Chun, L., Maier, S. and Shansky, R., 2019. Controllable stress elicits circuit-specific patterns of prefrontal plasticity in males, but not females. *Brain Structure and Function*, 224(5), pp.1831-1843.

Q&A Session



Feel free to ask any questions you may have about this research to either of the presenters (Pooja & Sahana)

