



TRAUMATIC BRAIN INJURY AND CHRONIC VARIABLE STRESS IN ADOLESCENTS

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BACKGROUND

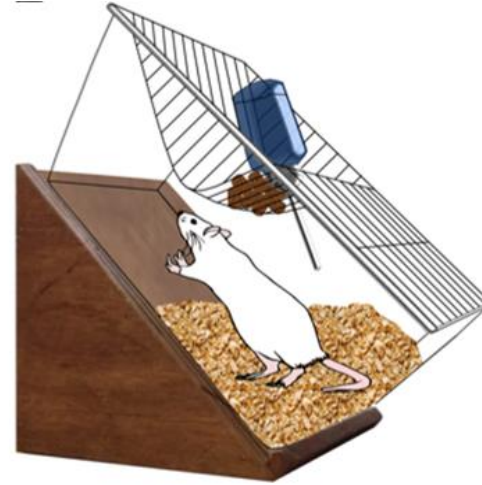
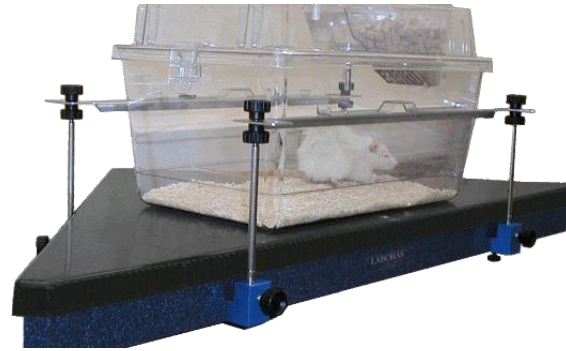
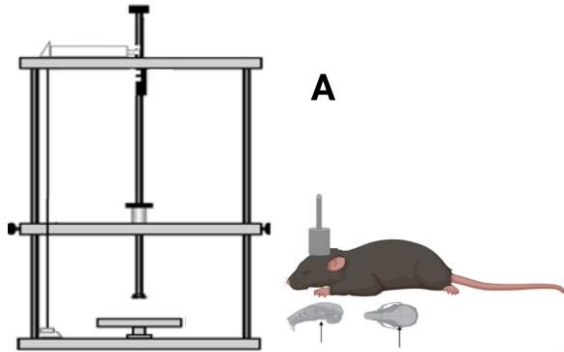
- ❖ Approximately 30% of adolescents report that daily life activities are affected when they are overly stressed.
- ❖ Adolescents have the second highest rate of TBI.
 - ❖ 2nd to the geriatric population



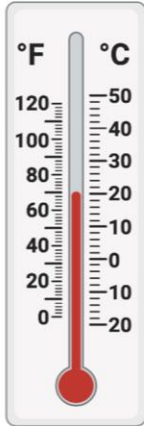
HYPOTHESIS

We hypothesize that chronic variable stress will worsen histological outcomes of TBI.

METHODS



Sub-optimal
Temperatures



Timeline

TBI occurred when mice
were 6 weeks old

2 weeks: first tissue
collection

5 weeks
tissue collection

20 weeks
tissue collection

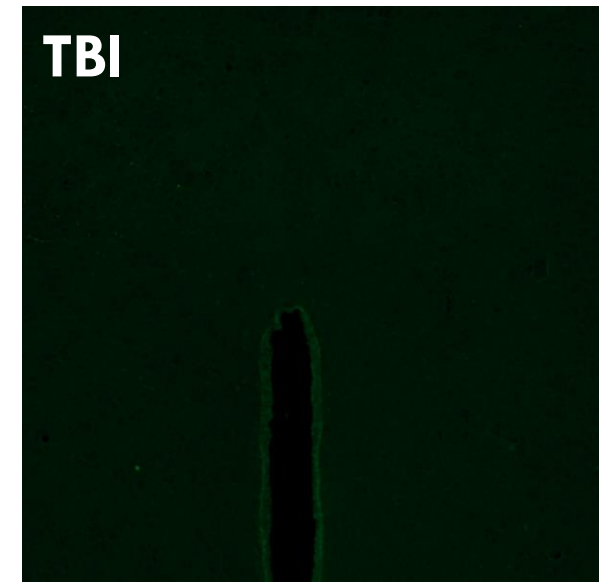
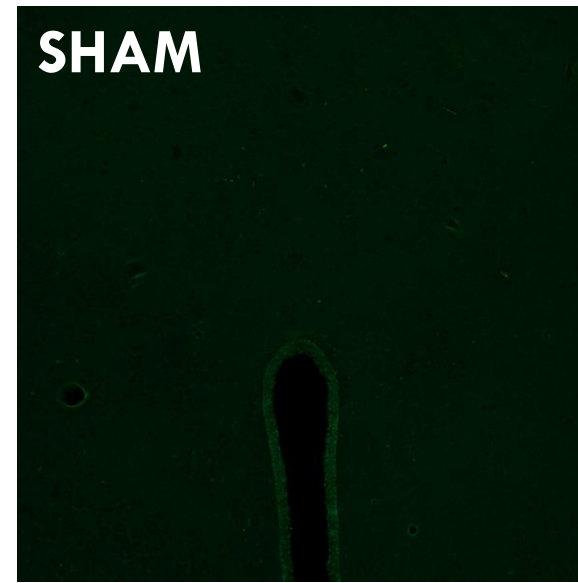
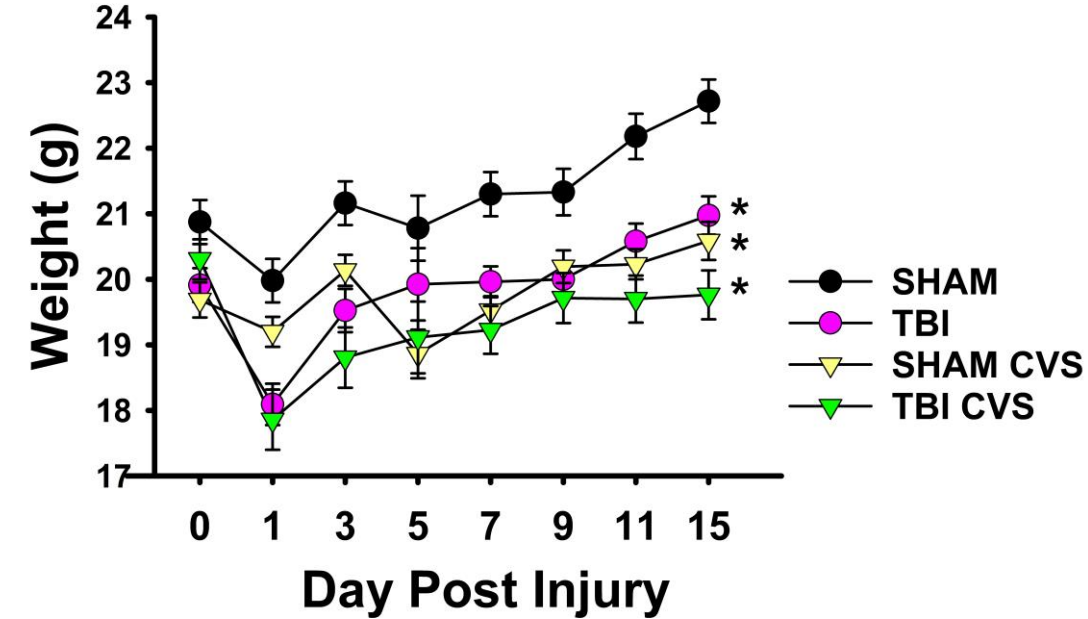
28 weeks
tissue collection

CVS - 2 weeks

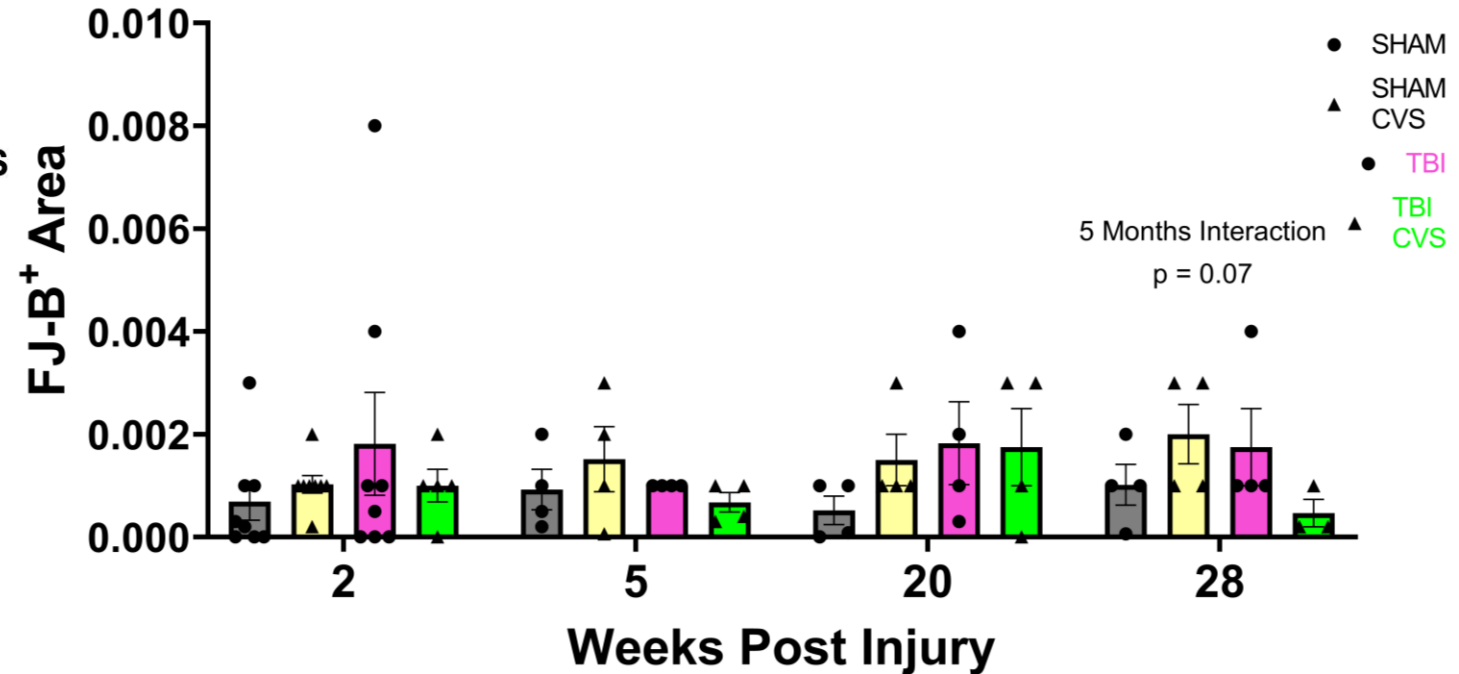
Histology
FJ-B
Neurodegeneration

RESULTS: STRESS

Weight



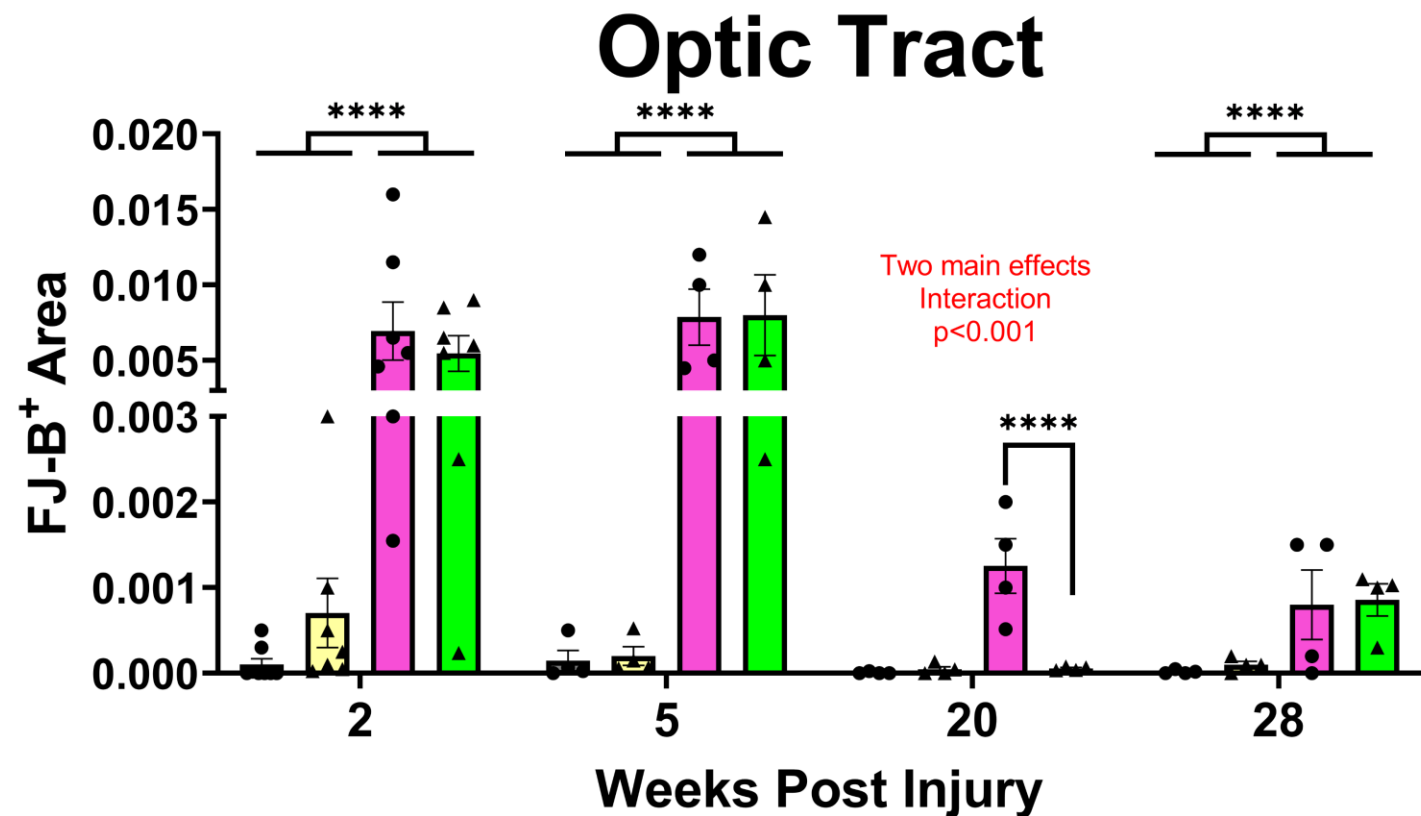
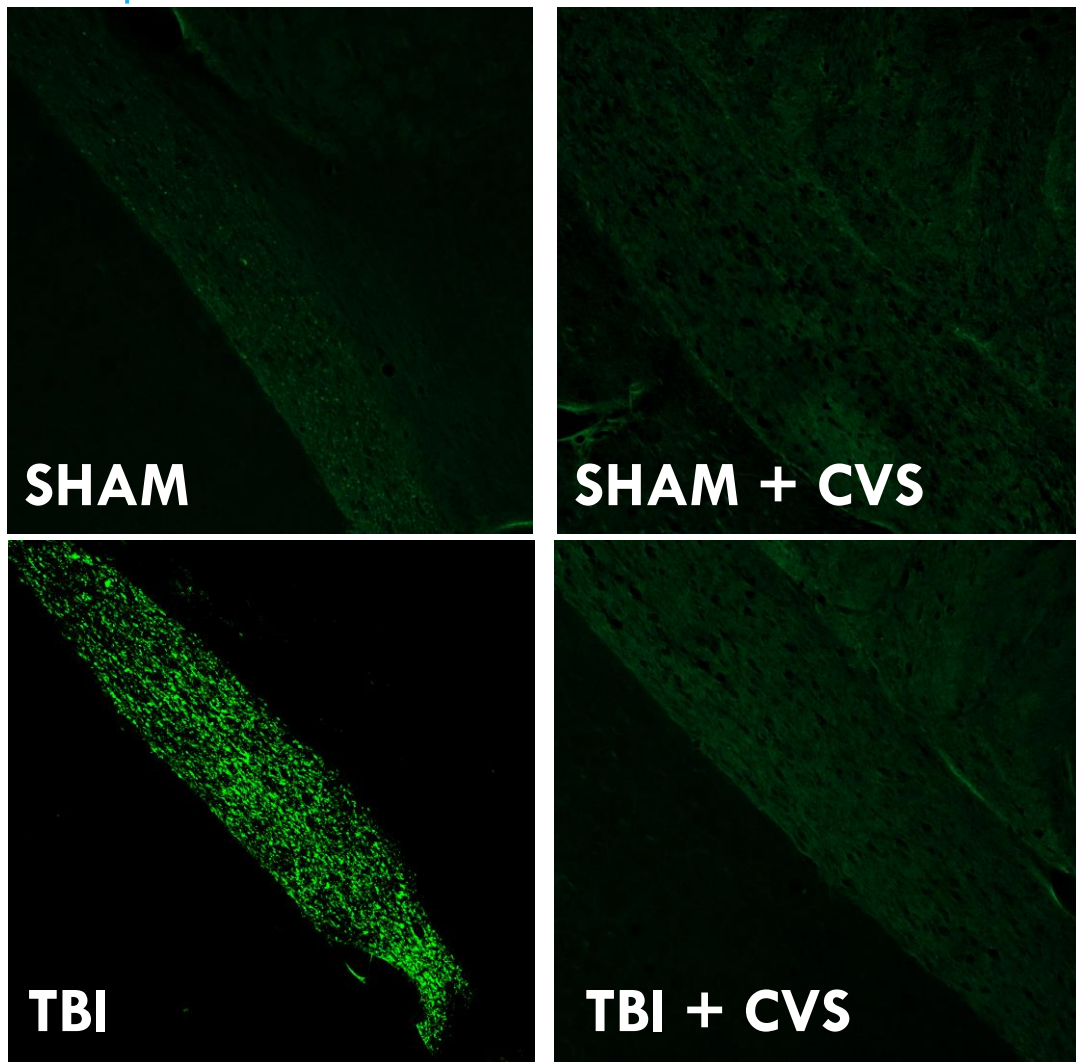
Paraventricular Nucleus





RESULTS: OPTIC DEGENERATION

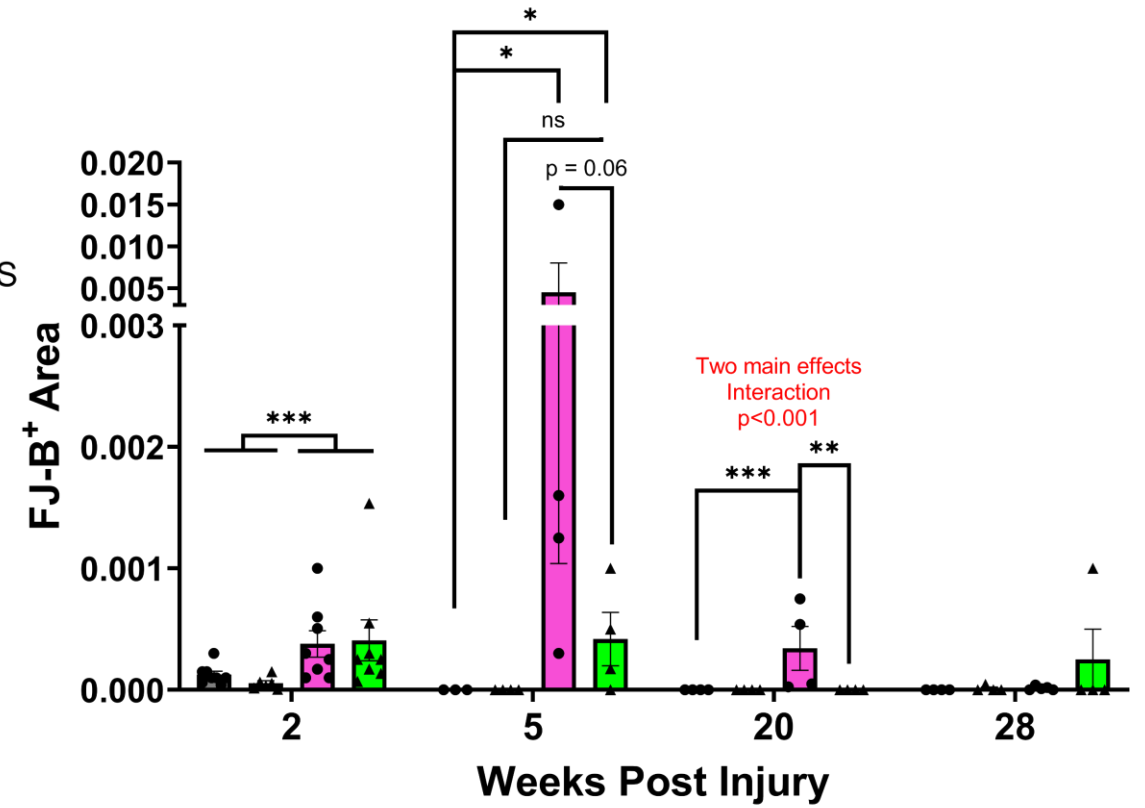
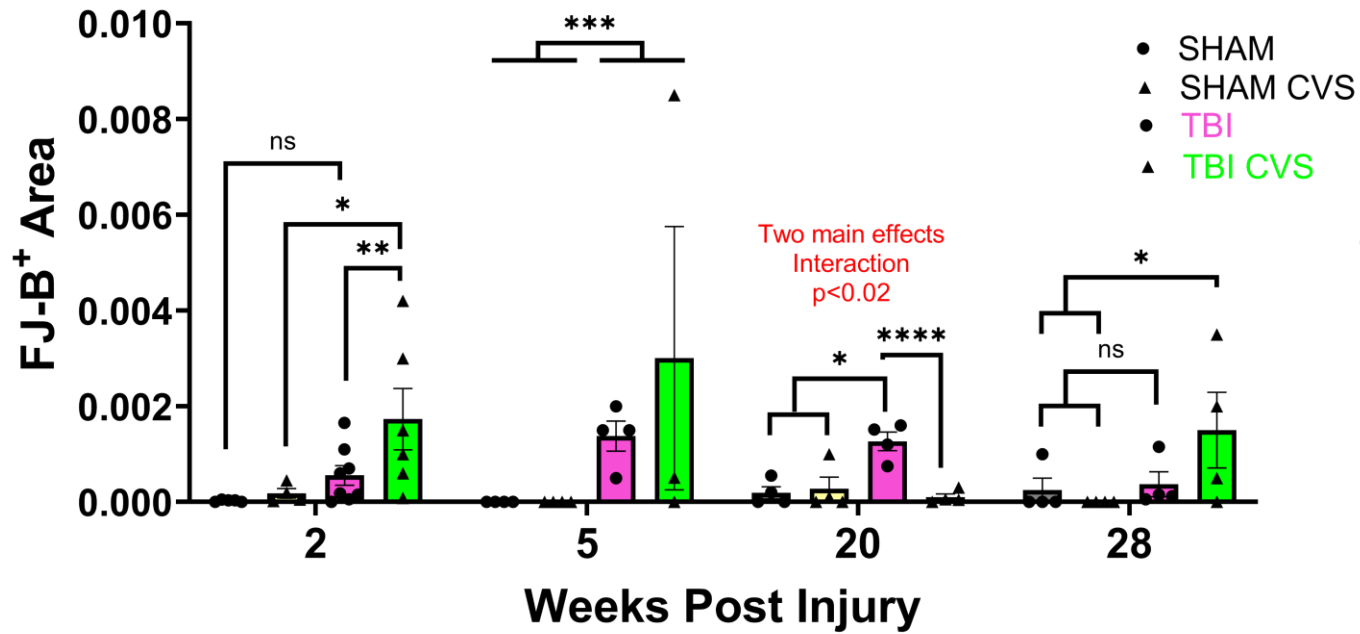
- SHAM
- ▲ SHAM CVS
- TBI
- ▲ TBI CVS





Lateral Geniculate Nucleus

Superior Colliculus



RESULTS: OPTIC PROJECTIONS

CONCLUSION

Chronic variable stress after TBI has a potential neuroprotective effect potential indicative of ideal levels of stress after injury.





ACKNOWLEDGEMENTS



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