

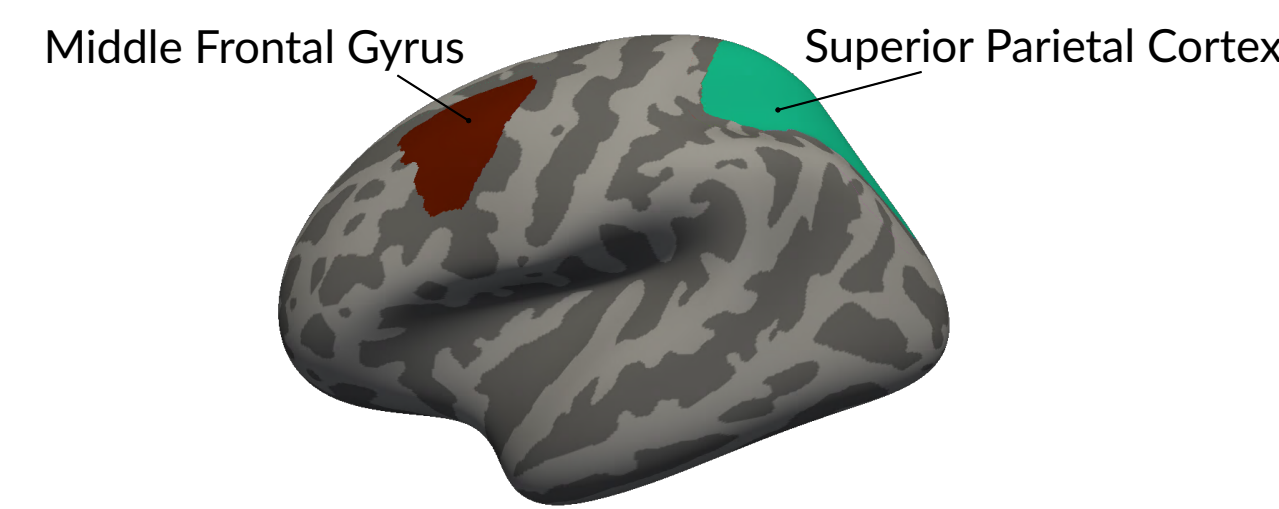
# Differential associations of early threat and deprivation with brain structure.

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## Introduction

Different **dimensions of childhood adversity** may have specific and discriminable consequences for children.

**Deprivation**, experiences involving an **absence of expected inputs** from the environment, has been tied to lower executive functioning and academic performance. These effects may be mediated by **altered development of the fronto-parietal control network**.



**Threat**, experiences involving **harm or threat of harm**, has been tied to heightened emotional reactivity, altered fear learning, and information processing biases. These effects may be mediated by altered development of **brain networks related to salience and safety signaling**.



## Methods

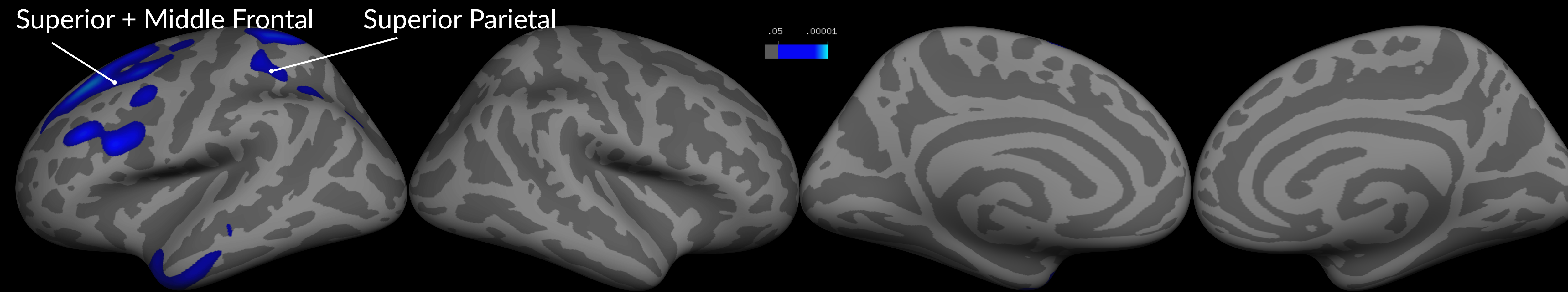
We measured cortical thickness and subcortical volume in structural MRI images from:

- 161 youth aged 8-17 (M=12.8)
- 76 threat exposed.
- 79 deprivation exposed.

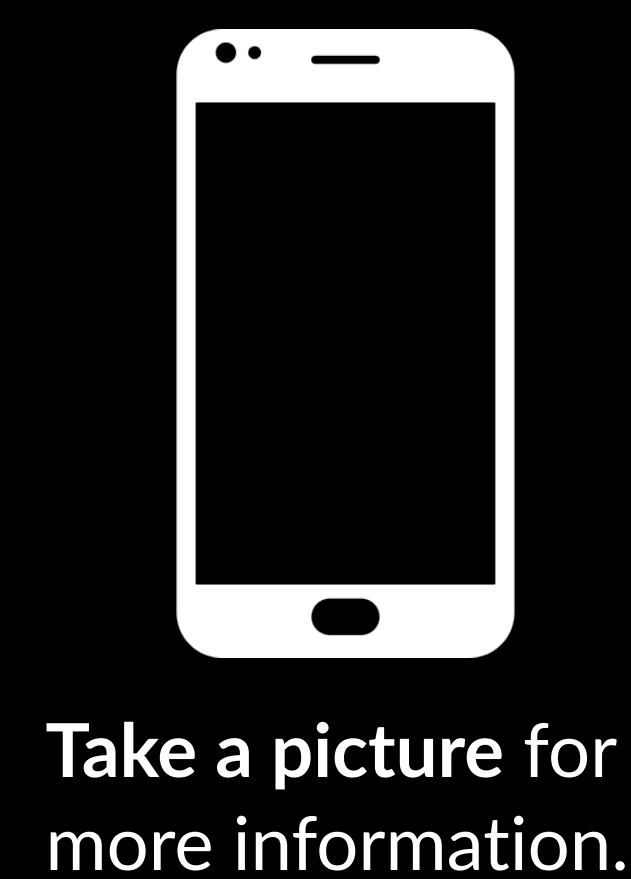
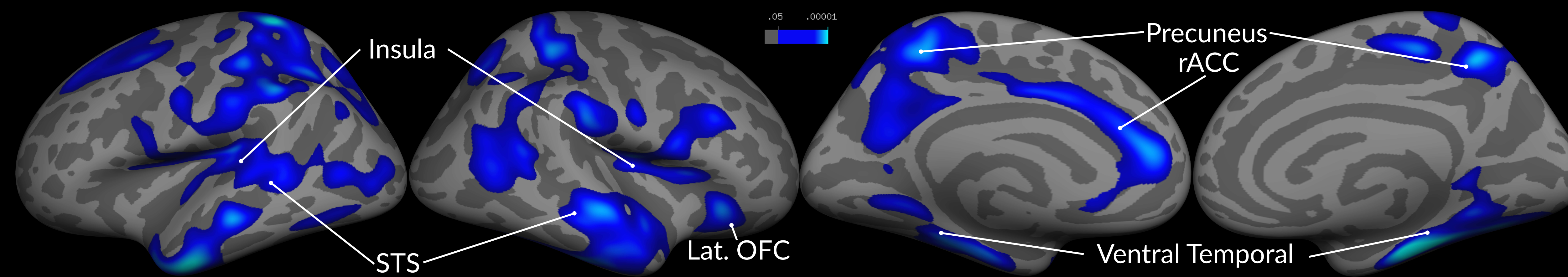
**Threat** exposed youth endorsed exposure to any of: Physical Abuse, Sexual Abuse, Community Violence, Domestic Violence.

**Deprivation** exposed youth endorsed exposure to any of: Physical Neglect, Emotional Neglect, Low Cognitive Stimulation.

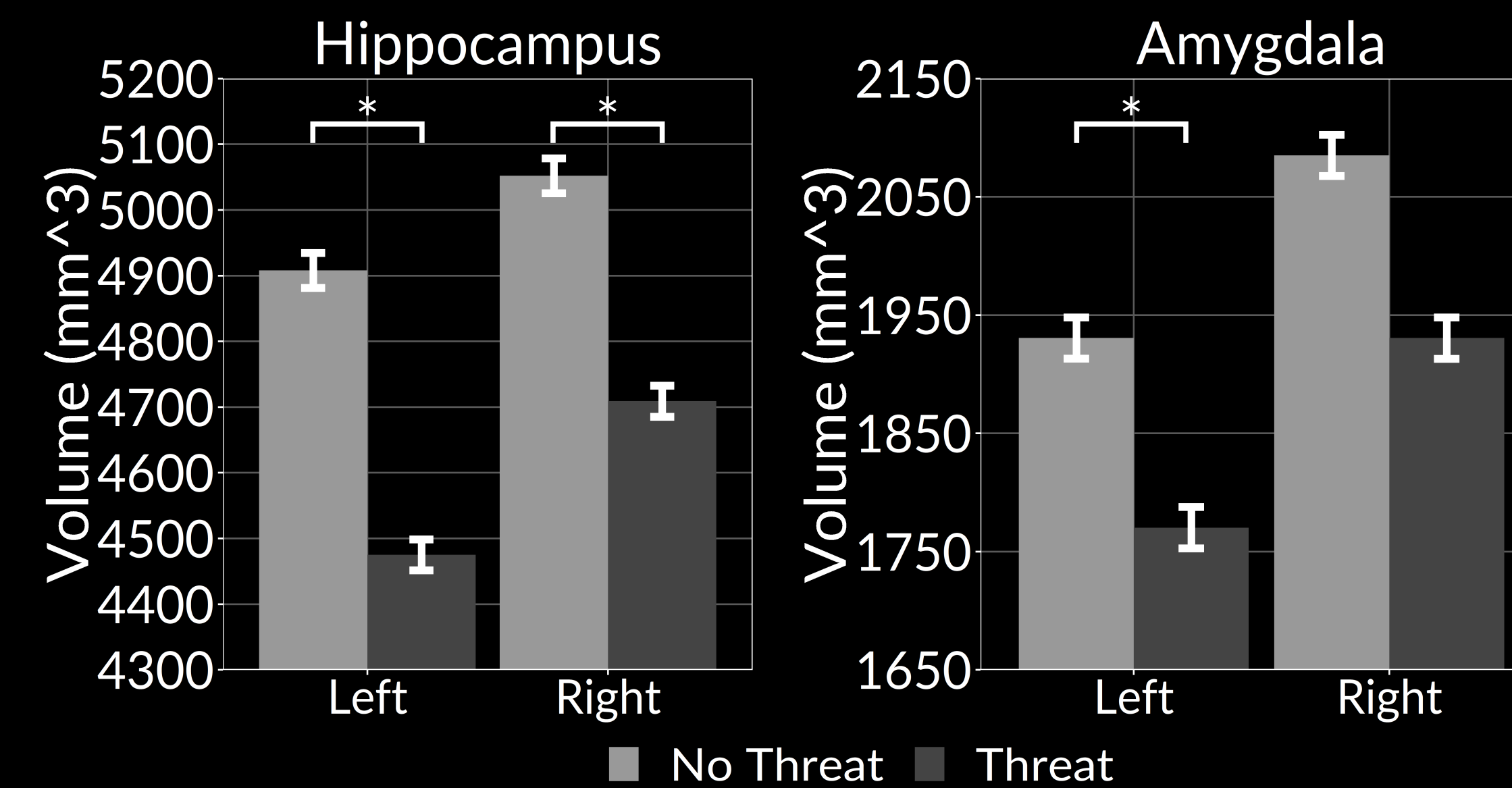
# In 161 youth, childhood experiences of Deprivation were associated with thinner cortex in the fronto-parietal control network.



# Childhood experiences of Threat were associated with thinner cortex and smaller sub-cortical volumes in the salience and default-mode networks.



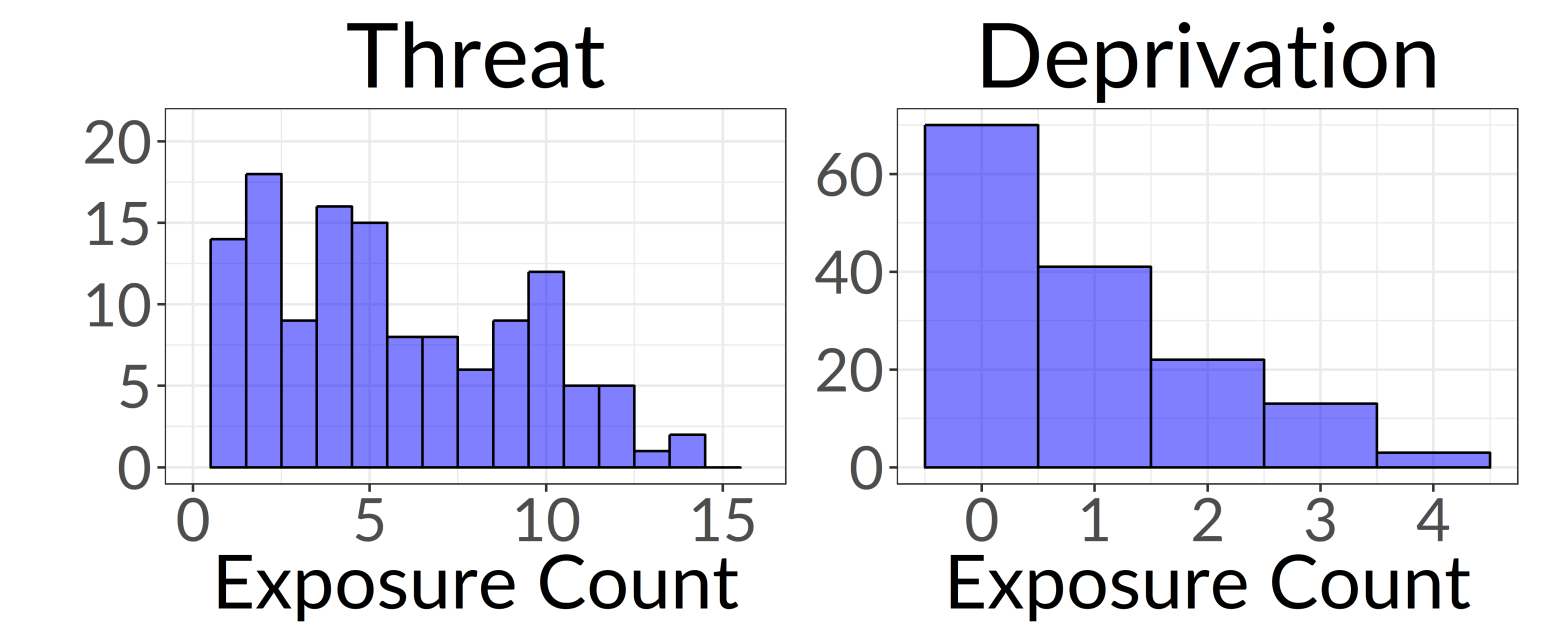
## Sub-Cortical Volume with Threat



## Measures

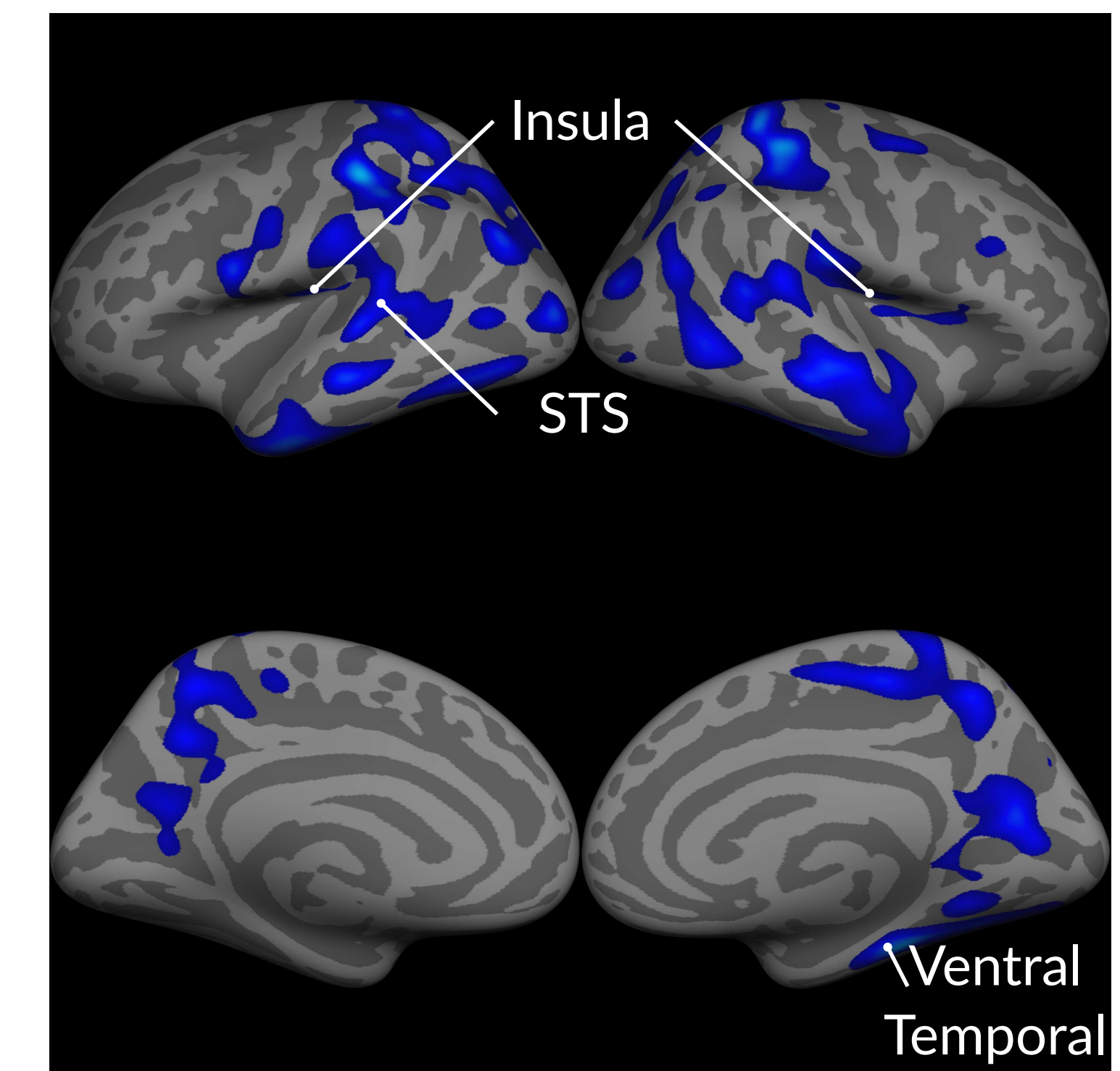
- Child Trauma Questionnaire
- Child Experiences of Care and Abuse Interview
- Screen for Adolescent Violence Exposure
- Home Observation for Measurement of the Environment

## Exposure Histograms



## Fully Adjusted Model

Threat controlling for deprivation:



(Deprivation results did not persist following control for threat)

## References

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