



# Greater Neural and Behavioural Reactivity to Social Reward Moderate the Association between Childhood Maltreatment and Suicidality

Seonwoo Hong<sup>1</sup>, Joelle Schaffer<sup>2</sup>, Grace Allison<sup>3</sup>, Joelle LeMoult<sup>1</sup>, Anna Weinberg<sup>3</sup>  
<sup>1</sup> University of British Columbia, <sup>2</sup> Toronto Metropolitan University, <sup>3</sup> McGill University



## BACKGROUND

- Childhood maltreatment is a robust risk factor for suicidality, yet many individuals with childhood maltreatment histories do not develop suicidal thoughts or behaviours.<sup>1,2</sup>
- Identifying markers of vulnerability is therefore essential for understanding factors that moderate these divergent developmental pathways.<sup>3</sup>
- Alterations in reward processing may be one such marker, as disruptions in how individuals respond to rewarding cues are theorized to heighten vulnerability to life stressors.<sup>4</sup>
- Neural measures capture automatic responses to social feedback, whereas behavioural measures reflect how people consciously evaluate and respond to the feedback, together providing a multidimensional assessment of reward reactivity.<sup>5</sup>

## AIM

This study examined whether neural and behavioural reactivity to social reward moderate the association between childhood maltreatment and current suicidality in adult women.

## METHODS

### Participants

- 142 adult women (18-58 years)
- Aged 18-58;  $M_{age} = 36.37$
- 72.2% White

### Self-Report Measures:

- Childhood Trauma Questionnaire Total Score
- Inventory of Depression and Anxiety Symptoms Suicidality subscale

### Island Getaway Reward Computer Task:

- Behavioural sensitivity via voting and liking patterns in response to peer acceptance and rejection.
- Neural responses to acceptance as indexed by Reward Positivity (RewP).

### Analysis:

- Multiple regression analyses

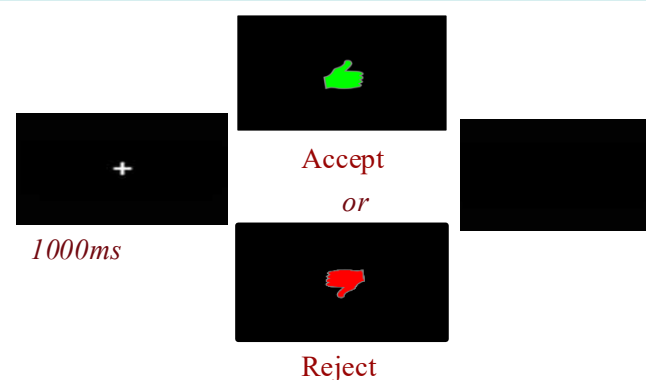
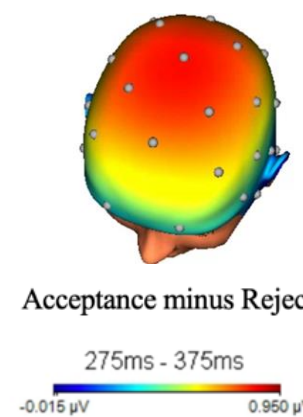
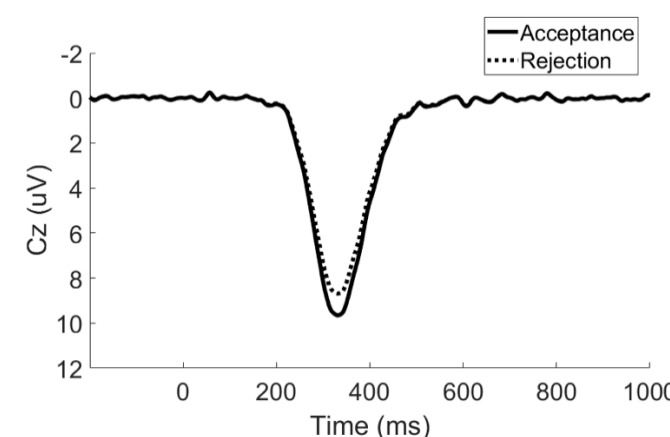


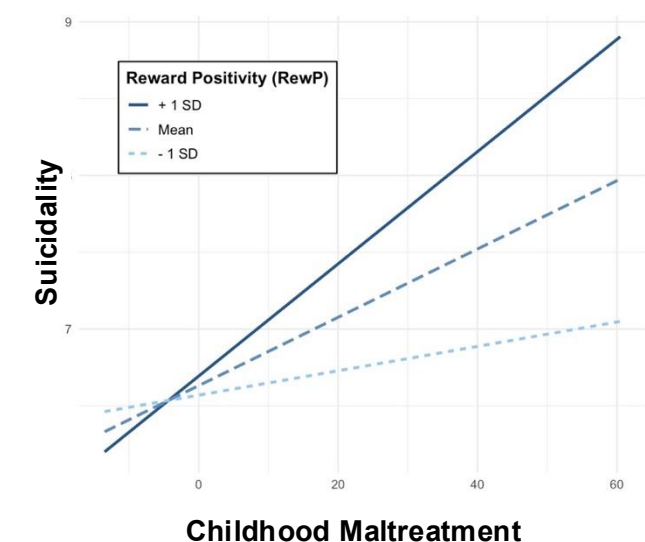
Figure 1. Island Getaway Reward Task

## RESULTS

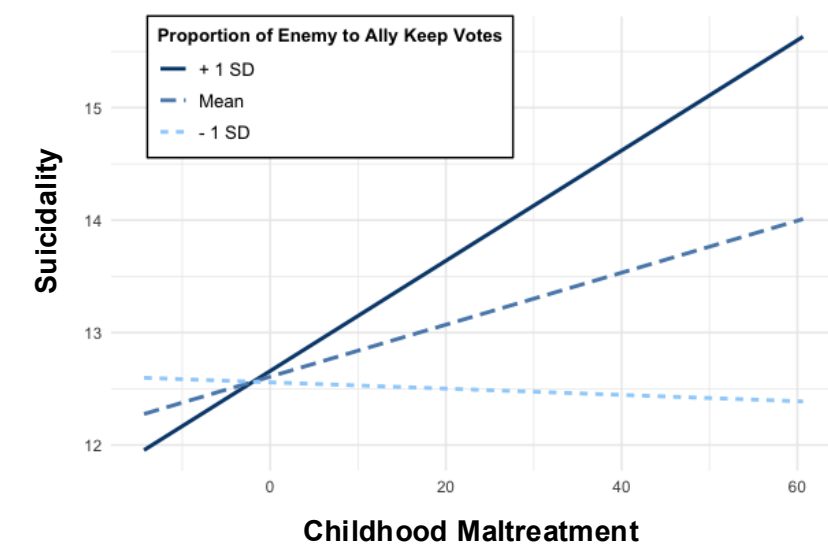
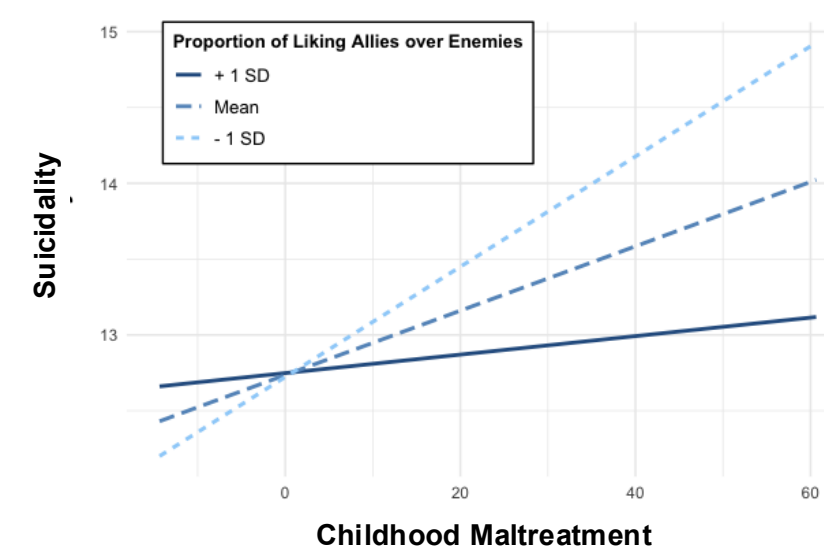
### Neural Responses to Rewards (RewP) as a Significant Moderator



Reward Positivity (RewP) Waveforms and Scalp Distributions



### Behavioural Responses to Rewards as a Significant Moderator



## KEY FINDING

The association between childhood maltreatment and suicidality was strongest among participants with larger RewP amplitudes and those who tended to favor “enemies” over “allies,” or rated allies less favorably than enemies.

## CONCLUSIONS

- Together, these findings suggest that individual differences in neural and behavioral sensitivity to social feedback shape vulnerability to suicidality following childhood maltreatment, with heightened reactivity to social reward conferring increased risk.

