

INTRODUCTION

- Childhood trauma is highly prevalent and has been linked to hypo-responsivity to fearconditioned stimuli (CS+)^{1,2}
- There are limited studies testing responses to threatening unconditioned stimuli (US) in this population, or examining whether hypo-responsivity is driven by accelerated habituation
- We examined the relationship between CT and changes in the electrophysiological response to rewards and investigated how these responses changed over trials (e.g. habituation)



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CHILDHOOD TRAUMA AND PHYSIOLOGICAL **RESPONSE TO CONDITIONED FEAR AND UNCONDITIONED THREAT**

METHODS

- Neutral Discrimination (FRND) task³
- Geometric shapes (CS+) were paired with US: aversive noise (Fear), \$0.25 (Reward), or no outcome (Neutral). (Figure 1); 8 trials of each
- Skin conductance responses (SCRs) were recorded as a measure of physiological arousal in response to CS+ and US
- Participants completed the Childhood Trauma Questionnaire (CTQ)⁴ to assess trauma exposure and the **Posttraumatic Checklist for DSM-5** (PCL-5) to control for PTSD symptom severity.
- A linear mixed-effects model tested the association between CTQ and SCR amplitudes in response to the CS+ and US; trial-by-CTQ interactions were tested.

Fear+ Neutral

FIGURE 1

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• Participants (N = 129) completed the **Fear, Reward, and** No significant main effects of trial, CTQ, or trial-by-CTQ interactions were observed for the CS+ (p's > 0.05)

> With respect to the fear US, results demonstrated a significant main effect of CTQ, such that higher CTQ severity was associated with increased SCR response (B = 1.23, p = 0.009). This was qualified by a significant CTQ – by – trial interaction (B = -1.8, p =0.019).

Participants with greater CTQ severity exhibited a heightened initial physiological response to the fear US, followed by a rapid decline over repeated trials (B=-0.92, p<0.001).



Individuals with childhood trauma exhibit a distinct physiological response to known threat characterized by heightened initial arousal followed by quicker habituation

CONCLUSION

Understanding these neurobiological adaptations has important implications for tailoring trauma-informed interventions and therapeutic approaches for individuals with childhood trauma histories



RESULTS