

# INDIVIDUAL DIFFERENCES IN AFFECTIVE AND PHYSIOLOGICAL RESPONSES TO EXPERIENTIAL UNCERTAINTY

## INTRODUCTION

- Individual differences in intolerance of uncertainty (IU) are associated with mental health and well-being<sup>1,2</sup>.
- Prior work has primarily relied on retrospective self-report measures and decision-making tasks to examine responses to uncertainty<sup>3</sup>.
- Here, we use a novel task designed to induce uncertainty, allowing for the examination of affective responding while participants are experiencing uncertainty.

## METHODS

### UNCERTAINTY TASK

- Participants were asked to put their hand into an opaque box and feel an unknown object.
- Measured subjective and physiological activity immediately before placing hand in box.



### Intolerance of Uncertainty Scale (short version; IUS-12)<sup>3</sup>

#### Outcome Variables:

- Physiological reactivity scores (change from baseline):
  - Respiratory sinus arrhythmia (RSA) reactivity
  - Interbeat interval (IBI) reactivity
  - Skin conductance level (SCL) reactivity
- Self-reported affect (Study 1) or emotion (Study 2)

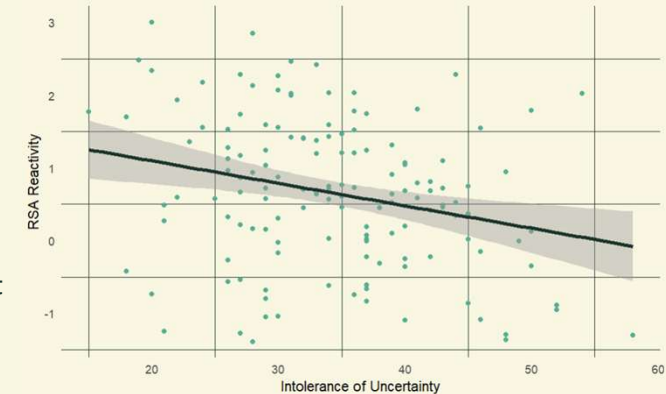
#### Study 2 Biofeedback Manipulation (adapted from Hill et al., 2024)<sup>4</sup>

- In study two, we attempted to manipulate the accuracy and accessibility of information about ongoing physiological activity using biofeedback
  - **False Feedback Condition:** Tones played aloud at 125bpm; participants are informed it is in sync with their heartbeats.
  - **Accurate Feedback Condition:** Tones played aloud in sync with participants' heartbeats; participants are informed it is in sync with their heartbeats.
  - **Control Condition:** No feedback

## RESULTS

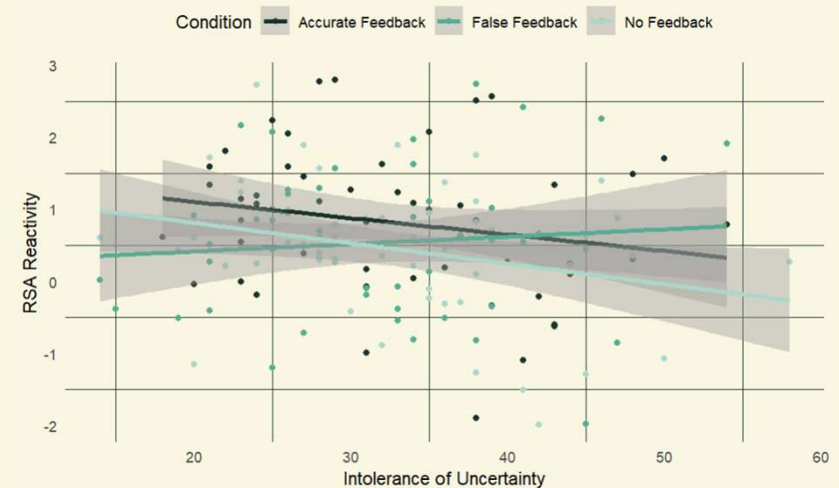
### STUDY ONE

- Individuals with higher IU exhibited reduced RSA reactivity in anticipation of the uncertainty task,  $\beta = -.20, p = .008$ .
- No relation between IU and self-reported affect was observed.



### STUDY TWO

- Individuals with higher IU exhibited greater reductions in RSA in anticipation of the uncertainty task, but only in the no feedback condition,  $\beta = -.36, p = .007$ .
- Those higher in IU also reported greater negative emotion (i.e., worry, stress) prior to the task,  $\beta = .36, p < .001$ .



**MAIN TAKEAWAY:** Intolerance of uncertainty is associated with reduced parasympathetic activity and heightened negative emotion during experiential uncertainty.

