Combining multivoxel neurofeedback and cognitive reappraisal to control fear
Rachael Wright, Dr. Alison Adcock, Dr. Kevin LaBar | Center for Cognitive Neuroscience, Duke University

**Background**

**Cognitive reappraisal:** reinterpreting the meaning of an emotional stimulus in order to influence one’s emotional response.¹

**fMRI neurofeedback:** displaying fMRI measures as feedback for individuals to learn to volitionally control these signals.²

**Multivoxel Pattern Classification:** A dispersed and distinct pattern of BOLD activation that consistently predicts another outcome (i.e. emotion state).³

This proposal aims to combine these tools to develop a novel paradigm for enhancing fear regulation in individuals.

**Aims**

1. Can individuals learn to control a multivoxel neurofeedback signal of fear?
2. Will combining cognitive reappraisal with neurofeedback improve the downregulation of fear?
3. Will these effects last beyond the training session?

**Study Overview**

**Session 1: Before Scan**
- Informed consent
- Self-reports
- Cognitive reappraisal practice

**Session 1: Scan**
- Neurofeedback + cognitive reappraisal training (real or sham feedback)

**Session 2: Follow-Up**
- 1 month later
- Offline fear regulation task
- Self-reports repeated

**Predicted Results**

**Implications**
- Inform future fMRI neurofeedback paradigms.
- Clinical relevance for regulation of anxiety.

**References**