An Entirely Remote Study of an Attention Bias Modification Training "App" for Posttraumatic Stress Disorder (Remote RePS)

Protocol Document

NCT Number: NCT03196999

Last Updated: September 9, 2026

Overview: This study is a 3 (Time) x 3 (Condition) randomized, placebo-controlled trial of a remotely delivered intervention targeting threat-related attention bias, a purported mechanism of posttraumatic stress symptoms. Time is within participants and includes a baseline pre-training assessment, a post training assessment at 2 weeks, and a follow-up assessment at 8 weeks. Condition is between participants and includes three conditions, described below.

The primary aim is to examine the feasibility, acceptability and usability of remotely administered app-based ABM training and determining the efficacy of remote app-based attention bias modification (ABM) training in reducing attention bias and PTSD symptom severity. Our secondary aim is to examine whether a personalized version of ABM training results in greater attentional bias change and anxiety reduction compared to a non-personalized ABM training.

Group Randomization: Eligible participants will be randomized to one of three conditions, with groups balanced on age, gender, and baseline PTSD

- **Condition 1:** Personalized active ABM training
- **Condition 2:** Non-personalized active ABM training
- **Condition 3:** Placebo control neutral attention training

The difference between the conditions is the world stimuli used and the placement of the probe. All of the participants first rate 513 threatening words. In the personalized active ABM conditions, a recommender algorithm selects 60 threat words that are personally relevant to the participant. In the non-personalized active ABM condition, all participants complete training with the same preselected threat words. In the placebo control condition, participants receive neutral words only.

Procedures: Interested individuals will complete online screening, including the PTSD checklist (PCL), iOS device compatibility, and suicidality questions. Individuals who score at our above 22 on the PCL, own a compatible iOS device, and do not endorse active suicidality will be eligible. Participants provide electronic consent for screening and if eligible they review and electronically sign the full study consent form.

Participants will receive instructions by email on how to download the mobile REPS app, along with a login ID, PIN, and written instructions for app use. After installing the application, participants complete baseline questionnaires, the PCL, and an attention-bias assessment. Participants may change their PIN after installation.

Participants will complete study procedures at the following timepoints:

- **Baseline (Day 1):** Questionnaires, PCL, attention-bias assessment, and word ratings in the REPS app.
- **Intervention (Days 1-14):** Approximately daily assigned app-based training. Participants complete weekly PCL and attention-bias assessments. Study staff send email reminders after 3 consecutive days without training, with additional reminders if non-engagement continues.
- **Post-Training (Day 14):** PCL, attention-bias assessment, online questionnaires, and user-experience feedback.
- **Follow-Up (Day 56):** PCL, attention-bias assessment, and online follow-up questionnaires.

On intervention days, participants complete personalized ABM training, non-personalized ABM training, or neutral attention training, depending on the condition they are assigned to. The attention-bias assessment uses 128 probe-detection trials, with the following occurring at each trial: 1) a fixation cross appears on the screen for 500 milliseconds; (2) the fixation cross is replaced by one threat word and one neutral word

displayed at the top and bottom of the screen for 500 milliseconds; and (3) the words disappear and a visual probe, the letter E or F, appears in the location of one of the words until the participant responds using buttons at the bottom of the phone screen.

In both active ABM conditions, the probe replaces the neutral word on 100% of training trials. The purpose of the active ABM training is to encourage attention to shift away from threat-related stimuli toward neutral stimuli. The placebo control neutral attention training follows the same task procedure; however, both target stimuli are neutral words. The probe replaces one of the neutral words. Because participants are not exposed to threatening stimuli or an attention-away-from-threat contingency, this condition serves as a placebo control.

At baseline, post-training, and follow-up, participants complete additional questionnaires measuring demographics, treatment history and psychiatric medication use, depression, anxiety, stress, attention control, health-related quality of life, optimism, and trauma history. Participants also complete app-based questions about sleep, alcohol use, exercise, and stress and provide feedback about the usability and acceptability of REPS.