Studying the Modification of Attention Bias Remotely After Trauma (SMART)

Statistical Analysis Plan

NCT Number: NCT0488169

Last Updated: August 6, 2026

Hypotheses:

- H1a: PTSS severity will decline significantly more in the ABM and ACT conditions over a four-week period compared to the control attention training conditions, and more in ACT compared to ABM.
- H1b: Effects of ABM on PTSS severity will be mediated by reductions in attention bias towards threat, and effects of ACT on PTSS severity will be mediated by reductions in attention bias variability.
- H1c: Effects of ABM and ACT on attentional biases and PTSS will remain at eight-week follow up.
- H2: PTSS severity will decline more in the ABM and ACT conditions with threatening words than in those with threatening faces.

Statistical Analysis: To test H1a, H1c, and H2 we will use multi-level modeling, which accounts for repeated measurement within individuals and effectively handles missing data in intent-to-treat analyses. To test H1a and H1c, the dependent variable will be PCL-5 scores, and predictors will be Condition (ABM with words/images, ACT with words/images, placebo with words/images, assessment only), Time (Pre, Post, Follow-Up), and the Condition X Time interaction, and we will examine the beta associated with the Condition X Time interaction for significance and to calculate effect size. To test aim H1b regarding mediators of ABM and ACT on PCL-5 symptom reduction, we will test moderated mediation models using structural equation modeling. The x variable (i.e. predictor) will be condition (ABM vs. ACT vs control conditions), the y variable (dependent variable) will be PCL-5 symptoms post treatment, and the m variables (mediators) will be change in attentional bias toward threat and attentional bias variability over the course of the training program. We will examine whether condition moderates the effect of each mediator on PCL-5 symptoms. To model change in attention bias and flexibility, we will use latent growth curve modeling, which will allow us to model the change in these variables over time. We will include baseline PCL-5 as a covariate in all models. This moderated mediation analysis, will allow us to examine whether changes in attention bias towards threat mediate outcome in ABM and whether changes in attentional bias variability mediate outcome in ACT. For H2, the dependent variable will also be PCL-5 scores, and the predictors will be Condition (ABM, ACT, Placebo), Stimuli (Words, Faces), and Time (Pre, Post, Follow-Up), and the beta associated with Condition X Stimuli X Time interaction will also be examined for statistical significance. If the three-way interaction is not significant, we will remove the three-way interaction and examine the Stimuli X Time interaction.