Nocebo Education to Reduce the Potential Unintended Harms of Mental Health Awareness

October 9, 2024

Study Design

Research questions.

I. Does learning about adult ADHD lead to a higher rate of self-diagnosis and worse self-reported symptoms?
II. Does learning about the role expectations play on one's mental health at the same time as getting the ADHD information reduce this effect?

Primary hypotheses.

I. Healthy participants who learn about symptoms of undiagnosed ADHD in adults will report higher rates of those symptoms and a higher rate of self-diagnosis with ADHD than healthy participants learning neutral information (control group).
II. Participants who learn about nocebo effects at the same time as learning about ADHD will have fewer symptoms and lower rate of self-diagnosis after watching the videos compared to the ADHD group.

Dependent variables (primary outcomes).

a. Inattentive ADHD symptoms, as measured by the subscale of Adult ADHD Self-Report Scale (ASRS)
b. Hyperactive ADHD symptoms, as measured by the subscale of Adult ADHD Self-Report Scale (ASRS)
c. ADHD self-diagnosis, as measured by an item on a 5-point Likert scale

Study conditions. We will test participants in groups. We will use block randomization (1:1:1) and assign each participant group to one of the three conditions:

d. ADHD group
e. ADHD + Nocebo education group
f. Control group

Statistical Analysis Plan

Primary analyses. We will use a mixed-effects model to predict each outcome variable outlined in the measures given the condition (ADHD, ADHD + nocebo, control) at one-week follow-up, with the covariate of baseline symptoms, as well as a random intercept for each participant (and group in which they were tested). We will use Tukey's test to compare all pairs of means for each outcome.

We will run directional tests and use Type I error rate of 0.05 for all the tests without correcting for family-wise error given the small number of tests.

Secondary analyses. If the sample is adequately powered, will also run subgroup analyses on the dependent variables based on participants' gender.

Data exclusions. We will exclude participant data points before computing statistical analyses if one of the following conditions is met.

Participants:

- Do not complete the full study (e.g., due to experimenter or technical error, or missing surveys);
- Take too long to complete the study ($|z| > 3$ score on duration compared to the rest of the sample);
- Complete the follow-up survey later than 8 days after the study;
- Fail at least 2 attention/comprehension checks embedded into the study;
- Have an extreme score ($|z| > 3$) on any of the ratings AND suggest an explanation for this when asked (e.g., important life event leading to increase/decrease in symptoms; distraction during the testing procedure) OR express suspicion about the crucial points of the study (e.g., the real purpose of the study) when probed.