

Research demonstrates positive impact of online brain training

February 3 2023



WEEKS 1-2

Online BrainHealth Index
(2 hrs)
Virtual feedback session
(30 min)



WEEKS 3- 10

Online training modules
(Self-paced; 3hrs 25 min)



WEEK 6

Virtual coaching session
(30 min)



WEEKS 11-12

Online BrainHealth Index
(2 hrs)
Virtual feedback session
(30 min)

Credit: *Brain and Behavior* (2022). DOI: 10.1002/brb3.2853

The Strategic Memory Advanced Reasoning Tactics (SMART) brain health training protocol has been shown to improve symptoms of depression, anxiety and stress when delivered in person. New research from Center for BrainHealth at The University of Texas at Dallas demonstrates the effectiveness of online delivery of SMART.

SMART [training](#) features strategies to strengthen the brain's frontal networks and achieve significant, measurable brain changes and improvements. This brain [health](#) training program promotes improvements in both trained and untrained areas of cognitive functioning, including strategic attention, innovation, working memory and real-life executive function behaviors. In addition to improving

cognitive function, SMART has also demonstrated unexpected benefits in mental health markers.

The research, "Effects of Online Brain Training on Self-Reported Mental Health Symptoms for Generally Healthy Adults During the COVID-19 Pandemic," was published in *Brain and Behavior*.

This study investigated the effects of a 12-week, self-paced, online SMART training on mental health on 145 participants between the ages of 18-78 years. Participants included 106 females and 39 males.

Participants self-reported mental health symptoms on the Depression Anxiety Stress Scale (DASS-21), a tool to measure the negative emotional states of depression, anxiety and tension/stress, both pre- and post- training. Although the participants consisted of healthy adults, some reported symptoms of psychological distress at baseline pre-training on the DASS-21, particularly in the younger age groups.

Improvements in depression, anxiety and stress symptoms were observed following online SMART, evidenced by a significant decrease in self-reported symptoms on the DASS-21. While SMART training generally yielded mental health benefits across age, gender and [education levels](#), additional exploration is warranted to explore how age and education may affect expression of [symptom](#) subtypes.

The lasting impact of this training was revealed in data from 44 participants who completed a follow-up DASS-21 six months after the initial training and showed that improvement in self-reported mental health symptoms was maintained or continued to expand post-training. These findings suggest that SMART may be an effective tool to help those experiencing pre-clinical mental health symptoms, particularly for depression and stress.

Lead author Sarah Laane, MS, CCC-SLP, a research clinician and doctoral student at Center for BrainHealth, stated these findings indicate that participants who completed online SMART experienced similar mental health benefits to those previously demonstrated after in-person SMART programs and demonstrates support for the use of online SMART as a potential low-cost, high-impact tool to support [mental health](#).

More information: Sarah A. Laane et al, Effects of online brain training on self-reported mental health symptoms for generally healthy adults during the Covid-19 pandemic, *Brain and Behavior* (2022). [DOI: 10.1002/brb3.2853](https://doi.org/10.1002/brb3.2853)

Provided by Center for BrainHealth

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