

# Study: Combined neurofeedback and HRV training can improve anxiety, depression symptoms

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The official journal of the International Society for Neurofeedback and Research (ISNR), *NeuroRegulation*, this week published the results of a scientific paper demonstrating for the first time that combined neurofeedback and heart rate variability (HRV) training may have a "robust effect" on improving symptoms of anxiety and depression. According to the study, these treatments may provide an effective, non-pharmaceutical intervention to reduce symptoms of anxiety and depression in children and adults.

The paper, "Combined Neurofeedback and Heart Rate Variability Training for Individuals with Symptoms of Anxiety and Depression; A Retrospective Study", was published by a team of medical and psychological researchers led by Elyse K. White, Ph.D., of the brain performance company Neurocore.

The paper found that the majority of individuals with symptoms of pre-treatment anxiety or depression experienced improvements of clinical importance.

Neurofeedback is a non-invasive brain training methodology that provides the brain with information about its own activity, detected by EEG and fed back to the brain via visual and auditory cues. As the ISNR website describes it, "Based on this feedback, various principles of learning, and practitioner guidance, changes in brain patterns occur and are associated with positive changes in physical, emotional, and cognitive states."

The paper states, "Accumulating evidence suggests that neurofeedback therapy, which provides the clinician with the ability to modify and optimize aberrant brain wave activity in people with psychiatric conditions, can become a form of treatment in this field."

The individuals in the study were 334 child and adult clients of Neurocore Brain Performance Centers who started a 30-session treatment program on or after October 15, 2015 and completed the program by July 15, 2016. Based on an

industry-standard psychological symptom rating scale, 183 clients were categorized as likely to be experiencing symptoms of anxiety and/or depression (using the ASEBA DSM-oriented anxiety problems and depressive problems scales, respectively).

After 30 sessions of the combined neurofeedback and HRV treatment, 82.8% of those with anxiety symptoms and 81.8% of those with depression symptoms showed a clinically meaningful improvement (as defined by a statistical improvement threshold called the Minimal Clinically Important Difference).

The majority of clients with severe, or "clinical", ASEBA levels of anxiety (60.3%) and depression (50.6%) symptoms experienced an improvement large enough to be considered "normal" on the ASEBA test post-treatment. An even larger proportion of clients with moderate or "borderline" ASEBA levels of anxiety (75.5%) and depression (88.5%) symptoms improved enough to be considered "normal" on the ASEBA test post-treatment.

"This study shows that Neurocore's neurofeedback and HRV training program is a viable treatment option for people dealing with anxiety or depression," said Mark Murrison, the CEO of Neurocore. "It's really remarkable that more than 50% of people with clinical anxiety and depression who come to us for help no longer have the symptoms to support that diagnosis when they finish our program. This shows how we can use the brains natural ability to learn, grow, and heal itself to help address anxiety and depression."

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**Source:**

<https://www.neurocorecenters.com/anxiety-and-depression-treatment-report-release>

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