

# The Impact of Neurofeedback on Children and Adults with Developmental Trauma: Two Random-Control Studies

Ainat Rogel<sup>a\*</sup>

<sup>a</sup>*Boston Neurodynamics, 1318 Beacon St, Brookline, MA 02446, United States*

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## Abstract

Developmental trauma (DT) is arguably one of the costliest public health challenge in the USA. DT is a chronic early childhood exposure to neglect and abuse by their caregiver. It has been shown to have a long-lasting pervasive impact on mental, physical and neural development, including problems with executive functioning, attention, impulse control, self-regulation. These deficits not only interfere with adequate daily functioning and a shorter lifespan, but might also compromise the ability to benefit from other treatments. We describe our results of two randomized control studies with participants who had experienced DT. The first study is with adults and the second study is with children ages 6-13. The results, for both the adults and the children, show that 24 sessions of Neurofeedback Training (NFT) significantly reduced the symptoms of Post-Traumatic Stress Disorder (PTSD) and improved executive functioning. In addition, for the children, NFT significantly reduced externalizing and internalizing behavioral problems. The presentation argues for the need of additional studies with a larger sample size, longer course of NFT, and different protocols as well as an analysis of differential impact of type, length and age of onset of the trauma(s). A longer course of NFT (e.g. more sessions) and follow-up assessments covering a longer time period are both necessary to determine whether NFT gains can be maintained over time, and whether booster sessions will be beneficial.

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\* *Corresponding author.*

Email: [ainat@bostonneurodynamics.com](mailto:ainat@bostonneurodynamics.com)

## Biography of the Author

Ainat is the founder and director of Boston Neurodynamics. She conducts neurofeedback (NFB), biofeedback (BFB), performs and analyzes brain mapping (qEEG), supervises NFB practitioners. She teaches NFB related courses, gives international presentations, and conducts evidence-based research. Ainat serves in various roles on the ISNR Board of Directors including as President.

In her practice, Ainat focuses on developmental trauma, dissociation and PTSD. Her unique holistic approach incorporates NFB and BFB with talking and body therapy.

Ainat has a PhD in Computer Science and Neurobiology, and a master in Social Work. She is a licensed Independent Clinical Social Worker, and a BCIA certified NFB provider and supervisor. She was a scientist in brain research at various institutions including Massachusetts Institute of Technology, the Martinos Center for Biomedical Imaging at MGH-Harvard, Hebrew University and Ben Gurion university. She worked as a NFB researcher and clinician at the Trauma Center at JRI.