



Respiratory biofeedback training improves symptoms in Children with ADHD: Single Case Research Hom-Yi Lee Department of Speech Language Pathology and Audiology of Chung-Shan Medical University, Taiwan

Abstract: The purpose of this research is to investigate if respiratory biofeedback training can improve symptoms in children with Attention Deficit Hyperactivity Disorder (ADHD). The A-B-A' withdrawal design of single subject research was used in the study. Three children with ADHD were included in the study. Each child participated in a respiratory biofeedback training (one time per week, three cycles per time) within a period of four months intervention by which animation and voice instruction to guide the participant to adjust respiratory rhythm. The heart rate variability (HRV) of participants was evaluated in trials. The results suggested that participant A and participant B who collaborated on respiratory guidance intervention had an increase in parameter of HRV, Standard Deviation of Normal to Normal (SNDD) and Total Power (TP), and could maintain partial effects after the removal of respiratory training. However, there was no significant increments in LF/HF ratio in participant C due to having more abnormal heart rates. No significant differences in SNDD, TP and LF/HF ratio in participant B were attributable to non-collaboration on respiratory guidance intervention. In conclusion, the HRV parameters, biomarkers of autonomic function, can be raised once participants follow respiratory biofeedback training, and the HRV samples were properly collected. Moreover, all the parents reported that participants reach an improvement in emotional control after respiratory biofeedback training.



Biography: Hom-Yi Lee is Professor of Department of Speech Language Pathology and Audiology of Chung-Shan Medical University. He was Director of Department of Psychology and the counseling psychologist in Department of Pediatrics of Chung-Shan Medical University Hospital. He is often invited to speak more than 400 speeches. He has two intersecting lines of research. The first is on psychopathology of mental illness of children (e.g., cognitive impairments in Autism and ADHD). The second is on promotion of mental health (e.g., interventions for promoting well-being).

Publications:

1. Executive function predicts the visuospatial working memory in autism spectrum disorder and attention-deficit/hyperactivity disorder.
2. Time perception deficit in children with ADHD.
3. Neural hyperactivity related to working memory in drug-naive boys with attention deficit hyperactivity disorder.
4. Moderators of working memory deficits in children with attention-deficit/hyperactivity disorder (ADHD): a meta-analytic review.
5. Is Clinical Anxiety a Risk or a Protective Factor for Executive Functioning in Youth with ADHD? A Meta-regression Analysis.

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