

Research

The effect of iLs on arousal in children with sensory processing disorder

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STUDY PURPOSE: The primary aim of this study was to examine the effects of the iLs Focus program on arousal, auditory processing, adaptive behavior and functional skills in children with Sensory Processing Disorder. The study investigates the immediate and short term gains achieved with the iLs program. We hypothesized that children with auditory over-responsivity and auditory under-responsivity would show *in situ* and laboratory changes in physiological arousal (as measured by electrodermal activity) following the iLs program. Additionally we expected to see improvements in an individualized family goal, the efficiency of auditory processing, adaptive behavior and functioning. A multiple baseline repeated measures single-case study design was employed.

DISCUSSION EXCERPTS: “This study provides preliminary evidence that the iLs Focus Sensory Motor Program is effective in remediating some of the functional problems of children with sensory over-responsivity and auditory processing challenges. Notable changes were reported in parent-developed individualized child goals such as following directions, completing daily tasks (e.g. homework, morning routine, putting away belongings) in a timely manner, and reducing emotional outbursts. These gains continued to be noted for most of the goals (19 out of 28) into the post-intervention phase after therapy had been completed. Follow-up intervention was only recommended for one of seven children (participant #7) who had a fluctuating pattern of improvement with the smallest level of change at the end of the study. This participant had more significant problems in auditory processing and motor praxis that not could not be fully addressed by the iLs program.”

“This study demonstrated changes in arousal as measured by electrodermal activity before, during and/or after the Sensory Challenge Protocol. To the best of our knowledge, this is the first study to report physiological changes using an auditory program that delivers processed music. Five participants showed a significant decrease in arousal level before or after the protocol and two showed a significant increase in arousal before and after the protocol. Unlike a previous study that found a reduction in anxiety levels following music listening but no change in physiological outcomes (Wang, Kulkarni, Dolev, & Kain, 2002), for the four participants in this study whose arousal decreased, the behavioral changes reported by their parents were in the same direction as the change in physiology. Parent reports included: ‘he generally appears calmer’, ‘she seems more relaxed’, and ‘meltdowns are less often and less lengthy’.”