

The need for comfortable and inclusive acoustical learning spaces for children with autism spectrum disorder

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ABSTRACT

Sensory abnormalities have often been reported as symptoms of ASD, and auditory over-responsiveness (AOR) is the most common sensory-perceptual abnormality in individuals with Autism Spectrum Disorder (ASD). This abnormality has been reported to interrupt behavioral adaptation, and sometimes even requires therapeutic intervention.

Recently, we reported that a greater acoustic startle reflex magnitude in response to weak stimuli of 65-85 dB was found in children with ASD compared to those with typical development, and that this index was related to various clinical features, including sensory problems, autistic traits, emotional/behavioral difficulties, and adaptive/maladaptive behaviors in ASD children. This intensity level of acoustic stimuli is frequently experienced in everyday situations including the classroom environment. We addressed sound environmental issues in several different types of school, including special-needs schools and nursery schools on a remote island in Japan. Creating an auditory-friendly school environment that provides a comfortable and inclusive learning space is an especially important issue to address for the healthy development of ASD children with AOR.

Keywords: Autism spectrum disorder, Sensory abnormality, Classroom acoustics

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