

# Problems in Audiovisual Filtering for Children with Special Educational Needs

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## Abstract

There is pervasive evidence that problems in sensory processing occur across a range of developmental disorders, but their aetiology and clinical significance remain unclear. The present study investigated the relation between sensory processing and literacy skills in children with and without a background of special educational needs (SEN). Twenty-six children aged between 7 and 12 years old, from both regular classes and SEN programmes, participated. Following baseline tests of literacy, fine motor skills and naming speed, two sets of instruments were administered: the carer-assessed Child Sensory Profile-2 and a novel Audiovisual Animal Stroop (AVAS) test. The SEN group showed significantly higher ratings on three Child Sensory Profile-2 quadrants, together with body position ratings. The SEN participants also showed a specific deficit when required to ignore an accompanying incongruent auditory stimulus on the AVAS. Interestingly, AVAS performance correlated significantly with literacy scores and with the sensory profile scores. It is proposed that the children with SEN showed a specific deficit in “filtering out” irrelevant auditory input. The results highlight the importance of including analysis of sensory processes within theoretical and applied approaches to developmental differences and suggest promising new approaches to the understanding, assessment, and support of children with SEN. © The Author(s) 2020.

## Author keywords

Cerebellum

Learning

Literacy

occupational therapy

response selection

sensory processing