

Sensory Processing in Angelman Syndrome

Children who display unusual responses towards sensory stimuli are often described as having ‘sensory processing difficulties’, although presentation can vary.

What kind of sensory processing difficulties are there?

The types of responses towards sensory experiences can be broken up into *hyper* responsive (‘over’ responsive/sensitive to sensory experiences), or *hypo* responsive (under-responsive/low sensitivity to sensory experiences). Although these are contrasting responses to sensory input, they are not necessarily mutually exclusive; individuals may be hypo and hyper responsive to different types of sensory input (e.g. touch, sound).

What is the prevalence of sensory processing difficulties in Angelman syndrome?

Research by Dr Mary Heald has shown that between 50 and 70% of children with Angelman syndrome aged two to 15 years met criteria for sensory processing difficulties for hypo responsivity, hyper responsivity and sensory seeking behaviours (e.g. hand flapping).

What sensory processing difficulties are apparent in Angelman syndrome?

Sensory processing difficulties have been reported across a wide range of modalities (visual, auditory and touch) and contexts (social or non-social) in Angelman syndrome in comparison to typically developing children and children with an intellectual disability.

In Angelman syndrome, sensory seeking behaviours seem to be more common than both hypo and hyper-responsivity. This suggests that the sensory processing difficulties observed in the syndrome may partially be driven by a preference for certain sensory stimuli. For example individuals with Angelman syndrome are often described as having a fascination with water and shiny/reflective objects which may be associated with the sensory stimulation that are provided by such items.

Research has suggested that individuals with Angelman syndrome may also have particular sensory processing difficulties associated with the vestibular system. The vestibular system is associated with balance in individuals and so may be related to the balance and movement disorders seen in some individuals with Angelman syndrome.

What behaviours/characteristics in Angelman syndrome are associated with sensory processing difficulties?

It has been suggested that the high rates of sociability in individuals with Angelman syndrome may be associated with sensory seeking behaviours in individuals who are under-responsive to sensory stimuli. However, research is still ongoing regarding the precise relationship between sociability and sensory processing in Angelman syndrome.

An increased prevalence of autism spectrum disorder (ASD) characteristics have been found to be associated with under-responsive sensory processing in Angelman syndrome.

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