Around one year of age, the way that infants respond to different sensory stimuli (sight, touch, movement, smells, sounds) begins to look different in infants who will later be diagnosed with autism compared to those with other developmental delays or those with typical development.

Specifically, infants who were later diagnosed with autism at one year of age did not readily respond to their name, they were more likely to show a negative response to social touch, and they mouthed objects more frequently. Such sensory symptoms are present even before most parents express concerns about their infant.

Research focused on three patterns of sensory processing: hyporesponsiveness, hyperresponsiveness, and sensory seeking. Hyporesponsiveness is characterized by an absent or delayed response to a stimulus (for example, child does not respond when his/her name is called). Hyperresponsiveness is characterized by an exaggerated or negative response to a stimulus (child becomes distressed by certain sounds/textures). Sensory seeking behaviors are those that prolong or intensify a sensory experience, which tend to involve fascination with or craving for certain sensory stimuli (child intensely enjoys being swung hard and fast).

Children with autism exhibit more extreme hyporesponsiveness than children with other developmental disorders. In addition, these children show unusual sensory responses to both social and nonsocial stimuli, although the patterns are more obvious in response to social stimuli.

This study examined whether and how the sensory response patterns mentioned above are related to the language, social and communication abilities of children with autism and other developmental delays.

72 children with autism and 44 children with developmental delay participated in this study. The following were measured for each participant: severity of social-communicative symptoms, cognitive ability, language ability, social and communication skills, and sensory responses.
The severity of social-communicative symptoms of autism was linked to hyporesponsive response patterns in both children with autism and children with other developmental delays. That is, children with more severe symptoms in the area of social-communication were more likely to have hyporesponsive response patterns.

Children with autism showed a link between social-communicative symptoms and a sensory seeking response pattern as well, but children with other developmental delays did not. However, neither group showed a relationship between the social-communicative symptoms and a hyperresponsive pattern.

In both groups of children, those with higher language abilities demonstrated fewer hyporesponsive or seeking behaviors. There was no relation between language ability and hyperresponsive patterns.

Children with autism and with developmental delay who displayed good social and communication skills demonstrated fewer hyporesponsive behaviors. There was no relation between these skills and hyperresponsive or seeking behaviors.

Assessing the sensory processing patterns of children with autism and other developmental delays can aid in the early identification of future social and communicative difficulties. It is clear that hyperresponsive, hyporesponsive, and sensory seeking behaviors influence language, social, and communication skills. Because hyper- and hyporesponsive patterns frequently occur together in children with autism, clinicians should be prepared to provide interventions that address both sensory behaviors and give the families of children with autism strategies for addressing these patterns in the home and school environments.


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For more information about The Sensory Experiences Project please visit our website: http://www.med.unc.edu/sep