Relationship between sensory characteristics and cortical thickness/volume in autism spectrum disorders

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The relationship between brain morphological changes and sensory characteristics in individuals with autism spectrum disorder (ASD) was investigated: brain imaging analysis was performed on 43 ASD adults and 84 typically developing adults, and brain cortical thickness and limbic system volume were calculated for each region of the brain. Participants' sensory characteristics were assessed using the Adolescent/Adult Sensory Profile (AASP). Correlation analysis of cortical thickness, limbic volume, and AASP scores revealed the correlations shown in the figure below. This study revealed associations between lingual cortical thickness, lateral orbitofrontal cortical thickness, and hippocampal volume and sensory characteristics. These findings suggest that morphological changes in the brain may induce sensory symptoms in adult with ASD.