

# Visual Feedback Increases Postural Stability in Children with Autism Spectrum Disorder

## Abstract

Autism spectrum disorders (ASD) are often associated with poor motor control, which depends greatly on postural stability. Firstly, this study examined postural stability in young high-functioning children with autism (H-F CWA), as little is known about early postural skills in ASD. Children with ASD are known to depend considerably on visual cues when maintaining balance. We therefore wished to explore whether visual stimuli would in turn improve postural stability. We recruited 18 H-F CWA (aged 6-11) and also 12 age-matched typically developing (TD) children. We measured their baseline postural stability and their ability to maintain balance when provided contingent visual feedback of the movements of their center of pressure. Postural performances were measured with a force platform. Baseline postural stability of H-F CWA was significantly reduced compared to TD children, as indicated by higher sway scores. When provided visual feedback, H-F CWA improved their balance significantly. We conclude that although deficient postural control in ASD has developmental origins, this may be improved considerably in facilitating settings where H-F CWA can rely on visual cues.

**Keywords:** Autism; Postural control; Visually driven postural stability; Visual feedback; Posture training; Postural deficit