Are sluggish cognitive tempo symptoms associated with executive functioning in preschoolers?

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Abstract

The aim of this study is to investigate whether sluggish cognitive tempo (SCT) symptoms are associated with neurocognitive task performance and ratings of real-world executive functioning (EF) in preschoolers at risk for attention-deficit/hyperactivity disorder (ADHD). The associations between parent- and teacher-rated SCT symptoms and neuropsychological task performance and ratings of EF in 61 4-year-old preschool children (51 boys, 10 girls) with self-regulation difficulties were examined, with regression analyses controlling for the effects of ADHD inattention symptoms. In the study sample, higher teacher-rated SCT symptoms are significantly associated with poorer performance on tasks of visual-perceptual abilities, auditory and visual attention, sustained and selective attention, inhibitory control, pre-numerical/numerical concepts, and slower processing speed, but SCT symptoms are not significantly associated with working memory, attention shifting or cognitive flexibility when controlling for ADHD inattention. Higher parent-rated SCT symptoms are significantly associated with visual-perceptual abilities. ADHD inattention symptoms are more strongly associated than SCT with daily life EF ratings; neither parent- nor teacher-rated SCT symptoms are significantly associated with daily life ratings of inhibition, working memory, or planning/organization after controlling for ADHD inattention. This study suggests that SCT symptoms contribute to EF deficits at least on neurocognitive tasks assessing visual-perceptual/spatial abilities, attention to detail and processing speed, as observed in this sample of young children at risk for ADHD, and may be an important intervention target.