gested that children with TS performed significantly less well on the following measures of the focus-execute component of attention: Stroop Color and Word Test and the Trail Making Test B. No differences between the groups were found on the Symbol Digit Modalities Test and Concentration Endurance Test. The pattern of performance on the focus-execute attention measures of young and old children with TS did not differ from that of young and old healthy comparison children. Karyotype of children with TS was not related to the level of performance on the focus-execute attention measures. In examining unique contributions of several potentially confounding variables (e.g., visual-spatial, motor, impulse control, and working memory) to the focus-execute attention measures, visual-spatial skills and working memory were found to account for variance in the performance on the Stroop Color condition only, indicating that the focus-execute measures used in the study are relatively not confounded. Results are discussed in the context of an integrated neuropsychological and cognitive model of attention proposed by the present author to explain the nature of the focus-execute attention tests. The need for establishing ecological validity of the focus-execute attention tests to assist in planning psychoeducational interventions for children with TS is suggested.


Developmental Course of Executive Function in High Functioning Children with ADHD. In recent years, neuropsychological investigations of ADHD have focused on executive function (EXF) and the role of the frontal brain systems (Pennington, 1991; Reader et al., 1994). EXF has also been considered central in successful acquisition and efficient use of academic skills—particularly in efforts to overcome information processing deficits (Denckla, 1996). Unfortunately, neuropsychological measures of EXF have been inconsistent in their prediction and diagnosis of ADHD (Barkley, 1994). Recently, Barkley (1997) proposed a hybrid model of ADHD as a neurologically-based disorder involving executive (self regulatory) dysfunction, primarily manifest in behavioral regulation difficulties. According to Barkley’s model, EXF develops at different periods throughout the lifespan and includes working memory, self-regulation of arousal, internalization of speech, and reconstitution, all of which act to bring motor behavior, fluency and syntax under the control of internally represented information. The present study compares performance between high functioning children with ADHD and controls on measures of EXF (as defined by Barkley’s model) across age groups and across levels of intellectual functioning. Participants were 105 children (68 ADHD, 37 control), ages 6–16, who completed measures of nonverbal working memory (Rey Osterrieth Complex Figure—immediate recall), self-regulation of arousal (TOVA), internalization of speech (Wisconsin Card Sort) and reconstitution (Letter-Word Fluency). When controlling for IQ, results showed multivariate main effects for age (p < .0001) and for group (p < .05), with measures of self-regulation (i.e., TOVA commissions and variability) emerging as the only consistent predictors of group differences. In all measures except TOVA, a linear developmental trajectory, was found for both ADHD and control subjects, with ADHD children reaching adult level of performance at the expected time. However, on the TOVA, the ADHD group reached plateau at a 7-year level or below—even among those children with high IQ levels (i.e., >120). These results suggest that available measures of self-regulation (i.e., continuous performance tests) may be most useful in highlighting the deficits in ADHD across age spans and in high IQ groups. Although trends were consistently found among the other EXF measures, ADHD children with high IQ may be able to effectively use compensatory strategies to perform at or near normal age level expectations.