

Oral Presentation

Open Access

## Item analysis of parent behavior ratings of executive function in children with spina bifida/hydrocephalus

EM Mahone\* and TA Zabel

Address: Department of Neuropsychology, Kennedy Krieger Institute, Baltimore, Maryland, USA

Email: EM Mahone\* - mahone@kennedykrieger.org

\* Corresponding author

from 48th Annual Meeting of the Society for Research into Hydrocephalus and Spina Bifida  
Dublin, Ireland, 23–26 June 2004  
Published: 23 December 2004

*Cerebrospinal Fluid Research* 2004, 1(Suppl 1):S10 doi:10.1186/1743-8454-1-S1-S10

This article is available from: <http://www.cerebrospinalfluidresearch.com/content/1/S1/S10>

Recent investigations have identified executive function deficits among children with Spina Bifida and hydrocephalus (SBH; Dennis *et al.*, 1999, Kinsman *et al.*, 1998). Executive functions involve "developing and approach" to performing a task that is not habitually performed (Mahone *et al.*, 2002a). Measurement of executive functions yields separable components including working memory, inhibitory control, and response preparation (Denckla, 1996; Pennington, 1997). Caregiver ratings of children with SBH highlight deficits in metacognition, but not behavioral regulation (Mahone *et al.*, 2002b). Within the metacognition area, parent reports of working memory and initiation problems correlate most significantly with their reports of self-care skills (Ries *et al.*, 2003), suggesting that executive functions may mediate the independent implementation of adaptive skills in those with Spina Bifida. In the present study, parents of 30 children (15 boys, 15 girls, ages 10–18) with SBH completed the Behavior Rating Inventory of Executive Function (BRIEF; Gioia *et al.*, 2000) as part of their child's routine outpatient visit. The BRIEF Parent Form contains 86 items, on which parents rate their child's behavior as occurring "never," "sometimes," or "often." The BRIEF is organized into eight scales and two primary indices (Metacognition and Behavioral Regulation). Frequency of item endorsement for the five Metacognition Index scales (Initiate, Working Memory, Plan/Organize, Organization of Materials, and Monitor) was examined in order to identify statements most frequently reported by parents as areas of concern. Items were reported as significant problem areas if rated "often" by at least 40% of the parents in the sample. On the *Initiate* scale, items of greatest concern included "has trouble getting started on homework or chores," and "lies around the house a lot ('couch potato')." On the *Working Memory* scale, items rated most frequently were: "has trouble with chores or tasks that

have more than one step," "needs help from an adult to stay on task," and "has trouble finishing tasks." On the *Plan/Organize* scale, problem behaviors included "becomes overwhelmed by large assignments," and "does not plan ahead for school assignments." On *Organization of Materials* scale, items endorsed most frequently included "keeps room messy," "leaves a trail of belongings wherever he/she goes," and "leaves messes that others have to clean up." No items were endorsed as "often" at this rate on the *Monitor* scale. Our findings highlight the vulnerability of children with SBH to self-help tasks that depend on motor skills, speed, and the ability to manage multiple steps in chores. In contrast, BRIEF items involving rapid forgetting, boredom, and social intrusiveness were least frequently endorsed as problems by parents of children with SBH.