Executive function (EF) refers to the self-regulatory processes that organize and direct cognitive activity, emotional responses, and overt behavior (Gioia & Isquith, 2004). In neuropsychological assessment, EF is typically evaluated using performance-based tests of planning and goal setting, initiation, inhibition, cognitive flexibility, and working memory (Salimpoor & Desrocher, 2006).

Studies comparing scores from performance-based and behavioural measures of EF suggest that the former have little, if any, ecological validity in various clinical populations (e.g., Vriezen & Pigott, 2002).

This study investigated the ecological validity of performance-based EF tests in a new clinical sample: children with Fetal Alcohol Spectrum Disorder (FASD).

Scores of children with FASD were impaired on all performance-based EF tests except the WCST.

Caregiver ratings produced clinically-significant elevations on all scales and indexes of the BRIEF except Organization of Materials.

Bivariate correlations between performance-based and BRIEF variables, as well as the canonical correlation analysis, were not statistically significant, although more impaired scores on BRIEF Organization of Materials were weakly associated with fewer WCST perseverative errors.

Performance-based test variables did not meaningfully predict scores on the BRIEF Metacognition and Behavior Regulation Indexes.

The results of this study add to the growing literature demonstrating a weak relationship between performance-based and behavioural measures of EF. It appears that performance-based and behavioural measures assess either different aspects of EF or different constructs altogether. There is a need for the development of new performance-based EF tests that follow from a clear theoretical conceptualization of EF.