Objective: The relationship between executive functioning (EF) and health related quality of life (HRQOL) is an emerging topic. The current study compared parent-report and performance-based EF measures in relation to HRQOL in intractable pediatric epilepsy.

Method: This study included 32 consecutive pre-surgical admissions (Mean age = 12.43 years; Mean age of onset = 7.11 years) with a FSIQ score of ≥ 70. Twenty-one children presented with localized seizures, 10 with generalized seizures, and one had mixed onset. Measures included the Tower of London-Drexel Version (TOL), Trail Making Test (TMT) A&B, Behavior Rating Inventory of Executive Function (BRIEF), and the Quality of Life in Childhood Epilepsy (QOLCE).

Results: Multiple regression showed that all BRIEF scales were predictive of overall HRQOL [F(8, 23) = 4.200, p < .003, R2 = .594]. Neither the TOL [F(6, 25) = .864, p < .535, R2 = .172] nor the TMT [F(6, 26) = 1.335, p < .280, R2 = .093] were predictive of overall HRQOL. Seizure variables were not associated with the BRIEF or QOLCE. Increased anti-epileptic medications were associated with decreased TOL and TMT B performance. Earlier age of onset related to increased time and rule violations on the TOL. Reduced performance on the TMT B was associated with greater overall executive dysfunction on the BRIEF and slower total problem solving time on the TOL.

Conclusion: Parent ratings of executive dysfunction predicted HRQOL in pediatric epilepsy, while neuropsychological testing was more closely associated with disease specific and treatment-related factors. Our findings support the use of informant and performance-based EF measures during pre-surgical evaluations in pediatric epilepsy.