tasks did not significantly predict QoL for the high tumor grade level group.

**Conclusions:** Our findings did not significantly differ in the overall impact tumor grade level (i.e., low vs., high) has on QoL. Notably, cognitive performance on TMT B significantly predicts QoL for the low but not high tumor grade level group.

**Categories:** Cancer
**Keyword 1:** brain tumor
**Keyword 2:** cognitive functioning
**Keyword 3:** emotional processes
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## 21 Comparison of the NIH Toolbox Cognition Battery to Established Performance-Based Assessments in a Pediatric Cancer Setting

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**Objective:** This study examines the clinical validity of the NIH Toolbox Cognition Battery measures in patients with oncological diagnoses and tumor predisposition syndromes, including Neurofibromatosis, Type 1 (NF1).
**Participants and Methods:** Participants included 158 patients (61% male, 67% White) ages 3 to 25 years (M = 8.38, SD = 4.32) who underwent neuropsychological evaluation between 2019 and 2022. Patients with brain tumors (n = 50) and leukemias (n = 49) accounted for 2/3 of the sample. The remainder had solid tumors, lymphomas, or cancer predisposition syndrome. Forty-eight had a diagnosis of NF1.
Performance-based measures of attention, executive functioning, and processing speed were administered as part of neuropsychological evaluations. Patients were administered between 1 to 4 NIH Toolbox Cognition measures, including Flanker Inhibitory Control and Attention Test (Flanker), Dimensional Change Card Sort Test (DCCS), Pattern Comparison Processing Speed Test (PCCS), and List Sorting Test. Parent-reported measures of attention and EF were also obtained. Z-scores were used to compare performance across measures that assessed equivalent constructs. The rates of weak performance (≥1 SD below the mean) using Toolbox measures were compared to rates of weak performance on traditional neuropsychological measures (e.g., Digit Span), and rates of functional impairment (e.g., parent-reported concerns, ADHD diagnosis).
**Results:** FSIQ, Coding, and NEPSY Inhibition correlated with all 4 Toolbox measures, while Digit Span correlated with List Sorting, DCCS, and Flanker. DCCS and PCCS correlated with verbal fluency measures. NF1 patients scored lower than non-NF1 patients on Flanker, $F(1,126) = 13.01$, p<.001 and DCCS, $F(1,150) = 6.85$, p = .01. Toolbox performance did not differ significantly by age group.
Rates of identified weakness were relatively similar on Toolbox measures, some traditional measures, and parent-reported attention problems. In identifying those with and without weakness, the agreement between Flanker and other measures ranged from 52% (Auditory Attention) to 66% (Coding). Agreement between DCCS and traditional measures ranged from 47% (Letter Fluency) to 80% (Switching). For PCCS, concordance ranged from 45% (Semantic Fluency) to 69% (Switching). List Sorting had 80% agreement with Digit Span and Coding.
List Sorting had the highest agreement with parent-reported attention problems (76%), EF problems (72%), and ADHD diagnosis (79%). There was relatively high concurrence between DCCS and ADHD diagnosis (69%) and parent-reported attention problems (60%) and EF problems (65%) and between Flanker and ADHD diagnosis (67%). PCCS had less agreement with functional outcomes, ranging from 49% for EF problems to 58% for attention problems and ADHD diagnosis. In comparison, Digit Span had 64% agreement for EF problems, 70% for attention problems, and 73% for ADHD diagnosis.
**Conclusions:** The NIH Toolbox Cognition Battery can be used to identify neurocognitive weaknesses in pediatric oncology patients and provide clinically meaningful data. Evaluation of the Toolbox measures' sensitivity to change over time is warranted, as monitoring the progression of cognitive late effects is particularly salient in cancer survivorship.

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## 22 Resilience and Functional Impairment in Latino Patients with Pediatric Brain Tumor (PBT)

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**Objective:** Children with pediatric brain tumors (PBT) are at increased risk of psychosocial challenges (e.g., emotional distress, social difficulties), which in turn can result in functional impairment, or problems engaging appropriately across settings. These concerns have been shown to be especially pronounced in patients with lower socioeconomic status (SES), which tends to be overrepresented among ethnic minorities, such as Latino populations. On the other hand, resilience (the ability to utilize resources to alleviate stress and overcome adversity) can act as a protective factor against functional impairment. While resilience has been found to be lower among Latino survivors of pediatric cancer, little is known about the potential role of resilience in mitigating functional impairment among Latino patients with PBT. The authors hypothesized poorer resilience and increased functional impairment among Latino patients with PBT compared to normative expectations, in an attempt to explore need for additional support within this population.

**Participants and Methods:** 42 Latino patients with PBT ages 2-20 ($\bar{x}$=11.08 years, SD=5.24) completed neuropsychological evaluation between 2018 and 2022. The sample was split relatively equally in terms of sex (47.6% male, 52.4% female), tumor location (45.2% infratentorial, 54.8% supratentorial), and household language (47.6% predominantly English, 52.4% predominantly Spanish). Outcome variables included Resiliency and Functional Impairment content scales from the Behavior Assessment Scale for Children – Third Edition: Parent Rating Scales (BASC-3: PRS). Standardized T-scores ($\bar{x}$=50; SD=10) were derived using age-appropriate normative data, with higher T-scores indicating better resiliency, yet poorer functional impairment. Median household income for specific neighborhoods was used as a proxy for SES.

**Results:** The sample as a whole did not deviate from age expectations in terms of resiliency [t(41)=-.469, p=.642] or functional impairment [t(38)=.118, p=.907]. However, when separated by household language, participants from English speaking households demonstrated lower resiliency and increased functional impairment as compared to both normative expectations [t(19)=-2.748, p=.006; t(18)=1.882, p=.038, respectively] and participants from Spanish speaking households [t(40)=-3.327, p=.002; t(37)=2.717, p=.010, respectively]. In contrast, participants from Spanish speaking households performed similarly to same-aged peers in terms of both resiliency [t(21)=1.931, p=.067] and functional impairment [t(19)=-1.969, p=.064]. Furthermore, household language predicted both resiliency [F(2, 39)=8.639, p=.0008] and functional impairment [F(2, 36)=6.203, p=.005] above and beyond SES, explaining an additional 29.4% (p=.0002) and 24.3% (p=.002) of the variation in these variables, respectively.

**Conclusions:** Latino patients with PBT from Spanish speaking households had better reported resiliency and lower functional impairment than their counterparts from English speaking households. Given the subjective nature of parent reported outcomes and the importance of appropriately supporting patients and families from underserved populations, the roles of culturally-ingrained protective factors and cultural/linguistic differences in perceiving or articulating distress need further exploration. Future research, including comparison of parent report with objective measurement of impairment, is needed to better understand relationships between home language and these important variables. Additionally, examination of diagnostic and treatment-related factors will be beneficial to determine the best approaches to interventions and resources within this population.