**DEVELOPMENT AND PSYCHOMETRIC PROPERTIES OF A PEDIATRIC PERCEIVED COGNITIVE FUNCTION ITEM BANK (PedsPCF)**  
Lai YJ1, Zelho P2, Butt Z2, Celli D2, Magus S2, Goldman S2

1Northwestern University, Chicago, IL, USA; 2Children’s Memorial Hospital, Chicago, IL, USA

**OBJECTIVES:** Cognitive difficulties are common among children with neurological diseases. A brief-yet-precise screening tool is needed to facilitate timely referral for neuropsychological testing in this population. Based on our prior research with clinicians, a standardized, self-report measure would be efficient and useful for this purpose. This paper reports the development and psychometric properties of a pediatric perceived cognitive function item bank (pedsPCF). METHODS: The pedsPCF consists of 45 items developed via children/parent/clinician/teacher interview and literature review, and were qualitatively evaluated by children/parents and clinicians. The calibration sample includes data from 1,497 children: 49% aged 7–12; 45% 13–17; 6% 18–21. Of them, 56% were males, 16% repeated grades in school, 39% received some forms of special education, 30% were given medication for attention difficulties, and 27% had at least one of the following diagnoses: epilepsy, traumatic brain injury, cerebral palsy or brain tumor. Data were randomly divided into two datasets to be used for exploratory factor analysis (EFA, n = 747) and confirmatory factor analysis, specifically, bi-factor analysis (n = 750). The clinical usefulness of the pedsPCF was evaluated by determining whether scores could discriminate between different sub-groups. RESULTS: One item was deleted due to its low Spearman rho and item-scale correlation. Results from the EFA suggested a single factor among the remaining 44 items based on a scree plot. Furthermore, all items had significant loadings (>0.3) on the first factor after PROMAX rotation. Bi-factor analysis supported sufficient unidimensionality with satisfactory fit indices (CFI = 0.923; TLI = 0.992; RMSEA = 0.112) and all items had significantly higher loadings on the general factor versus local factors. T-tests showed that the pedsPCF significantly differentiated samples defined by medication use, repeated grades, special education status, and neurological diagnosis, all p < 0.0001. CONCLUSIONS: The initial psychometric properties of pedsPCF are promising. Recruitment for the clinical validation study is in progress.

**FIBROMYALGIA FATIGUE—DEVELOPMENT OF A CONCEPTUAL MODEL BASED ON QUALITATIVE PATIENT INTERVIEWS**  
Moos P1, Humphrey L2, Ar buckle R2, Williams DA1, Dannesli-Jarsoe B2, Gilbert C1

1Seattle Rheumatology Associates, Seattle, WA, USA; 2Mapi Values Ltd, Boston, MA

**OBJECTIVES:** Fatigue in fibromyalgia (FM) is considered to be one of the most important symptoms for patients with FM. However, its impact on their daily lives is limited. We conducted qualitative research to better understand what individuals with FM mean by ‘fatigue’, assessed the impact it has on their daily lives and to develop a conceptual model to represent these findings. METHODS: Open-ended, qualitative interviews were conducted with 40 FM patients (n = 20), Germany (n = 10) and France (n = 10) using open-ended questions and creative tasks to elicit unbiased information about FM and fatigue. Transcripts were analyzed using qualitative methods based on grounded theory. RESULTS: Participants were 70% female; mean age 48.7 years (range 25–79) with a range of education levels. Thirty-one (77.5%) spontaneously described experiencing fatigue/tiredness/sleep deficit of energy due to FM. The conceptual model developed depicts key elements of FM fatigue from a patient perspective, which was discussed as being more severe than normal tiredness, constant/persistent and unpredictable. In the model it is defined as: an overwhelming feeling of tiredness defined as: an overwhelming feeling of tiredness, not proportional to effort exerted, associated with a heavy feeling in their body or makes tasks take longer to do. CONCLUSIONS: The majority of individuals with FM experience fatigue and describe how it is more severe than normal tiredness. The qualitative data supported development of a conceptual model of key elements of FM fatigue from the patient perspective which will be used to construct an FM specific fatigue measure.

**LINEAR SCORING RULES FOR PATIENT REPORTED OUTCOMES AND PATIENT PREFERENCES**  
Mohamed AF1, Hauber AB2, Johnson FR2

1RTI Health Solutions, Research Triangle Park, NC, USA; 2RTI International, Research Triangle Park, NC, USA

**BACKGROUND:** Many Health-Related Quality-of-Life (HRQOL) and Patient-Reported Outcomes (PRO) instruments are scored by averaging or summing Likert-category values over all items or domains of the elicitation instrument, yielding domain-specific scores or a total score for the entire instrument. **OBJECTIVES:** To review the evidence on whether linear scoring algorithms in HRQOL/PRO instruments are consistent with patient preferences in asthma, oncology, and obesity. METHODS: Three studies used similar methods to adapt the Onset-of-Effect Questionnaire (OEQ), the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-C30 (EORTC-QLQ-C30), and the Impact of Weight on Quality of Life Questionnaire-C30 (EORTC QLQ-C30), and the Impact of Weight on Quality of Life (IWQOL-Lite) Version (IWQOL-Lite) to choice-format conjoint surveys. In each study, the researchers used the domains and categories of a HRQOL/PRO instrument to determine the attributes and levels for the conjoint surveys. They applied similar choice-modeling approaches to estimate the relative importance of health outcomes assessed by each of the three HRQOL/PRO instruments. RESULTS: Linear scoring algorithms in HRQOL/PRO instruments, the domains were not equally important to patients and improvements in adjacent categories were not equally important within and across domains. In particular, the asthma and oncology study results indicated that patient preferences for the health outcomes were strongly non-linear. Overall, there were statistically significant and clinically meaningful divergences between the relative importance to patients of individual domains and categories and the linear, additive assumptions required by scoring algorithms. CONCLUSIONS: Conjoint methods provide a practical means for eliciting preference-based scoring weights for HRQOL/PRO domains. The results provide an alternative to the conventional linear scoring approach that reflect underlying preference non-linearities and variability in importance of domains.