

Cognitive Instrument Recommendations Summary Table (by Subdomain)

Instrument Name	Adult and/or Pediatric	Primary Cognitive Subdomain	Cognitive Subdomains	Classification (Core, Supplemental-Highly Recommended, Supplemental, or Exploratory)	Recommended for the following types of studies 1=Cross-sectional studies: a) cohort study, b)case-control study; 2=Longitudinal studies: a)cohort study, b)case-control study; 3=Randomized Clinical trials a) with and b) without cross-over	Main Reference
Word Reading Subtest of the Wide Range Achievement Test (WRAT-4)	Adult and Pediatric	Academic Achievement	Academic Achievement Intellectual Ability/Academic Skills	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. One time administration only to assess premorbid cognitive function.	Wilkinson, GS, Robertson, GJ. (2006) Wide Range Achievement Test-4 Professional Manual. Lutz, FL: Psychological Assessment Resources.
Paced Auditory Serial Addition Test (PASAT)	Adult	Attention/Information Processing	Attention Auditory/Information Processing/Working Memory; also available to assess visual attention PVSAT.	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Thorough training prior to first administration is essential, especially if task is administered repeatedly to preclude the effects of learning.	Tombaugh TN. A comprehensive review of the Paced Auditory Serial Addition Test (PASAT). Arch Clin Neuropsychol. 2006;21(1):53-76.
Automated Neuropsychological Assessment Metrics (ANAM)	Adult	Attention/Information Processing	Attention Battery - Attention/Memory	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Modules can be administered repeatedly.	Automated Neuropsychological Assessment Metrics, 4 th ed. Norman, OK: C-SHOP, 2007.
Deary-Liewald Reaction Time Task	Adult	Attention/Information Processing	Attention	Exploratory	1a; 1b; 2a; 2b; 3a; 3b. Can be administered repeatedly.	Cockshell SJ, Mathias JL. Cognitive functioning in chronic fatigue syndrome: a meta-analysis. Psychol Med. 2010;40(8):1253–1267.
Stroop Test	Adult and Pediatric	Attention/Information Processing	Attention Visual	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Can be administered repeatedly, low probability of learning effect.	Golden C & Freshwater SM (2002). The Stroop Color and Word Test: A Manual for Clinical and Experimental Uses. Wood Dale, IL: Stoelting Co. Stroop JR. (1935). Studies of interference in serial verbal reactions. J Experimental Psychol: General. 1935:18:643–662.
Test of Variables of Attention (TOVA)	Adult and Pediatric	Attention/Information Processing	Attention Attention-Visual and Auditory	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Can be administered repeatedly for a variety of outcome measures including: variability of response time (consistency), response time, commission (impulsivity), errors of omission (inattention), post-commission response times, multiple and anticipatory responses, and an ADHD score.	Greenberg, L.M. (1991). T.O.V.A.™ interpretation manual. Minneapolis, MN: Author. Greenberg, L.M., & Waldman, I.D. (1993). Developmental normative data on the Test of Variable of Attention (T.O.V.A.™). Journal of Child Psychology and Psychiatry, 34, 1019–1030.
Children's Paced Auditory Serial Addition Task (ChiPASAT)	Pediatric	Attention/Information Processing	Attention Auditory/Information Processing	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Thorough training prior to first administration is mandatory, especially if task is administered repeatedly to preclude the effects of learning.	Johnson DA, Roethig-Johnston K, Middleton J. Development and evaluation of an attentional test for head injured children--1. Information processing capacity in a normal sample. J Child Psychol Psychiatry. 1988;29(2):199-208.

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Beck Anxiety Inventory (BAI)	Adult	Emotional/Behavioral	Emotional/Behavioral	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Can be administered longitudinally.	Beck AT. An inventory for measuring clinical anxiety: psychometric properties. J Consult Clin Psychol. 1988; 56(6): 893–897.
Center for Epidemiologic Studies-Depression Scale (CES-D)	Adult	Emotional/Behavioral	Emotional/Behavioral	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Can be administered longitudinally.	Radloff, LS. The CES-D Scale: A self-report depression scale for research in the general population. App Psychol Meas. 1977;1(3):385–401.
State-Trait Anxiety Inventory (STAI)	Adult	Emotional/Behavioral	Emotional/Behavioral	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Can be administered longitudinally.	Antony MM, Orsillo SM, Roemer L, eds. Practitioner’s Guide to Empirically Based Measures of Anxiety. NewYork: Kluwer/Plenum; 2001.
Beck Depression Inventory II (BDI-II)	Adult and Pediatric	Emotional/Behavioral	Emotional/Behavioral	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Inquires about mood over the past 2 weeks, can be used repeatedly.	Beck AT, Steer RA, Brown GK. Manual for The Beck Depression Inventory Second Edition (BDI-II). San Antonio: Psychological Corporation; 1996.
Kiddie-Schedule for Affective Disorders and Schizophrenia for School-Aged Children-Present and Lifetime Version (K-SADS-PL)	Pediatric	Emotional/Behavioral	Emotional/Behavioral	Exploratory	1a; 1b; 2a; 2b; 3a; 3b. Is generally only administered at baseline, since it is a diagnostic tool.	Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D., and Ryan, N. Schedule for Affective Disorders and Schizophrenia for School-Age Children–Present and Lifetime version (K-SADS-PL): Initial reliability and validity data. J Am Acad Child Adolesc Psychiatry. 1997; 36(7):980–988.
Delis-Kaplan Executive Function System (D-KEFS) Recommended modules: Color-Word-Interference Test -- , Trail Making Test -- , Verbal Fluency --	Adult	Executive Functioning	Executive Functioning Battery/Executive Functioning/Attention	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Tasks can be administered repeatedly; low risk of learning effect.	Delis DC, Kaplan E, Kramer JH. Delis-Kaplan Executive Function System™ (D-KEFS™) [Internet] 2001. Available from: http://www.pearsonclinical.com/psychology/products/10000618/deliskaplan-executive-function-system-d-kefs.html?Pid=015-8091-108 .
Cogstate Tests Recommended modules: Detection -- Processing speed, Identification -- Sustained attention, One-Back -- Working memory, Two-Back -- more complex working memory, One Card Learning -- New learning, Groton Maze Learning -- Executive Function/Organization	Adult	Executive Functioning	Executive Functioning Battery Attention/Information Processing/Working Memory	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Tasks lend themselves to repeat administrations.	Maruff P, Thomas E, Cysique L, Brew B, Collie A, Snyder P, Pietrzak R. Validity of the CogState Brief Battery: Relationship to Standardized Tests and Sensitivity to Cognitive Impairment in Mild Traumatic Brain Injury, Schizophrenia, and AIDS Dementia Complex. Archives of Clinical Neuropsychology. 2009;24(2):165–178.

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Cambridge Neuropsychological Test Automated Battery (CANTAB)	Adult and Pediatric	Executive Functioning	Executive Functioning Battery/Visual Attention, Working Memory, Executive Functioning	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. All modules can be administered repeatedly.	Capuron L et al. Cognitive Dysfunction Relates to Subjective Report of Mental Fatigue in Patients with Chronic Fatigue syndrome. Neuropsychopharmacology. 2006;31:1777–1784.
NIH Toolbox Cognitive Battery	Adult and Pediatric	Executive Functioning	Executive Functioning Battery/Episodic Memory, Executive Functioning & Attention, Working Memory, Language, Processing Speed	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Follow administration guidelines in manual.	Gershon RC, Cella D, Fox NA, Havlik RJ, Hendrie HC, Wagster MV. Assessment of neurological and behavioural function: the NIH Toolbox. Lancet Neurol. 2010;9(2):138–139.
Cogstate Tests Recommended modules: Detection -- Processing speed, Identification -- Sustained attention, One-Back -- Working memory, One Card Learning -- New learning	Pediatric	Executive Functioning	Executive Functioning Battery Attention/ Information Processing/Working Memory	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Tasks lend themselves to repeat administrations.	Maruff P, Thomas E, Cysique L, Brew B, Collie A, Snyder P, Pietrzak R. Validity of the CogState Brief Battery: Relationship to Standardized Tests and Sensitivity to Cognitive Impairment in Mild Traumatic Brain Injury, Schizophrenia, and AIDS Dementia Complex. Archives of Clinical Neuropsychology. 2009;24(2):165–178.
Edinburgh Handedness Inventory	Adult	Intellectual Functioning	Demographics Demographics/Intellectual Ability/Motor Function	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Only needs to be administered once.	Oldfield RC. The assessment and analysis of handedness: the Edinburgh inventory. Neuropsychologia. 1971;9(1):97-113. Veale JF. Edinburgh Handedness Inventory – Short Form: a revised version based on confirmatory factor analysis. Laterality. 2014;19(2):164-177.
North American Adult Reading Test (NAART)	Adult	Intellectual Functioning	Intellectual Functioning Intellectual Ability/Premorbid Function	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Only needs to be administered at baseline.	Uttl B. North American Adult Reading Test: Age Norms, Reliability, and Validity. J Clin Exp Neuropsychol. 2003;24(8):1123–1137.
Test of Premorbid Functioning (TOPF)	Adult	Intellectual Functioning	Intellectual Functioning Battery/Intellectual Ability	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Only needs to be administered at baseline.	Wechsler D, ed. Test of Premorbid Functioning. San Antonio, TX: The Psychological Corporation; 2009.

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Wechsler Adult Intelligence Scale - Fourth Edition (WAIS-IV)	Adult	Intellectual Functioning	Intellectual Functioning Battery/Intellectual Ability	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Digit Span, Cancellation, Letter-Number-Sequencing, Coding, Symbol Search can be administered repeatedly,	Wechsler D. (2008) Wechsler Adult Intelligence Scale, fourth edition (WAIS-IV). The Psychological Corporation; San Antonio, TX. Technical Manual: WAIS-IV Technical & Interpretive Manual
Wechsler Abbreviated Scale of Intelligence - Second Edition (WASI-II)	Adult and Pediatric	Intellectual Functioning	Intellectual Functioning Battery/Intellectual Ability	Exploratory	1a; 1b; 2a; 2b; 3a; 3b. Should only be administered as a screen or a follow-up.	Wechsler D. (2008) Wechsler Adult Intelligence Scale, fourth edition (WAIS-IV). The Psychological Corporation; San Antonio, TX. Technical Manual: WAIS-IV Technical & Interpretive Manual McCrimmon AW, Smith AD. Review of the Wechsler Abbreviated Scale of Intelligence, Second Edition (WASI-III). Journal of psychoeducational Assessment (2012); 31(3), 337-341
Woodcock-Johnson III Test of Cognitive Abilities	Adult and Pediatric	Intellectual Functioning	Intellectual Functioning Battery/Academic Achievement/Intellectual Ability	Exploratory	1a; 1b; 2a; 2b; 3a; 3b. 1a; 1b; 2a; 2b; 3a; 3b. Should only be administered at baseline.	Schrank FA. Woodcock-Johnson III Tests of Cognitive Abilities Handbook of Pediatric Neuropsychology (2010).
Wechsler Intelligence Scale for Children-Fifth Edition (WISC-V)	Pediatric	Intellectual Functioning	Intellectual Functioning Battery/Intellectual Ability	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Digit Span, Cancellation, Letter-Number-Sequencing, Coding, Symbol Search can be administered repeatedly,	Canivez GL, Watkins MW, Dombrowski SC. Factor Structure of the Wechsler Intelligence Scale for Children-Fifth Edition: Exploratory Factor Analyses With the 16 Primary and Secondary Subtests. Psychol Assess. 2015 (In Press). doi: 10.1037/pas0000238.
California Verbal Learning Test - Second Edition (CVLT-II)	Adult	Memory	Memory Memory/Learning-Verbal/Attention	Supplemental - Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Alternate forms are available for longitudinal studies.	Delis DC, Holdnack JA, Kramer JH, Scott JC, Woods PW. The California Verbal Learning Test – second edition: Test-retest reliability, practice effects, and reliable change indices for the standard and alternate forms. Arch of Clin Neuropsychol. 2006;21(5):413-420. Delis DC, Kramer JH, Kaplan E, Ober BA. California Verbal Learning Test® - Second Edition (CVLT® -II) [Internet]. Pearson Education, Inc. 2000 [cited 22 June 2016]. Available from: http://www.pearsonclinical.com/psychology/products/100000166/california-verbal-learning-test--second-edition-cvlt-ii.html?Pid=015-8035-720&Mode=summary
Wechsler Memory Scale IV (WMS-IV)	Adult	Memory	Memory Memory/Attention	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Beware of practice effects on verbal and visual memory tasks.	Pauls F, Petermann F, Lepach AC. Memory assessment and depression: testing for factor structure and measurement invariance of the Wechsler Memory Scale-Fourth Edition across a clinical and matched control sample. J Clin Exp Neuropsychol. 2013;35(7):702–717.
Rey-Osterrieth Complex Figure Test (ROCF)	Adult and Pediatric	Memory	Visual-Spatial Processing Visuo/Spatial Function and Visual Memory/Attention/Executive Functioning	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Should not be administered repeatedly, strong learning effect. If visual memory needs to be evaluated repeatedly use tools with alternate versions.	Rey A & Osterrieth PA. Translations of excerpts from Andre Rey's Psychological examination of traumatic encephalopathy and P.A. Osterrieth's The Complex Figure Copy Test. Clinical Neuropsychologist. 1993;7(1):4–21.

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California Verbal Learning Test - Children (CVLT-C)	Pediatric	Memory	Memory Memory/Learning - Verbal	Supplemental - Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Not certain that alternate forms exist for this task. If visual memory needs to be evaluated longitudinally consider using evaluation with CVLT-C and follow up with RAVLT or vice versa.	Delis DC, Kramer JH, Kaplan E, Ober BA. California Verbal Learning Test®-Children's Version, (CVLT®-C) San Antonio, TX Pearson Clinical; 1994 [cited 2015 2/24]. Available from: http://www.pearsonclinical.com/psychology/products/100000609/california-verbal-learning-testchildrens-version-cvlt-c.html?pid=015-8033-957 . Normative Data for Composite Scores for Children and Adults Derived from the Rey Auditory Verbal Learning Test Eli Vakil, Yoram Greenstein & Haya Blachstein The Clinical Neuropsychologist Vol. 24 , Iss. 4,2010
Children's Memory Scale (CMS)	Pediatric	Memory	Memory	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Beware of practice effects on memory tasks.	Andrew Haig-Ferguson, Peter Tucker, Nicola Eaton, Linda Hunt and Esther Crawley (2008). Memory and attention problems in children with CFS/ME. Arch. Dis. Child. doi:10.1136/adc.2008.143032
Speeded Tapping Test	Adult	Motor Function	Motor Function	Exploratory	1a; 1b; 2a; 2b; 3a; 3b. Can be administered repeatedly.	Reitan, R.M. (1979) Manual for administration of neuropsychological test batteries for adults and children. Tucson, AZ: Reitan Neuropsychology Laboratories, Inc.
Mental Fatigue Scale (MFS)	Adult	Quality of Life	Quality of Life	Supplemental	1a; 1b; 2a; 2b; 3a; 3b. Can be administered longitudinally.	Johansson B, Starmark A, Berglund P, Rödhholm M, Rönnbäck L. A self-assessment questionnaire for mental fatigue and related symptoms after neurological disorders and injuries. Brain Inj. 2010 Jan;24(1):2-12. doi: 10.3109/02699050903452961.
Rey-Osterrieth Complex Figure Test (ROCF)	Adult and Pediatric	Visual-Spatial Processing	Visual-Spatial Processing Visuo/Spatial Function and Visual Memory/Attention/ Executive Functioning	Supplemental-Highly Recommended	1a; 1b; 2a; 2b; 3a; 3b. Should not be administered repeatedly, strong learning effect. If visual memory needs to be evaluated repeatedly use tools with alternate versions.	Rey A & Osterrieth PA. Translations of excerpts from Andre Rey's Psychological examination of traumatic encephalopathy and P.A. Osterrieth's The Complex Figure Copy Test. Clinical Neuropsychologist. 1993;7(1):4-21.