as the subject is required to name the picture fragmented object. Thus, individuals with naming disorders may obtain low scores on the HVOT by virtue of their anomia, even if the fundamental perceptual abilities engaged by the test are preserved. In order to minimize the impact of anomia on HVOT performance, we developed a multiple-choice version (MC-HVOT) containing 4 response alternatives printed in a column below the target figure. Each set contains the correct response and three foils taken from incorrect responses in the test manual and from our clinical experience; one in each set is an “isolate” response. The examiner displays each plate and reads aloud the response alternatives. Subjects respond by whatever means can be established (e.g., pointing, giving number of their selection, nodding as the examiner points to the choices). Subjects who obtain an age- and educated-corrected score of 20 (i.e., consistent with a “moderate probability of impairment”) on the standard HVOT are given the Boston Naming Test (BNT) to quantify the degree of anomia, followed by the MC-HVOT. Findings to date confirm the clinical utility of the MC-HVOT. For example, a 33-year-old aphasic man (not testable on BNT) improved from a score of 1 on the standard HVOT to 17 on the modified form. A 74-year-old man with a left hemisphere stroke who obtained a BNT score at the 3rd percentile, scored at the “high probability of impairment” level on the standard form but placed in the “low probability” range on the MC-HVOT. We continue to investigate the clinical application of the MC-HVOT.

Garay, M. T., M. A., & Caplan, B.
Interpretive Tables for the Benton Visual Form Discrimination Test.
Assessment of visual-perceptual skills is a core component of neuropsychological evaluation, as deficits in this domain are characteristic of a variety of diagnostic entities including dementia, stroke, and learning disorders. The Visual Form Discrimination (VFD) test is a 16-item multiple-choice measure requiring visual analysis and matching of sets of geometric shapes. The published normative observations (Benton et al., 1983, 1994) provide frequency counts of various raw scores and suggested cut-off points for impairment levels; however because certain critical information (i.e., standard deviation) was not provided, percentile rankings cannot be calculated in individual cases, thereby limiting the clinical value of the test. In this study we improve the utility of the VFD by: 1) determining the standard deviation of the normative sample, and 2) using this index to calculate percentile equivalents of raw scores in order to facilitate interpretation in single cases. As the standard deviation was calculated to be 2.1, a raw score of 29 defines the lower limit of the Average range (30th %ile), 28 (ht Nile) is Below Average, and scores of 27 and below reflect increasing degrees of impairment. The obtained descriptors differ somewhat from those suggested by Fenton et al. We provide tables containing T-scores, percentile equivalents and descriptors that will permit clinicians to make more precise use of the VFD.

Gaudette, M. D., & Smith, J.
Process-Oriented Administration of the Picture Arrangement Test Does Not Affect the Quantitative Outcome.
Extracting the maximum amount of qualitative information of cognitive functioning from tests is one of the major goals of the “process approach” to neuropsychological assessment. The purpose of this study was to examine whether there is a difference in performance in the Picture Arrangement test of the WAIS-R for subjects who completed the standardized administration (i.e., asking the patient to “tell the story” immediately following each item) which yields much qualitative information. Seventeen traumatic brain injury patients and 20 control subjects (i.e., non-brain injury volunteers) were randomly assigned to the standardized administration or the process-oriented administration of the P.A. test. Participants were given all 10 P.A. items. A 2 (group) × 2 (type of administration) ANOVA revealed no
Ginsberg, J. P., M. A., & Long, C. J.

Acceleration of Age-Related Decline in Neuropsychological Performance after Recovery from Severe Traumatic Brain Injury.

The effect of age on the summary Impairment Index, and on each of the seven tests used to determine it, was analyzed in a group of severely traumatically brain injured patients (n = 87, time since injury greater than 2 years) and compared to a control group of patients (n = 219) who had no significant evidence of any neurological disorder. The age range of the two subgroups was 20 to 62 years old. The only interaction between age and TBI was found on Speech Sounds Perception (p = 0.001), and follow up tests indicated that the increase in errors accelerated after age 40. However, a significant main effect of age was found on the Impairment Index, Trails B, Rhythm, TPT-Time, and TPT-Location (all ps < 0.05), and a significant main effect TBI was found on all eight measures (all ps < 0.001). When bivariate relationships within the brain injured group only were considered, age was significantly correlated with the Impairment Index, Speech Perception, TPT-Time, TPT-Memory, and TPT-Location. These results suggest that the age-related decline in neuropsychological performance known to occur in normal aging is accelerated after recovery from severe traumatic brain injury.

Glidden, R., Sheslow, D., & Adams, W.


Despite its importance to everyday classroom functioning, there have been few studies examining the neurocognitive components of handwriting in children. With the recent publication of the visual-motor test battery, Wide Range Assessment of Visual Motor Abilities (WRAVMA), children can now be evaluated for visual-motor, visual-spatial, and fine motor skills using norms derived from a single standardization sample. The purpose of this study was to examine the relationships between handwriting and important neurocognitive subskills that presumably comprise visual-motor ability. Ninety-two children, 7-12 years of age, completed a two-sentence copy task and the WRAVMA. A 17-item rating scale was employed to assess handwriting. Evaluation criteria included letter formation, alignment, uniformity, spacing, legibility, and fluency. Inter-rater reliability exceeded .95. Results demonstrated a mild to moderate correlation between handwriting and subtests of the WRAVMA. The correlation between handwriting and the visual-spatial test was .31; handwriting and the visual-motor test was .22, and handwriting and fine motor test was .21. The highest correlation was found between handwriting and the visual-motor composite score (r = .41). A regression analysis with age and individual WRAVMA variables accounted for only 16% of the variance. Although there is a predicted developmental trend in handwriting ability, only a moderate relationship was found in the age group studied. Results suggest that handwriting may be a complex, integrative neurocognitive task that taps visual-motor skills, more fluid cognitive abilities and likely behavioral factors as well. Expertise in various recognized components of visual-motor ability only partially predicts good handwriting. Other factors such as motivation, planning skill, attention to detail, and speed of production should be studied as potential variables that affect the quality of handwriting. Clinical and psychometric implications will be discussed.