

---

## BOOK REVIEWS

---

### **A Guide to the Neuropsychological Assessment of the Aging Individual**

*An Assessment Guide to Geriatric Neuropsychology*, by Holly Tuokko and Thomas Hadjistavropoulos. 1998. Mahwah, NJ: Lawrence Erlbaum Associates. 282 pp., \$79.95.

Reviewed by PAUL J. MOBERG, Ph.D., *Brain-Behavior Laboratory, Department of Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, PA 19104.*

Most clinical neuropsychologists find themselves, at one time or another, foraging through their collection of folders, boxes, and texts to locate reliability, validity, and normative data for some of the more commonly used neuropsychological tests in an elderly population. In their forward, Tuokko and Hadjistavropoulos indicate that this book is designed to compile the range of normative data on the more commonly used neuropsychological tests into one source that can be easily accessed and integrated by the clinician. In addition to presentation of normative data relating to the geriatric population, a critique of each instrument's standardization and normative data is presented as well. While not all-inclusive of measures used by the typical neuropsychologist, it does cover the majority of tasks for which good normative data on the elderly exist.

Chapters 1 and 2 present basic clinical, interviewing, and diagnostic axioms as well as a brief review of psychometric theory. While most of the information in these chapters should be second nature to most practicing neuropsychologists, there are a few points made that I think are worth restating. For example, the discussion of age-related sensory deficits (e.g., vision reductions, hearing impairment, etc.), may seem to fall within the realm of "common sense," but nevertheless, it is striking how many clinicians neglect to factor these processes into their interpretation of neuropsychological test data. That is, reduced finger tapping speed due to arthritis is very different than lowered scores due to brain deterioration or injury. In addition, a call for extra attention to co-morbid medical conditions such as hypertension, arthritis, thyroid disorders, menopausal changes, and other conditions common in the elderly is also made.

Chapter 3 deals with the use of cognitive screening measures in the assessment of elderly patients. In light of the recent changes in healthcare as well as a somewhat greater reliance by some clinicians on screening tests as "first-line" measures to triage cases that need more extended neuropsychological assessment, such a review and comparative

discussion is timely. The Mini-Mental State Examination (MMSE) and its extended versions are discussed as are the Cambridge Examination for Mental Disorders for the Elderly (CAMCOG), Mental Status Questionnaire (MSQ), Short Portable Mental Status Questionnaire (SPMSQ), Neurobehavioral Cognitive Status Examination (NCSE), Mattis Dementia Rating Scale (MDRS), Blessed Dementia Rating Scale (BDRS), and clock drawing techniques. Somewhat more comprehensive instruments such as the Multifocus Assessment Scale and the Kingston Standardized Cognitive Assessment Battery are also presented as potential assessment techniques when there is additional time for extended testing. Of special interest is the section on competence assessments and the standardized measures used to assess how a patient's cognitive deficits may translate into an inability to make responsible and reasonable decisions. The Cognitive Competency Test and Hopemont Capacity Assessment Interview are briefly discussed as are the issues surrounding such evaluations.

Chapter 4 covers intellectual assessment in an aging population with the Wechsler Adult Intelligence Scales (WAIS, WAIS-R). Following some discussion of the normative base of these IQ measures, emphasis is placed on the use of short forms (selected-subtest and -item versions) given the susceptibility of the elderly to fatigue and reduced task tolerance. Interpretation of intra- and inter-subtest scatter, Verbal/Performance discrepancies, factor structure, and test-retest reliability are discussed within the context of research on elderly samples. The topic of premorbid IQ estimation is also well covered, with a number of best performance, demographic, and performance methods discussed. The presentation of regression formulas for both demographic and combined performance-demographic information were especially helpful. Limitations of both demographic and performance approaches to premorbid IQ estimation are also presented.

Other techniques used to assess general intellectual functioning (e.g., Raven's Progressive Matrices, Shipley Insti-

tute of Living Scale, etc.) are addressed in chapter 5. In addition, the effects of aging on neuropsychological batteries, namely, the Halstead-Reitan (HRNB) and Luria-Nebraska (LNNB) batteries also receive attention. I found the addition of other types of intellectual measures beneficial, especially with regard to some of the newer IQ measures (e.g., Kaufman tests). The portion of the chapter covering the HRNB and LNNB neuropsychological batteries, while concise, appeared to lack some needed depth and detail.

Given that memory complaints are one of the most common reasons elderly people come in for neuropsychological assessment, this topic is discussed in some detail in chapter 6. The authors do a nice review of the original Wechsler Memory Scale (WMS) and its revision (WMS-R) providing a succinct critique, comparison, and compilation of normative tables. The use of the Mayo Older Adult Normative Sample (MOANS) with the WMS-R is presented as well as how the MOANS standardization sample differs from the WMS-R sample. A wide variety of verbal and nonverbal learning and memory tasks are presented as are a few self-report measures of memory abilities and function. I found this section of the book to be the most thorough and detailed in its coverage.

Attention and executive functioning are covered in chapter 7. Beginning with simple auditory attention tasks (reverse spelling, serial sevens, digit recall), more complex attention and executive tasks such as the Paced Auditory Serial Addition Test, Stroop Color-Word Test, Wisconsin Card Sorting Test, and Category Test are detailed. Correction factors for age and education are presented for a number of measures as are abbreviated versions of some executive tasks. Batteries designed to specifically assess executive functions are also discussed including the Behavioral Dyscontrol Scale, Executive Interview (EXIT), and the Behavioral Assessment of the Dysexecutive Syndrome (BADS).

Chapter 8 examines language, visuoperceptual, and motor functioning. While the sections on visual-perceptual and motor functioning were reasonably broad in their coverage, I felt that the section on language measures was somewhat limited. The Arizona Battery for Communication Disorders of Dementia and the Montreal-Toulouse-86 $\beta$  Aphasia Battery are presented as ways to assess for aphasic disturbances in English- and French-speaking populations, respectively. Other language tests discussed within this section, however, were limited to the Boston Naming Test and phonemic word-list generation (FAS and CFL). I would have liked to see a review of other important tests of language function such as comprehension, repetition, semantic word-list generation, etc. It is not clear why other measures from the Benton laboratory and elsewhere were not presented, as normative data in the elderly are available for these language tests.

Chapter 9 covers what I consider to be an extremely neglected topic in the neuropsychological literature, the assessment of psychopathology in the elderly patient. While it is not uncommon for clinicians to assess depression and anxiety in elderly patients, relatively little literature exists

on techniques and methods used to assess symptomatology in geriatric patients. Multidimensional instruments such as the MMPI-2 and Brief Symptom Inventory are discussed as are limitations of each test with regard to use in an elderly population. Unidimensional instruments to assess psychopathology (i.e., depression and anxiety scales) and substance abuse-dependence (e.g., CAGE, Michigan Alcoholism Screening Test) are also considered.

Age-associated disorders known to affect cognition are detailed in chapter 10. The authors provide a nice thumbnail sketch of a number of disorders ranging from age-associated memory impairment to a number of neurologic and psychiatric syndromes common in an elderly cohort. By necessity, none of the disorders covered is presented in depth, however, references for further reading are listed for the interested reader.

One of the stronger chapters in this book concerns the use of caregiver or proxy informant information in the assessment process (chapter 11). While information from the spouse or family members of a patient is always valuable, the collection of such material in a structured and standardized fashion is not always an easy or efficient task. In the first of two sections, the authors discuss the role of the caregiver as the provider of information concerning the cognitively impaired individual; in the second section, ways to assess *the caregiver's* stress are presented with an emphasis on how emotional strain and concerns can affect the level and quality of care and supervision. A nice synopsis of structured scales and their reliability and validity are discussed as are ways to integrate this data into neuropsychological results.

Lastly, chapter 12 brings up some of the ethical issues that face the clinician in the assessment of both young and elderly persons. Special attention is paid to the issue of informed consent in research and clinical practice. Consent by proxy and guidelines for resolving ethical conflicts are illustrated as are considerations regarding the limits of confidentiality and giving feedback to the patient and their loved ones.

Overall, I found this book to be nicely organized, well written, and very readable. A detailed bibliography is also presented for additional reading in the areas discussed. Drs. Tuokko and Hadjistavropoulos deserve praise for the daunting task of compiling, condensing, and integrating the diverse information concerning neuropsychological assessment in geriatric populations. This text is a welcome addition to any clinician's bookshelf, especially as a resource of normative data and commentary on neuropsychological assessment in an aging population. While I felt there was some unevenness in content and depth in a few chapters, the tests that are presented by the authors are given concise, critical, and thorough coverage. Most importantly, the authors provide a critique of each normative study, detailing the strengths and weaknesses of each. I found the tabular presentation of normative information and critique of normative studies to be its strongest points. In addition to being a general reference for clinicians, it seems well suited for a graduate introductory text on the principles of neuropsychological

assessment in a geriatric population. As for the more seasoned and experienced clinical neuropsychologist, it con-

tains a number of tables and normative data not easily located in other sources.

## Considering the Relationship Between Biological Aging and Cognitive Aging

*Advances in Cell Aging and Gerontology: The Aging Brain*. Volume 2. Paola S. Timiras and E. Edward Bittar (Eds.). 1997. Greenwich, CT: Jai Press Inc. 368 pp., \$112.50 (hb), \$72.50 (pb).

Reviewed by JUDITH SAXTON, Ph.D. *Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA 15213.*

The psychological and neuropsychological changes of aging and dementia have been a topic of study for decades, if not centuries. It is only more recently, however, that technological changes have allowed the biological processes triggering the changes of aging to be uncovered. The overlap between these two sciences, the relationship between cognitive aging and the study of biological aging, is an emerging area of research. The study of aging, however, is confounded by the close association between aging and the development of particular diseases. Older people are far more likely than young people to suffer from multiple illnesses. Furthermore, older people are far more vulnerable to specific types of diseases such as heart disease, cancer, and dementia. The relationship between the onset of the aging process and the development of dementing disorders such as Alzheimer's disease is of particular interest.

*Advances in Cell Aging and Gerontology: The Aging Brain* may not initially sound like an appealing title for the neuropsychologist. However, it should attract those with an interest in the cognitive changes of aging and the underlying biological processes associated with the aging process and Alzheimer's disease. The book provides a compilation of the current state of understanding of molecular, cellular, and functional changes that occur in normal brain aging. There is a particular emphasis on comparing and contrasting the changes that occur in neurodegenerative disorders and the relationship between normal aging and abnormal aging.

Several of the chapters use data from cognitive testing in humans and behavioral testing in animals. Chapter 1 by Peter Rapp and Michela Gallagher, for example, offers an excel-

lent discussion of the cognitive neuroscience of normal aging, with sections discussing frontal lobe functioning, medial temporal lobe functioning, implicit memory, and attention. The last chapter is also an excellent discussion, this time of the role of growth factors in aging and Alzheimer's disease.

Some of the chapters are a little heavy going for the clinician. However, most begin with a basic explanation or statement of the issue and develop a theory from there. Jack de la Torre provides a comprehensive review of the changes in the cerebrovasculature that occur with aging reviewing the intriguing link between vascular dementia and Alzheimer's disease. Chapters 2 and 3 review the cellular changes of normal aging and AD and offer the encouraging conclusion that AD is not an inevitable consequence of getting old, but is a disease process that is most often manifest in old age. Several chapters raise the issue of antioxidants and estrogen depletion following menopause and conclude that both play a significant role in the aging process, and in AD in particular. Finally, a short but interesting chapter by Caleb Finch and Todd Morgan discusses the impact of a calorie-restricted diet on the aging process. The book ends with a short discussion of the "Use It or Lose It" approach to aging and suggests that this old adage represents one possible antiaging process and exhorts us all to keep "using" our brains.

*The Aging Brain* is, at times, challenging, but thoroughly absorbing and stimulating. I recommend this book to specialists in aging and those with particular interest in understanding the underlying biological mechanisms of cognitive aging and dementing disorders.

---

## OTHER BOOKS OF INTEREST

Critchley, M. & Critchley, E.A. (1998). *John Hughlings Jackson: Father of English neurology*. New York: Oxford University Press. 228 pp., \$59.50.

Cytowic, R.E. (1998). *The man who tasted shapes*. Cambridge, MA: The MIT Press. 254 pp., \$16.00.

Gross, C.G. (1998). *Brain, vision, memory: Tales in the history of neuroscience*. Cambridge, MA: The MIT Press. 255 pp., \$32.50.