

## BOOK REVIEWS

### An Exemplary Child Neuropsychology Volume

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*Child Neuropsychology: Concepts, Theory, and Practice*. Jonathan Reed and Jody Warner-Rogers (Eds.). 2008. Chichester, West Sussex, UK: Wiley-Blackwell Publishing, 472 pp., \$78.95 (PB).

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The vast intellectual territory able to be explored in a volume devoted to child neuropsychology leaves editors and authors the opportunity to choose among diverse emphases. Some pediatric/child volumes summarize the breadth of knowledge with regard to normal or abnormal child development, specific medical or developmental disorders, or such practice oriented fundamentals as those related to assessment, consultation, diagnostic techniques, and interventional strategies. Often, it is a highly focused chapter or journal article that best elucidates important relationships between brain development and neuropsychological outcome. Then, there is *Child Neuropsychology: Concepts, Theory, and Practice*, edited by Reed and Warner-Rogers. These editors write in their introductory Chapter 1 that it is their intent to “provide the conceptual framework within which newly acquired knowledge can be organized, understood, and integrated ... to provide that architecture for child neuropsychology” (p. 1). It is this reviewer’s impression that they achieved their aim by their judicious selection of an impressive group of contributing authors, whose chapters intertwine empiricism and theoretical constructs. They succeed in providing the reader with a foundational perspective that has been hard to find within a single volume.

*Child Neuropsychology* consists of 20 chapters that follow the introductory Chapter 1, divided into three parts. Part I, *Key Concepts*, contains six chapters. Chapter 2, by Annaz, Karmiloff-Smith, and Thomas, sets the bar high for the chapters that follow, placing deserved emphases on the task-specific developmental trajectories approach in child neuropsychological practice, on the importance of examining error patterns and not merely test scores, and on the seemingly obvious but often forgotten need to consider a child’s proficiencies as well as weaknesses. The obligatory review of brain development in Chapter 3, by ten Donkelaar, is an exceptional chapter that should be required reading for all, pediatric or adult neuropsychologist alike. The reader is guided through the major stages of human central nervous

system development with exceptional clarity and depth, aided by summarizing tables and pertinent illustrations. Kovas and Plomin address developments in genetic research methods in Chapter 4. They highlight the utility of multivariate genetic analysis in the study of learning abilities and disabilities, and more broadly for cognitive neuroscience and translational research. The expertise of the authors of Chapter 5, Reilly, Levine, Nass, and Stiles, with regard to outcome following perinatal brain injury makes their discussion of brain plasticity of considerable interest. A focus on language, spatial cognition, and emotion helps these authors present their case for appreciating the gradient of plasticity across and within cognitive systems. Santosh & Ahmed, in Chapter 6, present a clear perspective about what neuroimaging has contributed to our understanding of psychiatric disorders. After brief coverage of specific techniques, they review findings in various childhood disorders while also pointing out methodological inconsistencies that have confounded researchers seeking clear answers about disorder-brain region linkages. Finally, Chapter 7 by Anderson is an engaging chapter that addresses the controversial concept of general intellectual ability and its development. Interesting throughout is the discussion of two major hypotheses for the nature of *g*, whether based on information processing or executive functioning, leading to a theory of “minimal cognitive architecture” that encompasses both points of view. There is also discussion of low general intelligence and development.

The nine chapters in Part II, *Theory of Neuropsychological Development*, cover normal neuropsychological development and its deviations. Chapter 8, by Dick, Leech, and Richardson, is a thorough, well-cited chapter describing normal language development from birth, neural bases, environmental influences, and individual differences. These central issues are followed by discussion of disorders resulting from neurotoxicants, sensory deprivation, trauma, as well as hemispherectomy in childhood. Special attention is given to

autism, Down syndrome, fragile-X syndrome, and Williams syndrome, and specific language impairment. Disorders of visuospatial and visuomotor development are the focus of Chapter 9 by Atkinson and Nardini. Eight detailed sections address neurobiological models of normal infant development of spatial vision, infant spatial selective attention, dorsal and ventral stream development, action modules for reaching, grasping, motor planning, locomotion, and navigation, as well as spatial localization in location memory tasks. Attention is then directed to what is known about abnormal spatial development and a model of visual spatial development is articulated. Chapter 10, about memory, provided only a brief and superficial summary of basic concepts, focusing on Luria's model of brain function and development but neglecting the significant contributions of many others. This disappointing chapter lacked the depth of coverage and integration found in other chapters in this volume. Sinclair and Taylor authored Chapter 11 on the development of attention. They supplemented their discussion of neurological and neuropsychological models of attention, especially visual attention, with a case example of attention-deficit/hyperactivity disorder. The broad construct of executive function and its development was the topic of Chapter 12, by Hughes and Graham. This chapter nicely summarizes the obstacles encountered in developing executive function measures for children, and points out that "one should avoid the assumption that a specific EF task poses the same type of cognitive demands for children of different ages" (p. 271). There are also especially interesting chapters on self-regulation

(Chapter 13 by Todd & Lewis), social neuroscience, with an emphasis on empathy (Chapter 14 by Baron-Cohen & Chakrabarti), reading (Chapter 15 by Goswami), and developmental dyscalculia (Chapter 16 by Butterworth) that complete a rich and well-conceived Part II.

The five concluding chapters in Part III, *Practice*, are concerned with neuropsychology applied within a variety of distinct contexts, that is, assessment in a neurological setting (Chapter 17 by Wright & Sharples), in child mental health contexts (Chapter 18 by Frampton), in an academic setting (Chapter 19 by Harrison & Hood), and in a medical setting (Chapter 20 by Helps). The volume concludes with Chapter 21, *A Clinician's Guide to Child Neuropsychological Assessment and Formulation*, written by Warner-Rogers and Reed.

The editors and authors of this important volume have contributed thorough, integrative, and clearly articulated coverage of essential knowledge while placing an important emphasis on the dynamic change and course of development that distinguishes child/pediatric from adult neuropsychology. The editorial objective, to provide a bridge between cutting-edge science and clinical practice, has been achieved. *Child Neuropsychology: Concepts, Theory, and Practice* contains relevant historic background, insightful and well-formulated descriptions of core theories, and thoughtful elaboration of conceptual bases related to child neuropsychological development. It is an engaging read that will be appreciated by graduate students as well as more senior practitioners across the neurosciences.

## Updating an Essential Text

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*Neuropsychological Assessment of Neuropsychiatric and Neuromedical Disorders* (3rd Edition).

I. Grant and K.A. Adams (Eds.). 2009. New York: Oxford University Press, 800 pp., \$115.00 (HB).

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The third edition of *Neuropsychological Assessment of Neuropsychiatric and Neuromedical Disorders* includes numerous revisions and updates that easily solidifies this volume as an essential reference for clinical neuropsychologists. The editors, Grant and Adams, who are outstanding and established experts in neuropsychology and neuropsychiatry, are joined by nationally recognized contributors to the earlier editions and several new authors. Together they provide breadth of information in a volume that is organized into three major sections: I, *Methods of Comprehensive Neuropsychological Assessment*; II, *Neuropsychiatric Disorders*; and III, *Psychosocial Consequences of Neuropsychological Impairment*.

Section I includes seven chapters and addresses the most commonly cited approaches in neuropsychological assess-

ment, that is, Halstead-Reitan, Analytical, Boston Process, Iowa-Benton, and adds a new chapter on computer-based cognitive testing. Each of these chapters provides a comprehensive background regarding these methods, including history, theoretical foundations, current practice, and up-to-date research. Of note, Chapter 6 addresses cognitive screening methods and includes a useful Table that summarizes the functions assessed, test properties, and test administration time associated with commonly used screening tools (i.e., MMSE, Blessed, Cognistat). This section concludes with a chapter on demographic influences and the use of demographically corrected norms.

Section II has 16 chapters that are the heart of this book and chockfull of useful information. The new edition