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## BOOK REVIEWS

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### **A Library All On Its Own**

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*Handbook of Pediatric Neuropsychology*. Andrew S. Davis (Ed.). (2011). New York: Springer Publishing Company, 1214 pp., \$195.00 (HB).

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How does one begin to consider the totality of a book presenting with over 1200 pages, including the index? A book that attempts, and in many important ways succeeds, at encompassing much that has come to define a profession and science in its adolescence? To do so can seem a daunting task without a doubt. And to do so both critically and appreciably, perhaps with some modest trepidation given the desire to be fair and constructive with regard to the effort, time, and skill that the volume definitely has required in its development and production. Ultimately, it seems that to do so effectively, the critical reader must also have a willingness to delve slowly across the many chapters presented, engaging both time and an open mind to fully give such a volume the justice it requires.

Such is the way I found myself tackling this daunting volume, a library in and of itself. For Davis' *Handbook of Pediatric Neuropsychology* is a weighty, substantial tome, both in terms of its topic and its heft. At times, I came to see this volume as perhaps even representing the pediatric neuropsychologist's "War and Peace." Because it is a book attempting to corral and present a vast array of current knowledge and thinking, in a manner that is both understandable, literate, and with an approach that takes as its core emphasis a strong reliance on empirical support. To the degree that this volume is able to do just what it sets out to do, and as capably as it has, is ultimately a true testament to the efforts of Davis and his authors. And to that I say, "a job well done."

But in providing a simple statement of gratitude, I am also getting away from the task at hand—assessing and considering this handbook and its contents as a whole. Because it is as a whole that such an encyclopedic volume truly succeeds or fails; and this is a volume that does both, succeeding and at times failing, given its attempt to cover a broad, diverse field. Overall, its parts, while quite well organized and clearly well edited, vary significantly in regard to their level of clarity, scholarly contribution, sophistication of presentation, and ability to bring a vast knowledge base forward.

This is not a unique criticism for a reference volume; as the co-editor of two recent texts addressing pediatric and lifespan neuropsychology, I am intimately aware of the difficulties that exist when pulling a disparate set of topics and writing styles together. It is an undertaking that is fraught with challenge. However, it is very much the case that both the strengths and weaknesses of this massive addition to the pediatric neuropsychology literature serve to underscore its ultimate usefulness as a reference for the field. That it has many more strengths than weaknesses is to Davis' credit—and as such, it is my goal to help define for the potential reader where the book will serve its greatest role as guide and support.

Pediatric neuropsychology is a science and clinical practice that is increasingly well defined at this point in time. Encompassing a broad discipline that has, over the years, been characterized as "clinical child," "child clinical," and "pediatric" neuropsychology, the field has now come to be denoted as one focusing on the development, across time, of brain-behavior relationships that underscore and direct cognition, emotion regulation, and adaptation, and how alterations in neural development affect the trajectory of capability and skill that unfold across the early lifespan. The field takes as its starting point the understanding that ability and capacity emerge and unfold as the brain develops, organizes, and myelinates, in an exquisite transaction between genetics, environment, and the attachments that arise across time. Individuals identifying as pediatric neuropsychologists train across a variety of disciplines within psychology, including clinical, school, and counseling psychology, and developmental neuroscience. Still to this day, many professionals identifying as pediatric neuropsychologists come from an academic background that initially emphasizes adult functioning; however, others are more commonly coming to their interest in understanding how the brain and its organization guide and direct skill and capacity through varied routes emphasizing development, intervention, and the applications of its principles. As a result, references to

date that have been written and put forth as training tools for pediatric neuropsychologists have been quite varied in their emphasis, orientation, and presentation. This has contributed to a growing set of volumes in the literature that have strongly reflected both their time and place, but perhaps without clear continuity.

With this recent publication, Davis and his 190 contributors have made a gallant attempt at bridging the varied approaches and divisions that have grown to comprise and define the subdiscipline of pediatric neuropsychology. Structured across seven sections, the *Handbook of Pediatric Neuropsychology* is oriented toward providing a broad range of information, across topics that attempt to support the widest possible level of professional interest. As a general rule, the divisions appear to hold reasonably well together, and they follow a format meant to guide the reader from the broader underpinnings of the field to more specific domains of concern and interest. Consequently, a true strength of this volume is its first two sections, addressing neurodevelopment, as it is expressed at the cognitive, behavioral, and neuroanatomic levels across childhood and adolescence. Each of the chapters in these first two sections (*Development and Functional Neuroanatomy for Pediatric Neuropsychologists*) provides the reader with a comprehensive, easy to understand discussion of broad aspects of development. Several chapters prove to be quite fine contributions: for example, unique to this volume is the inclusion of a chapter addressing a topic more typically considered by developmental psychologists, moral development. Additionally, the chapter on intrauterine development, written by Corn and Bishop, provides well written and at the same time valuable information about the organization of neural systems before birth. One complaint I have with regard to the latter chapter is its placement; personally, I would actually have situated this chapter in the functional neuroanatomy section, given its substantial focus on structural aspects of brain development.

An additional criticism of the first section is with its design. By using a novel approach for a neuropsychology text, it segments aspects of development by time period. While this highlights a framework for considering developmental processes within a particular period of childhood, it unfortunately, through its failure to define a strict structure for each chapter, also serves to fragment the reader's understanding of how specific domains of cognitive and behavioral processing unfold. As well, there is substantial variation in both structure and emphasis across the four time period specific neuropsychological development chapters. While the chapters addressing the periods of newborn-toddlerhood and early childhood development are exemplary, the chapter on adolescence is quite weak. It is, as a result, much less informative than desired about a crucial period of cognitive and emotional development. Moreso, to lack a defined section on executive function acquisition within the chapter is quite disappointing. And finally, the chapter on Cognitive Development, which while well written by Chen and Hancock, nevertheless suffers from being left to essentially "hold" the

discussion concerning specific elements of cognition. It ultimately is asked to cover too much, and as a result, is limited in what it is able to effectively convey.

The second section, addressing neuroanatomy, is a considerable strength of this volume. It includes among its varied chapters a discussion of the spinal cord and peripheral nerves that is informative and well considered. Similarly, the chapters discussing the cerebellum, broader cortex, and plasticity serve as exemplary in their integration of research and consideration of varied clinical implications. In contrast, despite a reasonably well-written chapter addressing the hindbrain, midbrain, and subcortex, I was taken aback with the coarsely drawn figures that were used as illustration. With the current availability of exquisite images taken from neuroimaging methodologies, it is quite unfortunate to see the use of modest neuroanatomical drawings in a contemporary neuropsychology text.

The third section of the *Handbook* addresses the variety of measures available for assessment. It is by necessity a quite diverse section, and as a result, one varying immensely in its informativeness, comprehensiveness, and quality of writing. It is also a section that situates itself in direct competition with other available resources addressing pediatric neuropsychological assessment, including Ida Sue Baron's (2004) state of the art reference, *Neuropsychological Evaluation of the Child*, that comprehensively reviews and critiques many of the same available assessment batteries discussed with this volume, and Strauss, Sherman, and Spreen's (2006) comprehensive encyclopedia of neuropsychological measures used across the lifespan, *A Compendium of Neuropsychological Tests*. In general, the pediatric neuropsychological assessment chapters in the *Handbook* serve as informative guides to the most commonly used measures that are currently available and considered well regarded in terms of their validity and reliability for examining cognitive, emotional, and adaptive functioning in children and adolescents. As such, they extend the usefulness of the volume as a "one stop" resource. However, there is little that is either new or truly novel to be found in this section. Additionally, there is often a particular bias evident with select chapters; this is seen most clearly in the chapters written by Naglieri and Otero, given their focus on Naglieri's own particular measures. It is also observed with the personality assessment chapter written by Obrzut and LaRoque, that is reasonable in its discussion of the emotion functioning assessment tools like the Behavioral Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004), but problematic with its extremely heavy emphasis on projective and kinetic drawing techniques, despite acknowledging the substantial caveats to their efficacy and validity. In a volume striving to emphasize empirical validity as a core foundation for the field, this serves to be more than just a recognition of professional disagreement; it is a flaw that muddies efforts at promoting scientific rigor.

It is the fourth section of the volume, *The Assessment Process for Pediatric Neuropsychologists*, that stands as the weakest. Clearly written with the idea that this book

might be adopted as a reference for neuropsychologists in training, it attempts to balance one quite strong chapter (Slick, Tan, Sherman, and Strauss' chapter addressing malingering and suboptimal performance and its presence and assessment in pediatric populations) with several other chapters that present simplistic, highly cook-book like discussions of how to approach assessment, interpretation, and the sharing of findings. Instead of truly considering broad models and relying on actual research to support a weighty and productive discussion of what defines best practices in the field, the bulk of the chapters offer little more than their authors' personal biases about how the process of testing and conveying information garnered from the assessment should unfold. This section is likely to be the one most easily disregarded by professionals already well situated in the field, and perhaps as a result, to be ignored by them when developing a reading list for training. I found myself wishing quite strongly when reading this section that a different approach had been taken; one that truly supported a discussion of varied professional decisions, practices, and options. I believe that an important opportunity has been truly lost with this section.

The fifth section of the *Handbook* provides what is essentially the meat of the endeavor; a discussion across multiple chapters of the neuropsychological implications of a wide range of clinical conditions. Written by a diverse range of professionals, some who are well known experts in the field, and others who are much less known, the 34 chapters comprising this section vary widely in regard to their sophistication and expertise conveyed. Overall, this section proves to be well-conceptualized as an of-the-moment discussion of the multitude of common conditions that may present to a pediatric neuropsychology service or private practice. The majority of the chapters provide a consistent approach to considering the disorders across neuropsychological and psychosocial developmental trajectories, and the most common approaches to understanding the biopsychosocial aspects of the disorders and their etiologies are discussed. Several of the chapters are stand-outs, including the Shaywitzes' discussion of Dyslexia; Hinshaw and associates' discussion of ADHD; Fine and Semrud-Clikeman's updated discussion of nonverbal learning disabilities; and Moore and Frost's chapter on Neurofibromatosis, Type 1. Despite my own knowledge of the literature and controversies in these clinical conditions, I nonetheless found myself taking notes and broadening my knowledge. Additional strong contributions are also found with the chapters addressing expressive and receptive language disorders (Wiig), HIV and AIDS (Allen, Jesse, & Forsyth), prenatal and perinatal insults (chapters 59–61), and CNS cancers (Anderson & Butler). Each of these chapters provides a very solid review of the literature. Across the varied range of chapters not singled out, many still do a yeoman's job of providing a good understanding of the topic, although it was often the case that implications and recommendations concerning treatment were inconsistently addressed. One clear observation is that the chapters written

by known clinical researchers were often the ones that most effectively conveyed a critical, theory driven approach to both the understanding of the disorder and its intervention. In contrast, chapters written by practitioners and less established members of the field were more commonly uncritical reviews of the literature. While solid, they left this reader wanting. Finally, several chapters were surprisingly devoid of more recent research by some important members of the field. While in some cases, the oversight may be due to a desire to try and summarize across a large literature (the eating disorders chapter, for example, which completely ignores family based therapy in its discussion of the most efficacious therapies), with others, it is wondered if just a lack of attention to competing research served to influence the oversight. It is nonetheless recognized that developing a solid review of the literature is sometimes a quite daunting task, so no offense is presumed.

A true "handbook" format guides the final chapters presented in sections six and seven. The most useful of the chapters, for both trainees in the field and new practitioners, are those addressing the interface between pediatric neuropsychological practice and the schools. In particular, Swanson's discussion of Response to Intervention, as well as the chapters addressing curriculum based measurement and the development and implementation of evidence-based academic interventions serve as key references for trainees first working as consultants within the educational environment. Additional chapters from the sixth section addressing functional behavioral assessment and cultural considerations in pediatric neuropsychology serve to round out very well the options for supporting and guiding training. These are very important contributions to the book.

Overall, there are significant strengths to this encyclopedic volume that build on an already well-situated literature that has been put forth over the past 10 years. The *Handbook of Pediatric Neuropsychology* provides very well some of what Davis set out to produce—a one-stop reference for considering multiple aspects of a still actively developing subspecialty. The contributions by many of the authors are scholarly, detailed in their presentation, and clearly usable to support training. The weaknesses of the volume are common to ones found in most edited books; they likely reflect the difficulty that exists to attempt to meet multiple goals with one volume, and to do so within a reasonable time frame. I believe there is much to recommend this hefty volume. It is a solid reference that I can see appreciating as a resource as I update my training bibliography. However, I will add, it is a book that will be kept in one setting—its size and breadth prove to be a bit unwieldy as a "carry with you, grab as needed" handbook.

## REFERENCES

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