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BOOK REVIEW

Guest edited by Keith Owen Yeates

Pediatric Neuropsychology with a Lifespan Perspective: A Must Read for Pediatric and Adult Neuropsychologists Alike

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Pediatric Neuropsychology: Medical Advances and Lifespan Outcomes, Ida Sue Baron and Celiane Rey-Casserly (Eds.). 2013. New York: Oxford University Press, 464 pp., $98.50 (HB).

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Over the past ten years, the subspecialty of pediatric neuropsychology has gained momentum of avalanche proportions. More students are being trained in this specialization than ever before, and collaborative research between pediatric neuropsychology and medicine is occurring at unprecedented rates. With more recent emphasis on consideration of broader lifespan issues for conditions arising in childhood, the reach and impact of this field has stretched well beyond traditional "pediatric" boundaries. Though I've found in recent years that the field of neuropsychology has a growing appreciation for the impact of early neurocognitive impairment on later outcomes, the pediatric neuropsychology specialty is clearly at the forefront of this movement. In fact, the recent emphasis on a lifespan perspective has not only made pediatric neuropsychology relevant to the broader field of neuropsychology, but also clearly establishes its place at the table in broader medical care issues. Where the published books on pediatric neuropsychology could previously be counted on one hand, they now can easily fill an entire bookshelf.

What's new on the publication front is a pediatric neuropsychology book crafted around a lifespan perspective and highlighting medical advances that are changing the landscape of cognitive outcomes in a variety of pediatric conditions. In their latest work, *Pediatric Neuropsychology: Medical Advances and Lifespan Outcomes*, Ida Sue Baron and Celiane Rey-Casserly have assembled a who's who group of pediatric neuropsychologists, physicians, and rehabilitation and educational specialists to provide cutting edge reviews of selected pediatric medical conditions that have neurocognitive implications across the lifespan. This book is a valuable read for pediatric and adult neuropsychologists alike, and it will undoubtedly be a useful resource to medical or allied professions as well. In this review I hope to shed light on the value that lies within this new book, while also noting where it is lacking so as to avoid any post-purchase disillusionment.

First, let me address what this book contains and what makes it unique. Many of the pediatric neuropsychology books on the market provide a review of the neurocognitive effects of various disorders arising in childhood. In most cases, a large portion of the text is devoted to disorder-specific chapters written by leading experts providing a comprehensive review of the neurocognitive literature and commenting on future directions. This book is generally no different in that respect, except that it focuses more on medical conditions. However, Baron and Rey-Casserly's book is unique in three primary ways that may put it on your wish list this year.

First and foremost, this text is infused with a lifespan perspective. Comprised of three major sections (Medical Disorders, Impact on Educational Systems, and Methodological and Lifespan Developmental Considerations), this theme is prominent throughout. In the first section, experts in the field review not only the neurocognitive correlates of each medical condition, but also the neurodevelopmental trajectory into adulthood. Some chapters do this more successfully than others. In some cases, adult outcomes receive only brief mention, with more emphasis on the outcomes in adolescence. However, in other chapters, such as the one on Childhood Brain Tumors written by co-editor Celiane Rey-Casserly, specific sections are dedicated to reviewing adult outcomes. The lack of coverage of adult outcomes in some of the chapters is quite understandable. Many of the disorders selected for review have undergone relatively recent and dramatic advances in medical treatment. Thus, the new adult survivor cohorts have yet to be examined in adequate numbers to be well-characterized in the literature. In fact, many of the authors reviewing such disorders highlight the need for research on adult populations, and provide recommendations for future research directions based on what is known thus far about younger cohorts.

In the remaining two sections of the text, authors highlight lifespan issues related to educational services and research methodology. In some instances, I felt that the lifespan perspective could have been taken further. For example, the

section on the educational system could have been expanded to include exploration of the impact of these growing groups of survivors on vocational and adult social support services. Nonetheless, the discussion of the unique challenges these children face later in life and the methodological issues inherent in conducting longitudinal research with a developing population make this book stand out among other contemporary pediatric neuropsychology books.

Very few books on the market right now are created from a lifespan perspective, which automatically puts this text into a special category. In fact, I think I can safely say that this book is part of the leading wave of what will undoubtedly become a more pervasive theme in the pediatric neuropsychology literature. Thus, having a book like this on your shelf – that addresses neurocognitive outcomes across the lifespan – buys you a front row seat in the future of pediatric neuropsychology.

The second major strength of the book- and purportedly the impetus for its creation – is the emphasis on reviewing the numerous and sometimes game-changing medical advances that have occurred in pediatric medicine. The editors have selected a total of fifteen medical disorders to review in this book. A good proportion of the most common childhood medical conditions with associated neurocognitive impairments (such as acute lymphoblastic leukemia) are represented, along with a few less common genetic disorders (such as phenylketonuria). Reviewing the associated neuropsychological impairments is not what makes this book unique – as I mentioned earlier, there are many such publications. Rather, the detailed review of the medical advances and consideration of the impact, both positive and negative at times, on neurocognitive development and long term outcome are what is the most welcome addition to the pediatric neuropsychology literature. In fact, reading across chapters, I was struck by how many medical advances have occurred over the past 30 years, thrusting an array of disorders from the shadows of a battle for life into the light of maximizing quality of life of the many survivors. The contributing authors clearly put a lot of time and effort into their reviews. They are well-written, accessible to a wide range of experience levels, and provide a level of detail and quality of literature review that are the hallmark of diligent editors who are able to enlist the efforts of top professionals in the field. Although I've been working with children in a medical setting for over a decade now, I found these sections full of details that I was either not aware of or had not ever really placed within the historical context. Though some aspects of the literature were omitted in a few places (e.g., no mention of the growing literature on outcome prediction using acute protein biomarkers of traumatic brain injury), the reviews were generally quite comprehensive and provided good coverage of cutting edge technologies and research. Thus, this book is likely to be useful regardless of whether you are well-versed in the medical conditions reviewed or have limited experience with them.

Finally, this book includes two substantial sections that are not disorder-specific, but which provide an extremely useful review of issues pertinent to clinicians or researchers working with these populations. The first section is comprised of two chapters addressing the impact of increasing survival rates, and the associated increasing rates of youth with special needs on the educational system. This section provides both a historical context for understanding the purpose and scope of services provided to these children within the public school system, as well as an excellent review of the eligibility assessment process and the role of neuropsychologists. In recognition of the lifespan emphasis in this text, this section also includes a chapter that details the unique challenges for youth with medically-related disabilities transitioning to college. The three chapters in the final section of this book are particularly well suited to those conducting research on medical conditions with persisting and evolving neurocognitive deficits, and to clinicians in a position to facilitate transition of patients from pediatric to adult healthcare services. Although I had some unmet expectations for the leading chapter dealing with methodological issues (e.g., I had hoped for a discussion of more sophisticated methodological issues, such as modeling change), I did find that it provided a very clear description of some important basic research issues (e.g., statistical vs. meaningful difference) that may be useful reading for students or those early in their research careers. This final section also provides an outstanding review of healthcare developmental transitions, which is an area that gets little 'air time' in the neuropsychology literature. The final chapter eloquently discusses the concepts of reserve and the Flynn Effect as they pertain to understanding measured change in neurocognitive functioning. These two major sections of this book complement the first section on medical disorders and provide a truly unique review of some of the research and clinical challenges that characterize a lifespan orientation to these childhood disorders.

Taken together, these three unique aspects of the book help it stand out among the growing number of publications focused on pediatric neuropsychology. There's a lot to like here, and although I've got a growing pediatric neuropsychology library on my bookshelf, I found something new in every chapter of this book and a unique perspective that put some otherwise very familiar disorders in a new light.

Next, let me mention what this book is not and what is arguably missing. A variety of books are available that review assessment methods and specific tests available for evaluating neurocognitive functioning in pediatric populations. This is not one of those books. Though the chapters reviewing various pediatric medical conditions discuss the cognitive domains impacted, they do not discuss any specific tests. Also, while the contributors discuss clinical and research directions for the future, no sections in this book are devoted to broader issues related to assessing children from a theoretical or practical standpoint. If you are looking for a good introduction to pediatric neuropsychology and assessment methods, this would not be the best option. But there are plenty of other books available that do that.

Furthermore, this is not the book to purchase if you want a good overview of childhood disorders not considered to be primarily "medical" in nature (e.g., ADHD or disorders of learning, mood, or disruptive behavior). Admittedly, the

more we learn about the biological bases of childhood disorders, the line between "medical" and "developmental" conditions becomes blurred. In fact, Baron and Rey-Casserly's text includes a chapter on autism spectrum disorders. However, the etiology of the remaining fourteen disorders reviewed is decidedly medical such that some community based practitioners may find this book more useful as a reference text rather than a 'must read' for day to day practice.

There are also a variety of medical disorders you will not find reviewed in this book. Given the emphasis on disorders that have undergone dramatic medical advances, it is understandable that this book does not review conditions arising from en utero substance exposure or environmental toxins, such as fetal alcohol syndrome or lead poisoning. However, I was quite surprised to discover that it does not include a chapter on epilepsy. For those of us who work in a medical setting, epilepsy is one of our bread and butter disorders. Furthermore, with advances in antiepileptic medications and surgical techniques (such as deep brain stimulation), it seems that discussion of the lifespan effects of epilepsy and its interventions would have fit in well with the aims of this book. Given the growing role of neuropsychology in the management of childhood movement disorders, it would also have been nice to see a chapter on dystonia. Clearly no book could cover *all* possible childhood medical disorders. Since most of the common conditions *were* included in this book, it's a bit of a stretch to nit-pick this shortcoming.

Now that I've detailed the unique aspects of this new and exciting book on pediatric neuropsychology and given a candid review of what this book is not, I'd like to make a pitch for why you should read this book. One of the most obvious initial selling points is the price, which is quite reasonable for a newly released book with up to date reviews of the literature. However, the deeper value is found in the lifespan approach. I envision sharing this book with students I train and medical colleagues with whom I collaborate. And, I will definitely share it with my adult-focused colleagues who work with many of these patients later in their lives with the hope that they too will find the lifespan approach compelling and the glue that binds pediatric and adult neuropsychology.

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