



# Essentials

## of **School Neuropsychological Assessment**

- Clear and timely guidance on how to bring neuropsychological information and research into nonclinical practice settings
- Practice guidance and tips throughout
- Conveniently formatted for rapid reference

**Daniel C. Miller**

**Alan S. Kaufman & Nadeen L. Kaufman, *Series Editors***

# Essentials

of School

Neuropsychological

Assessment

Daniel C. Miller



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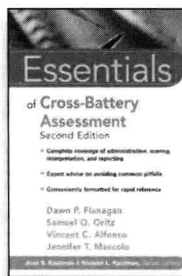
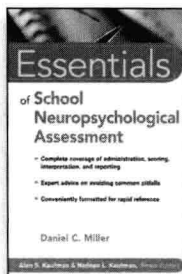
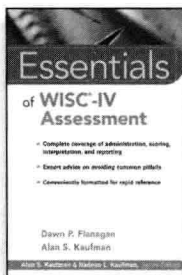
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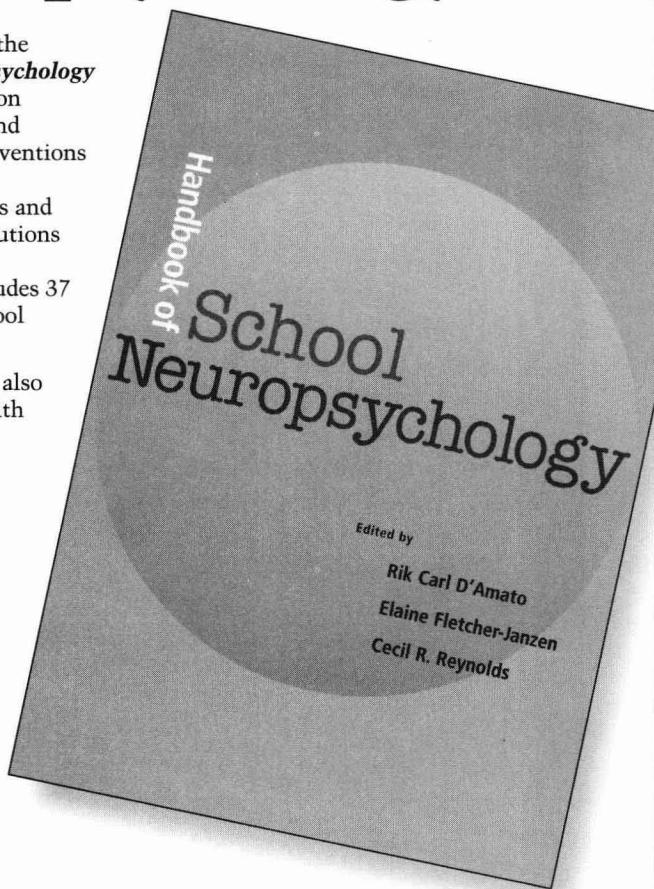
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*To my loving wife, Michie,  
who for 20 years has been  
my best friend and best  
supporter.*

## Foreword

**T**he *Essentials of School Neuropsychological Assessment* by Daniel C. Miller is yet one more excellent addition to the Wiley *Essentials* series. Over the years, the *Essentials* series, designed and edited by Alan and Nadeen Kaufman, has provided a very valuable avenue for the dissemination of information across many specialties in psychology. Each book is a concise, well-written, up-to-date, and practical resource. These “little” books may be small in size, yet they consist of a synthesis of huge amounts of information. They are relatively little in cost yet they provide referenced materials that are used in everyday practice over and over again. It is hard not to own an *Essentials* book that does not look dog-eared and well worn!

From experience, I know that it is not easy to write these seemingly easy-to-read books. Parsimony is the rule of thumb during manuscript preparation, and the author(s) struggle with the synthesis of vast quantities of information sifted down into small tables, “Don’t Forget” boxes, and streamlined chapters that give all the constituent parts of a subject while not losing the big picture. *Essentials* authors try to be fair and represent the subject matter objectively and with substantial evidence. They take great pains to give practical, evidence-based guidance that translates quickly into everyday practice. In this instance, I am delighted to say that Daniel C. Miller has managed to provide us with a typical *Essentials* book!

There is a movement afoot in school psychology to include neuropsychological assessment principles into everyday practice. This movement has not evolved as a reactionary force loudly proclaiming its right to be heard, but it has come quietly and more like a reflection of practitioners trying to keep up with the advances of modern science. The field of school psychology had to assemble quickly after the passage of the first laws that guaranteed children with special needs rights to a free appropriate public education. In the 1960s and 1970s, very little was known about brain-behavior relationships. Researchers struggled with very vague tech-

nology to document what was going on in the brain. In kind, school psychologists struggled with their duty to bring science down to the everyday level of the classroom. The gap between the laboratory and the classroom was wide indeed. As technology improved and researchers were able to observe the brain processing information with increasingly clearer media, so did the opportunities for applications of this information come clearer. Studies investigating dyslexia, Attention-Deficit/Hyperactivity Disorder, and autism (to name a few) gave us direct inroads into understanding the physical processes that underlined the behaviors that we were seeing in the classroom. In turn, remediative efforts are now starting to become based in concrete science. Work by eminent researchers such as Sally Shaywitz, Jack Fletcher, Peg Semrud-Clikeman, Erin Bigler, and many others show serious and powerful attempts to bring laboratory findings directly into clinical practice. Interventions that were previously based on theory and speculation are now becoming interventions based on concrete attempts to encourage neural plasticity and all of the benefits of strength models of remediation. Therefore the gap between science and practice is rapidly decreasing and school psychology practitioners must keep up if they wish to apply best practices.

How does the school psychologist keep up? What kind of information is needed in today's workplace? This quiet movement of applying neuropsychological information into school psychology practice is starting to crystallize. Leaders in the field are recognizing the need for training and school psychology training programs across the country are enhancing their programs to include courses on neuroanatomy, neuropsychological assessment, consultation, and competencies in medical liaison activities.

There is enough established activity and interest in school neuropsychology for some authors to suggest that the time for a specialty within school psychology has come. The issues surrounding credentialing and competencies for such a specialty are quite complex, but regardless of the outcome of such issues, *the fact that the ethical demand for school psychologists to be aware of and incorporate scientific information into everyday practice will remain.* Efforts to codify and express practice guidelines, such as those found in this book, are needed at this time to direct and assist school psychologists in navigating their way in the future. It is not possible to wait for all issues to be resolved before applying new knowledge: that day may never come. After all, as a child stands before us today, we are charged to bring everything that we have and know to help him or her meet the demands of everyday living in the real world. Not a clinical setting, not a hospital or rehabilitation center, but a real classroom where most of the children have few problems and can easily perform learning and social tasks that sometimes seem insurmountable to the children we serve.

Daniel C. Miller's *Essentials of School Neuropsychological Assessment* is an important book. It provides us with clear and concise guidance on how to bring neuropsychological information and research into our nonclinical settings. This guidance is not simple, it is complex and will require much effort on the part of the reader to assimilate and translate into everyday practice. Dr. Miller emphasizes the need for formal training, appropriate supervision, and ongoing education. He also infuses the text with an exceptional level of competency, enthusiasm, and excitement for the subject matter that is contagious and motivating. This will be a welcome addition to the school psychologist's library and is destined to become dog-eared and well worn!

Elaine Fletcher-Janzen, Ed.D., NCSP  
San Angelo, Texas  
Co-Editor, *The Handbook of School Neuropsychology*

## SERIES PREFACE

In the *Essentials of Psychological Assessment* series, we have attempted to provide the reader with books that will deliver key practical information in the most efficient and accessible style. The series features instruments in a variety of domains, such as cognition, personality, education, and neuropsychology. For the experienced clinician, books in the series will offer a concise yet thorough way to master utilization of the continuously evolving supply of new and revised instruments, as well as a convenient method for keeping up to date on the tried-and-true measures. The novice will find here a prioritized assembly of all the information and techniques that must be at one's fingertips to begin the complicated process of individual psychological diagnosis.

Wherever feasible, visual shortcuts to highlight key points are utilized alongside systematic, step-by-step guidelines. Chapters are focused and succinct. Topics are targeted for an easy understanding of the essentials of administration, scoring, interpretation, and clinical application. Theory and research are continually woven into the fabric of each book but always to enhance clinical inference, never to sidetrack or overwhelm. We have long been advocates of what has been called *intelligent testing*—the notion that a profile of test scores is meaningless unless it is brought to life by the clinical observations and astute detective work of knowledgeable examiners. Test profiles must be used to make a difference in the child's or adult's life, or why bother to test? We want this series to help our readers become the best intelligent testers they can be.

*Essentials of School Neuropsychological Assessment* provides clinicians with a practical guide on how to integrate neuropsychological assessment into educational practice. The author provides a useful review of the history of adult and pediatric clinical neuropsychology and paints a careful picture of the emerging specialization of school neuropsychology. The book features a list of professional organizations, training requirements, and professional resources such as books, journals, and web sites that are related to school neuropsychology. The author offers a con-

ceptual framework that can be used to guide practitioners who are interested in conducting school neuropsychological assessments and to help them understand the neuropsychological correlates of common neurodevelopmental disorders. The conceptual school neuropsychological assessment model is described thoroughly and systematically with a chapter on each component (e.g., sensory-motor functions, executive functions). The author provides comprehensive case study that illustrates how the school neuropsychological model can be operationalized and the reader is provided with a step-by-step interpretative guide for making sense of divergent data. Finally, as an example, the school neuropsychological conceptual model is applied as a template to review the neuropsychological correlates to autism spectrum disorders. It is our belief that *Essentials of School Neuropsychological Assessment* will become a useful resource for all mental health care providers who work with children and who are interested in integrating neuropsychological principles into educational practice.

*Alan S. Kaufman, PhD, and Nadeen L. Kaufman, EdD, Series Editors*  
Yale University School of Medicine

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## THE MOVEMENT OF APPLYING NEUROPSYCHOLOGICAL PRINCIPLES TO THE PRACTICE OF SCHOOL PSYCHOLOGY

### RECOGNITION OF THE NEUROBIOLOGICAL BASES OF CHILDHOOD LEARNING AND BEHAVIORAL DISORDERS

The interest in the biological bases of human behavior is not new to the school psychology profession, but it is becoming more relevant to the current generation of school psychologists. Some of the more seasoned veterans, or psychology historians, would suggest that there has always been an interest in the biological bases of behaviors. In fact, the *nature versus nurture* debate is as old as the psychology profession itself. Some major theorists in our shared past, such as B. F. Skinner and John B. Watson, were strict behaviorists. They believed that observable behavior was the only essential element that needed to be considered in human behavior. The curriculum-based measurement/assessment approach touted by many practitioners today has its theoretical roots in behaviorism.

In the late 1950s, researchers came to realize that the behaviorist approaches could not “explain complex mental functions such as language and other perceptual functions” (Gazzaniga, Ivry, & Mangun, 2002, p. 21), and this still holds true today. On the opposite end of the theoretical spectrum were the cognitive psychologists, such as George Miller, Noam Chomsky, and Michael Posner, who believed that brain function needed to be considered in understanding human behaviors. Since the 1970s, cognitive psychologists have been tremendously aided by the development of neuroimaging techniques. Magnetic resonance imaging (MRI), positron emission tomography (PET), and functional MRI (fMRI) are all useful tools in validating or helping to refine theoretical models of cognition developed by cognitive psychologists.

#### DON'T FORGET

Many parents and educators are looking to school psychologists for answers as to why a student is not achieving at grade level or is behaving in socially inappropriate ways, rather than merely receiving a special education diagnosis.