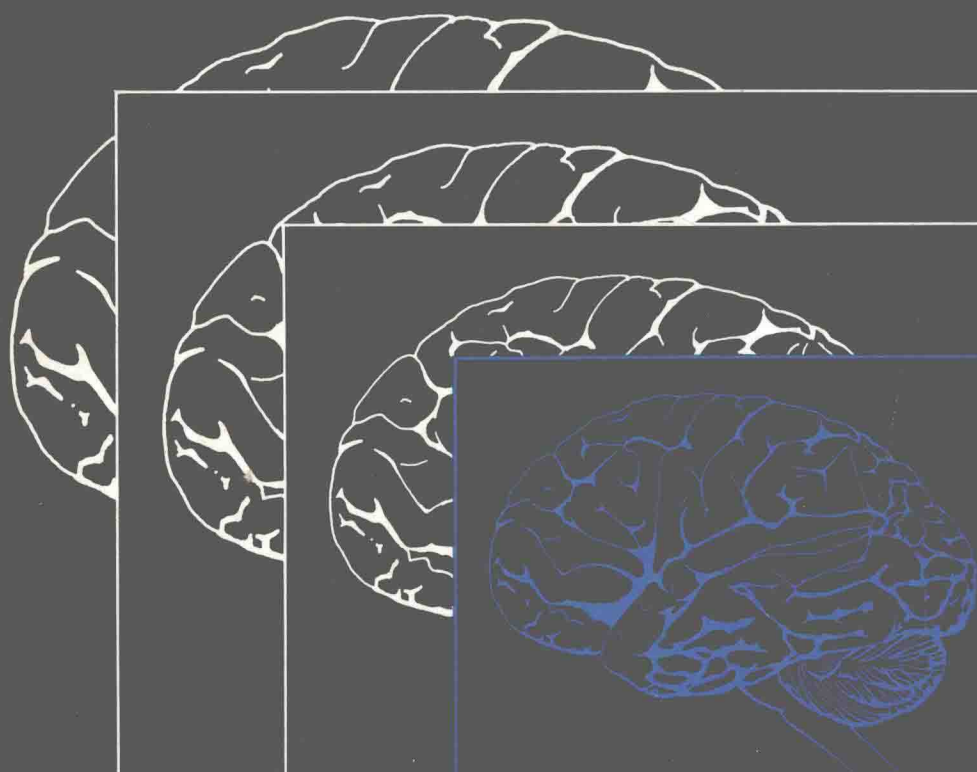


# NEUROPSYCHOLOGICAL ASSESSMENT AND THE SCHOOL-AGE CHILD

## ISSUES AND PROCEDURES

Edited by  
George W. Hynd  
John E. Obrzut



# NEUROPSYCHOLOGICAL ASSESSMENT AND THE SCHOOL-AGE CHILD

## ISSUES AND PROCEDURES

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An edited book such as this represents the combined efforts of many. We are especially grateful to the contributors, who were unanimously receptive to our rationale for this volume and gladly gave of their time to write their chapters. The editorial staff of Grune & Stratton deserves our appreciation for continued encouragement, advice, and assistance in making our initial idea a reality. Jerry Harris, Ruben Lozano, Manfred Meier, and Buff Oldridge contributed greatly in their willingness to provide editorial advice and assistance; they are gratefully acknowledged for this. A special word of thanks goes to Fran Pirozzolo for his continued support, encouragement, stimulation, and, most importantly, his friendship. Finally, Cyndie, April, and Brian Hynd and Ann and Krystopher Obrzut gave us their support, patience, and love, which made our efforts enjoyable.

# Preface

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Since 1970, truly remarkable advances have been made in our understanding of brain–behavior relationships in children. This quantum increase in our knowledge can be largely attributed to the development of sophisticated research techniques and methodologies. The practical result of this research has been the identification of reliable assessment and evaluation procedures that differentially diagnose neuropsychologically based learning and behavioral deficits in children.

This book developed from our recognition that the provision of appropriate educational services to school-age children must incorporate not only these new insights about neurological organization and behavior but also promising neuropsychological assessment and evaluation procedures. Only through the integration of behavioral, educational, and neuropsychological knowledge will children be given the opportunity to perform to their maximum capabilities. Our discussions with school psychologists, clinical child psychologists, trainers, and researchers of child and developmental neuropsychology made it increasingly obvious that a book was needed that would thoroughly yet critically examine the procedures and issues related to neuropsychological assessment of school-age children. As school psychologists who had contributed to the research in child neuropsychology, we felt compelled to edit a book that would meet this need.

In planning this book, we believed that it should provide more than a thorough overview of neuropsychological assessment procedures. First, despite much interest in neuropsychological data among applied psychologists, there is resistance among educators to consider such data when making deci-

sions about school-age children. Second, there are a number of issues critical to our understanding of brain–behavior relationships in children. These issues must be understood and assimilated into a conceptual framework if the neuropsychological assessment is to provide meaningful and useful information. Finally, the use of neuropsychological assessment procedures with school-age children has important implications both for the remediation of children with processing deficits and for the adoption of training and competency standards that will assure school children are given quality services. With these considerations in mind, we divided the book into four sections.

The contributors to each section are eminently qualified to address their particular chapter topics. All have made important contributions to the research literature; are recognized leaders in the field of neuropsychology, and, most importantly, are sensitive to the needs of the applied psychologist who must work daily with learning- and behavior-disordered children.

The chapters in Section I provide a neuropsychological perspective on school-age children. Chapter 1, by Rourke and Gates, serves as an introduction to the book. The authors review research in the neuropsychology of learning disorders, specifically discussing definitional issues, types of investigations, and subtypes of learning-disabled children. They then discuss neuropsychological implications as they relate to the school psychologist. Gaddes (Chapter 2) addresses basic issues about the validity of neuropsychological theory and practice with school-age children. The author outlines in detail various neuropsychological classifications (of brain function) and discusses neuropsychological principles and their value for education.

The second section of the book provides an overview of critical controversial issues in neuropsychology. In Chapter 3, Reynolds makes a distinction between biological and psychological models of intelligence and presents an integrative overview of neuropsychological perspectives of cognitive processing. Kinsbourne and Hiscock, in Chapter 4, discuss the empirical basis of the relationship between learning disorders and cerebral lateralization. They examine the consequences of deviant laterality and whether or not lateralized function develops. Lastly, Pirozzolo and Campanella (Chapter 5) discuss the neuropsychology of developmental speech, language, and learning disorders in children.

Section III presents the major focus of this volume: the various approaches to neuropsychological assessment in children. Selz has written an introductory chapter (Chapter 6) to this section that includes an overview of the Halstead and Reitan children's batteries, methods of inference, the organization of neuropsychological test batteries for children, and her approach to differential diagnoses of children with learning and behavioral problems. Obrzut (Chapter 7) presents a conceptual framework for information processing and suggests a variety of neuropsychological procedures that can assess hierarchies of levels of learning. In Chapter 8, Golden summarizes Luria's

conception of the functional units of the brain and presents his own quantitative battery based on Luria's clinical procedures. In contrast to the three preceding chapters, the focus of Aaron's chapter (Chapter 9) is a model for a deductive approach to the differential diagnosis of learning disorders in children. The basis of his approach is a neuropsychological key that helps to identify the learning disordered (and the etiology of the disorder). The key may assist in devising appropriate remedial strategies. In Chapter 10, Knights and Stoddart present a rationale for using a profile approach and pattern analysis in differential diagnosis. They discuss various methods of profile and pattern analysis and consider specific methodological difficulties associated with each approach.

The last section addresses the implications of using a neuropsychological perspective with school-age children. Chapter 11, by Hartlage and Reynolds, presents a sound rationale for using neuropsychological data in planning individualized instructional strategies. Case studies are included that exemplify the use of neuropsychological data in developing the individualized education program. Lastly, in Chapter 12, Hynd examines the issues associated with the provision of neuropsychological services in the schools. He also presents a training model for assuring the competency of school psychologists.

A glossary of technical terms is provided for readers who encounter unfamiliar terminology in this volume.

It is our hope that this book will sufficiently stimulate the reader to pursue further training and experiences in the neuropsychological assessment of school-age children. Only in this way can we ensure that children experiencing neuropsychologically based difficulties in learning and behavior are afforded the services and opportunities they need and deserve.

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SECTION I

**Neuropsychological  
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