

Book Review / Évaluation de ressource écrit

Behavior Belongs in the Brain: Neurobehavioral Syndromes (1997)

*Pasquale J. Accardo, Bruce K. Shapiro,
& Arnold J. Capute (Editors)*

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Behavior Belongs in the Brain: Neurobehavioral Syndromes is a compilation of papers consisting of scientific information and recommendations for clinicians and educators working with children who have developmental disabilities. The focus of this book is on neurobehavioral considerations. This book consists of an overview of topics such as brain disease and learning disability, minimal brain dysfunction, the neuropathology of autism, the long-term impact of exposure of fetuses to toxins, and the impact of intrauterine infections on development. In addition, the book covers valuable information about sudden infant death syndrome, epilepsy and learning, developmental and behavioral complications, and dysfunctional parents.

The objective of this book is to shed light on the complex relationship between the brain and behavior as they relate to children with neurodevelopmental disabilities. The contributing authors discuss delays and other effects noted in these children from a neurological perspective. Importantly, they also discuss the influence of environmental considerations.

The book is composed of three sections: behavior and the brain, autism, and fetal influences. Chapter 1 in the first section, behavior and the brain, begins with a historical perspective of the life and work of Alfred A. Strauss, a pioneer in the education of brain-injured children. The overview provides a context for the evolution of the "Expanded" Strauss syndrome in a clear and comprehensive manner.

Rosenberger, the author of chapter 2, takes an in-depth look at brain disease and learning abilities by outlining the role that the central nervous system plays in cognition. More specifically, Rosenberger examines "the effect of acquired brain disease on cognition in the developing human organism" (p. 31). Learning and learning ability are differentiated and issues of historical importance, such as the IQ controversy, are reviewed in order to support the argument that the brain is a powerful resource key to understanding the behavior of children. The modularity concept also is discussed from a historical perspective, and current studies in the area are presented. Brain disease and cognitive deficit are explained by outlining research on attention, perception, language, and epilepsy and learning. Although the numerous headings and sub-headings make the chapter somewhat difficult to follow, the presentation of the history and current research makes it a valuable contribution to our understanding of behavior and brain relationships.

Chapter 3, written by Bender, deals with educational issues for children with neurobehavioral dysfunction, a topic that, as Bender contends, has only received attention within the last decade and a half. Bender uses the population of children with traumatic brain injury (TBI) to describe educational needs, assessment and goals, individual education plans (IEPs), social considerations, intervention strategies, and reintegration into school programs pertinent to children with acquired brain dysfunction. Bender provides many practical strategies useful to those working with children with brain injury. Early intervention and continued monitoring are emphasized as key to the successful development of educational programs. Bender effectively summarizes suggestions and strategies from several sources yielding clinical questions and considerations that will be most useful to clinicians. As well, the questions and issues to consider are presented in a clear and straightforward fashion (e.g., often listed), thereby facilitating the clinical usefulness of the information.

The second section of the book examines autism. Minshew, the author of chapter 4, addresses autism and Pervasive Developmental Disorders (PDD). She reviews PDD and the evolution of the diagnostic category in the last three revisions of the *Diagnostic and Statistical Manual* (DSM-III, DSM-III-R, DSM-IV). The diagnostic criteria for autistic disorder, such as impairments in social skills, behavior, language and communication, are discussed thoroughly. Neurological examination and treatments are reviewed. The chapter provides a functional overview of the clinical aspects pertinent to autism and PDD, making it a great source of information for clinicians or researchers wishing to gain a better understanding of these disorders.

In chapter 5, Bauman reviews the neuroanatomy of autism by providing an extensive exploration of the historical emergence of evidence to support a neurobiologic basis. Figures of abnormalities provide the reader with a fascinating look into the brains of individuals with autism. In general, if one is interested in a better understanding of the neuroanatomy of this disorder, the chapter provides a comprehensive overview of studies to date.

Dunn and Rapin, the authors of chapter 6, consider communication in autistic children. The purpose of the chapter is to emphasize the varied nature of the communication deficits displayed by children with autism. Pragmatic, prosodic, and semantic deficits are discussed, in addition to phonologic and syntactic disorders. The neurologic bases and interventions also are discussed briefly. Speech-language pathologists working with autistic children may find this chapter especially useful because it provides a detailed analysis of the diversity of language deficiency experienced by individuals with autism.

The third section, fetal influences, begins with a chapter about the methodological issues surrounding the study of fetal teratogens (chapter 7). Chiriboga, the author of chapter 7, discusses drug use in a clinical setting. She notes that these investigations are confounded by many factors due to the high-risk behaviors typical of drug users. Initially, the various methods used to determine drug use in mothers, ranging from self-report to newer methods such as hair radioimmunoassay, are reviewed. The advantages and disadvantages of each method of analyzing drug use are discussed. The author proceeds to outline the confounding variables that result from behavior correlates of drug users. For instance, other associations and risk factors such as systemic infections, human immunodeficiency virus (HIV), congenital syphilis, maternal

nutrition, and low birth weight must be considered. Recent and well-documented findings related to these variables are covered.

Chiriboga also explores polysubstance abuse as a major confound when studying fetal drug effects. The outcomes associated with the use of cigarette smoking, alcohol, marijuana, opiates, and cocaine are outlined. Due to the major research interest in fetal cocaine exposure, Chiriboga provides a very thorough look at the deleterious effects of fetal cocaine exposure, including pregnancy, growth, infections, malformations, and neurodevelopmental findings. She contends that because there are so many powerful confounds, epidemiological methods are necessary in clinical studies of fetal drug use. The chapter provides an excellent review of existing literature but most importantly, by considering multiple sources of variance in the area, Chiriboga effectively points researchers in a direction that will facilitate more conclusive research.

Chasnoff, in chapter 8, offers a short summary that outlines the various outcomes associated with prenatal exposure to a variety of drugs. It is a well-organized review of neonatal complications (e.g., prematurity, abnormal growth patterns), neurodevelopment of a child exposed prenatally, and the implications for the development of infant and school-aged children. Much like the previous chapter, the author of this chapter contends that it is difficult to separate the effects of the actual drug exposure with aspects of the environment typical of children living with mothers who utilize drugs. Thus, while some information is repetitive, Chasnoff provides more of a social context by discussing psychosocial risk factors and the maternal child relationship.

The final chapter of the book authored by Wachtel focuses on the neurologic and developmental effects experienced by children with HIV, often referred to as pediatric Neuro-AIDS. The importance

of this topic is stressed because mothers may be asymptomatic while the neurodevelopmental consequences are often the first signs that a child is infected. Wachtel provides a background by discussing the epidemiology, risk factors for transmission, prevention of perinatal transmission and determination of HIV infection. The neuropathogenesis and biology of neurologic development and non-neurologic manifestations also are covered. Finally, Wachtel addresses neurodevelopmental assessment, psychosocial manifestations and treatment issues. The information is certainly relevant for clinicians as the complexity of the issues for children living with HIV are highlighted throughout the chapter and are essential in the planning and provision of support to these children.

Overall, *Behavior Belongs in the Brain: Neurobehavioral Syndromes* presents a wide scope of information through the varied contributors who are affiliated with a diverse range of research and clinical disciplines and practices such as an addictions research association, learning disorders unit and neurology, and psychiatric and human development departments. Hence, the book may be beneficial to readers from a variety of research and clinical settings. In contrast, due to the diverse range of topics within the area of developmental disabilities, some sections of the book may prove to be more useful than others for certain readers, depending on the particular disorder of interest. The book is best suited to experienced clinicians who have previous knowledge in the area and a solid knowledge of neurobehavioral language.

In summary, *Behavior Belongs in the Brain: Neurobehavioral Syndromes* can function as a great resource for researchers and clinicians seeking to gain a detailed understanding of various developmental disabilities and also could be used as a graduate text or a clinical or research reference.

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Resource Review/Évaluation des ressources

The Butt Non-Verbal Reasoning Test (2004)

Pamela A. Butt and Romola S. Bucks

Publisher: Speechmark Publishing Ltd, Bicester, Oxon, UK

Available from: www.speechmark.net

Cost: £64.95

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The Butt Non-Verbal Reasoning Test (BNVR) is a norm-referenced test of problem solving abilities of individuals with aphasia. The authors state that problem solving difficulties may exist following cerebral lesions and can have an adverse effect on communication in conjunction with linguistic deficits. The stated goals of the BNVR are to allow the clinician to do the following: determine if problem solving difficulties exist in patients with communication disorders, explain a possible reason why a patient may not be initiating communication, and assist the rehabilitation team in decision-making in a clinical setting.

The BNVR spiral-bound manual contains all of the test stimuli in addition to four chapters related to test description and psychometric characteristics. The test consists of 10 colored photographs (plus one practise photograph) of people with everyday problems. On the same page as the large photograph are four smaller photos of objects, one of which is the "solution" to the problem depicted in the large photo. For example, one "problem" picture depicts a woman sitting in front of a plate of food with no utensils in her hands. The four smaller pictures include a knife and fork, pencils, scissors and a lamp (the target solution and one visual, one semantic and one unrelated distracter). The patient is instructed to look at the "problem" picture for approximately five seconds, at which time the examiner uncovers the four smaller pictures. The examiner is to point to each smaller picture, then to the "problem" picture and ask: "Which one of these is the answer to this?" Scoring is based on the number of correct responses provided (maximum 10). Error analysis can also be conducted by counting the pattern of visual, semantic and unrelated errors made during testing.

Testing of non-linguistic cognitive abilities in individuals with aphasia is an important aspect of assessment for speech-language pathologists. Many times rehabilitation professionals are asked to comment on the cognitive ability of a person with aphasia, yet few standardized measures exist to guide them in these efforts. The BNVR may be useful in this regard, for several reasons. First, it is a brief test, with only 10 items, and can likely be administered to most

patients in less than 15 minutes. In addition, a 4-item screening test is included in the manual to allow the clinician to quickly determine suitability of examination using the BNVR. Second, the stimuli are high-quality photographs that represent simple problem situations, lending face validity to the testing procedure and increasing the likelihood of patients being familiar with the contexts. Third, few verbal instructions are provided during testing, which reduces demands on potentially impaired linguistic comprehension abilities and their interference with test administration and interpretation of results. Fourth, the test is norm-referenced and standardized with persons who have aphasia as a result of stroke. Specifically, norms for performance were collected with 84 healthy control participants between the ages of 27-89 years of age and psychometric characteristics of test data were determined with 93 participants (34-95 years of age) who had suffered a cerebrovascular accident (CVA). Fifth, criterion-related validity of the assessment results was reported through comparison with other established non-verbal tests of cognition, and finally, inter-rater and test-retest reliability for results obtained during standardization were reported as good.

One consideration for the clinician is that the problem situations contained within the test are quite concrete. That is, they are easily portrayed in pictures and generally have one key solution. In everyday life, many problems encountered have several facets and possible routes for resolution. Therefore, other measures will be needed to assess this "higher-level" problem solving and reasoning capacity in some patients.

In summary, the BNVR is a well-designed test of non-verbal problem solving abilities. Given the limited number of tests designed for assessment of cognitive abilities in aphasia, the BNVR is timely and necessary. This test would be a nice addition to an evaluation protocol aimed at determining cognitive, linguistic and communicative strengths and weaknesses in individuals with aphasia.