There is one fundamental axiom that governs the practice of neuropsychological assessment of children. That is that they are not little adults. Every aspect of the evaluation process must be changed to adapt to this fact. A special set of adapted techniques must be used to get background history and clarify the referral question; different strategies are needed to build rapport and maintain cooperation throughout the evaluation; the interpretation of assessment results is modulated by principles of dynamic localization (Vygotsky, 1960) and neuroplasticity (Stein, Brailowsky, & Will, 1995), and the reporting and communication of results is invariably a multiparty process quite different from a typical doctor–patient consultation (Ryan, Hammond, & Beers, 1998).

There are a variety of reasons why a child might be referred to a neuropsychologist for an assessment. These include examining the impact of congenital neurodevelopmental disorders, determining the effects of acquired injuries and tracking their recovery, or simply to better understand current learning and behavior issues and to understand how to best remediate them or mitigate their deleterious influences (Baron, 2004). This is particularly true for children who are experiencing academic problems in school or behavioral problems due to ADHD, learning disorders, or other conditions that place them neuropsychologically at risk. Neuropsychological assessments are requested by parents, teachers, counselors, and medical professionals when a child is noted to be developmentally off track in terms of cognitive, sensory, or motor development, and typically include but go beyond the normal rating scale assessment by others for social and behavioral problems, and the more comprehensive individually administered psychoeducational evaluation conducted for circumscribed academic problems.
It should be clear, therefore, that not all problems assessed by a neuropsychologist are necessarily neurological in nature. For example, in the conduct of a psychoeducational examination, it is incumbent on the psychologist to establish which of several possible reasons account for the question of why Johnny can’t read? Possible answers include poor schooling, poor general health, specific health conditions such as strabismus or nystagmus, poor attentional abilities, focal learning disability, low intellect, poor memory, low motivation or apathy, comorbid psychiatric problems, or even effortful motivation to appear impaired. Any of these vectors could result in the behavioral presentation of impaired reading, even though many have nothing to do with the neurological pathways involved in reading per se.

There are numerous journals and scholarly textbooks that address the field of pediatric neuropsychology, and it is a field far too broad to be represented in any single chapter. The reader is referred to several excellent recent texts that provide a more thorough introduction and review of the field than is possible here. These include Rourke, van der Vlugt, and Rourke’s (2002) Practice of Child Clinical Neuropsychology: An Introduction, Baron’s (2004) Neuropsychological Evaluation of the Child, and the edited volumes by Segalowitz and Rapin (2003) entitled Handbook of Neuropsychology (2nd ed.), Volume 8: Child Neuropsychology, Parts I and II. Also noteworthy are the edited volumes by Farmer, Warschausky, and Donders (2006) Treating Neurodevelopmental Disorders: Clinical Research and Practice and Hunter and Donders (2007) Pediatric Neuropsychological Intervention, and the lifespan developmental perspective offered in Goldstein and Reynolds’ (2005) edited Handbook of Neurodevelopmental and Genetic Disorders in Adults. Given the immensity of the field, the present chapter limits its focus to identifying and reviewing some of the more common sources of neuropsychological dysfunction in children.

**DEVELOPMENTAL NEUROPSYCHOLOGICAL DISORDERS**

**Speech and Language**

Language impairment has been cited as one of the most frequent reasons for outpatient neuropsychological evaluation of children (Baron, 2004). Language is a broad construct referring to the communication of meaningful symbols (Benson & Ardila, 1996) whereas speech is a more limited subset involving the mechanical aspect of oral communication (Baron, 2004). Analysis of language behavior can provide a window for establishing the presence of a variety of psychological disorders. When considering the autistic spectrum, for example, a child with comprehension deficits, language formulation deficits, but relatively intact single-word production may fit the profile of childhood autism, whereas the presence and utilization of the prosodic component of speech along with pragmatic language may be more indicative of a child with Asperger’s syndrome.

It is noteworthy that the DSM-IV-TR (APA, 2000) lists only two types of formal developmental language disorders. There is the expressive language disorder and the mixed receptive/expressive language disorder. Following