appears that societal views of disability, racism, and inequitable assessment are among the factors that contribute to disproportionality (Bruce & Venkatesh, 2014). Difficulties with reading are the most common of the learning disorders and occur in some form in 7% of the general population (Pennington & Bishop, 2009; Peterson & Pennington, 2012). Mathematics disorder appears in approximately 5% to 6% of the population (Pierce, 2016), but there is limited information about the prevalence of disorder of written expression among children and adults. Early studies suggested that boys were more likely to have a reading disorder than

girls, although other research indicates that boys and girls may be equally affected by this disorder (Feinstein & Phillips, 2006). Students with learning disorders are more likely to drop out of school (Vogel & Reder, 1998; Kearney, 2008), more likely to be unemployed (Gerber, 2012), and more likely to have suicidal thoughts and attempt suicide (Daniel et al., 2006). However, the negative outcomes for adults may be mitigated by providing the proper supports, such as having a positive relationship with caring adults and providing accommodations in postsecondary educational and employment settings (Gregg, 2013).

DSM

TABLE 14.2

Diagnostic Criteria for Specific Learning Disorder



- **A.** Difficulty learning and using academic skills, as indicated by the presence of at least one of the following symptoms that have persisted for at least 6 months, despite the provision of interventions that target those difficulties:
 - 1. Inaccurate or slow and effortful word reading (e.g., reads single words aloud incorrectly or slowly and hesitantly, frequently guesses words, has difficulty sounding out words).
 - 2. Difficulty understanding the meaning of what is read (e.g., may read text accurately but not understand the sequence, relationships, inferences, or deeper meanings of what is read).
 - 3. Difficulties with spelling (e.g., may add, omit, or substitute vowels or consonants).
 - 4. Difficulties with written expression (e.g., makes multiple grammatical or punctuation errors within sentences; employs poor paragraph organization, written expression of ideas lacks clarity).
 - 5. Difficulties mastering number sense, number facts, or calculation (e.g., has poor understanding of numbers, their magnitude, and relationships; counts on fingers to add single-digit numbers instead of recalling the math fact as peers do; gets lost in the midst of arithmetic computation and may switch procedures.
 - **6.** Difficulties with mathematical reasoning (e.g., has severe difficulty applying mathematical concepts, facts, or procedures to solve quantitative problems).
- **B.** The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age and cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually administered standardized achievement measures and comprehensive clinical assessment. For individuals aged 17 years and older, a documented history of impairing learning difficulties may be substituted for the standardized assessment.
- C. The learning difficulties begin during school-age years but may not become fully manifest until the demands for those affected academic skills exceed the individual's limited capacities (e.g., as in timed tests, reading or writing lengthy, complex reports for a tight deadline, excessively heavy academic loads).
- **D.** The learning difficulties are not better accounted for by intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.

Note: The four diagnostic criteria are to be met based on clinical synthesis of the individual's history (developmental, medical, family, educational), school reports, and psychoeducational assessment.

Specify if:

With impairment in reading:

Word reading accuracy

Reading rate or fluency

Reading comprehension

With impairment in expression:

Spelling accuracy

Grammar and punctuation accuracy

Clarity or organization of written expression

With impairment in mathematics:

Number sense

Memorization of arithmetic facts

Accurate or fluent calculation

Accurate math reasoning

From American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC.