Phenotypic and genetic associations between reading and attention-deficit/hyperactivity disorder dimensions in adolescence

Vickie Plourde, Michel Boivin, Mara Brendgen, Frank Vitaro, Ginette Dionne

Development and Psychopathology (2016)
DOI: https://doi.org/10.1017/S0954579416001255

Abstract

Multiple studies have shown that reading abilities and attention-deficit/hyperactivity disorder symptoms, mainly inattention symptoms, are phenotypically and genetically associated during childhood. However, few studies have looked at these associations during adolescence to investigate possible developmental changes. The aim of the study is to examine the genetic and environmental etiology of the associations between inattention and hyperactivity reported by parents, and reading accuracy, reading speed, and word reading in a population-based twin sample (Quebec Newborn Twin Study). Participants were between 14 and 15 years of age at the time of testing (N = 668–837). Phenotypic results showed that when nonverbal and verbal abilities were controlled, inattention, but not hyperactivity/impulsivity, was a modest and significant predictor of reading accuracy, reading speed, and word reading. The associations between inattention and all reading abilities were partly explained by genetic and unique environmental factors. However, the genetic correlations were no longer significant after controlling for verbal abilities. In midadolescence, inattention is the attention-deficit/hyperactivity disorder dimension associated with reading abilities, but they could also share genetic factors with general verbal skills.