

A Systematic Review of Prosodic Abilities in Children with Dyslexia Compared to Typically Developing Peers

Dyslexia, a neurodevelopmental disorder characterized by persistent difficulties in word reading, decoding, and spelling despite adequate instruction, is associated with prosodic atypicalities. This systematic review synthesized research comparing prosodic abilities of children with dyslexia with their typically developing peers. Studies were retrieved from PubMed and EBSCOhost (APA PsycInfo, Academic Search Complete, Eric databases), covering publications from November 2014 to November 2024. Keywords included: “dyslexia” OR “reading disability” OR “reading disorder” OR “specific learning disorder” AND “child” OR “children” OR “student” AND “prosody” OR “prosodic” OR “intonation” OR “phrasing” OR “prominence” OR “rhythm” OR “stress” OR “chunking” OR “pitch” OR “f0” OR “fundamental frequency” OR “intensity” OR “duration” OR “shortening” OR “lengthening” OR “speech rate” OR “pauses”. Eligible studies (1) included children formally diagnosed with dyslexia up to 10-years-old without comorbidities, (2) included a control group, (3) reported at least one quantitative measure of prosodic skills, and (4) were published in English, Portuguese, or French. Data extraction followed PRISMA guidelines (Page et al., 2021), and quality was assessed using the Newcastle-Ottawa Scale. The initial search identified 885 articles. After removing 330 duplicates, 555 articles were screened based on titles and abstracts, and 500 were excluded for not meeting the inclusion criteria. Fifty-five full-text articles were reviewed, and 20 met the inclusion criteria. Results demonstrated that children with dyslexia consistently exhibit poorer prosodic skills compared to typically developing peers. Although research remains scarce, studies demonstrated that children with dyslexia had slower reading and articulation rates, more and longer inappropriate pauses, limited melodic modulation, and atypical stress patterns, resulting in hesitant and less expressive oral reading. They also exhibited impairments in perception of word stress and are significantly worse in producing the amplitude envelope of multi-syllabic targets. These findings are essential for a comprehensive analysis of existing differences and for informing targeted interventions.

Keywords: children; dyslexia; prosody; systematic review