

Characteristics of reading-disabled students in elementary grades: Examination of the “rate” vs. “accuracy” deficit in the Greek orthography

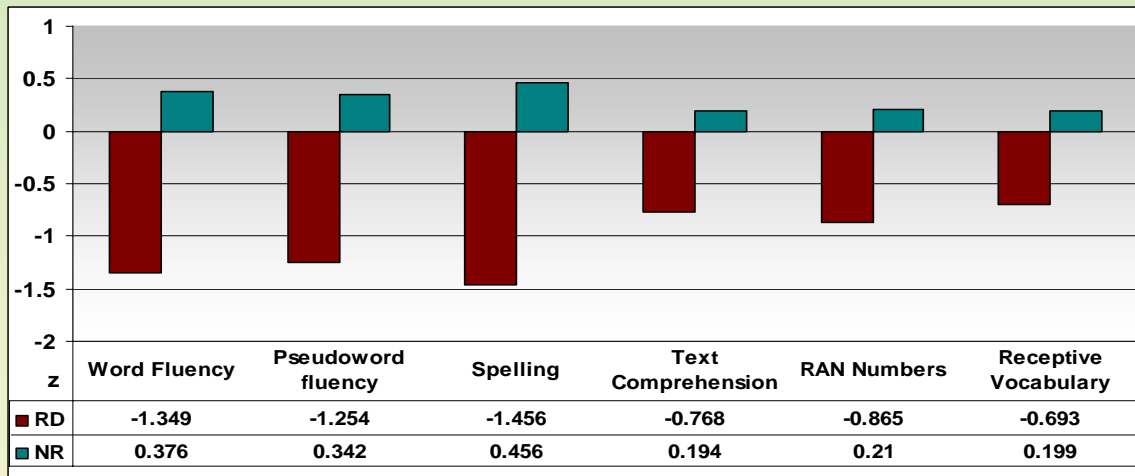
Angeliki Mouzaki,¹ Georgios D. Sideridis,¹ Athanassios Protopapas,² Persefoni Bali,³ Prokopis Orfanos,³ & Eleni Vlahou³

¹University of Crete; ²Institute for Language & Speech Processing; ³University of Athens

Study Goals. Subgroups of reading-disabled (RD) students are characterized by deficits involving word recognition, fluency and comprehension. The purpose of the present study was to examine profiles among Greek RD students and normal readers (NR) in middle elementary grades based on reading fluency, text comprehension, rapid automatized naming and spelling performance. Greek language is characterized by a highly transparent orthography that enables even novice readers to employ serial decoding strategies. However, the spelling conventions of written Greek are more complex due to language history and morphological rules.

Participants and Measures. We tested 587 children in grades 2-4 from 17 schools in Crete and Attika on pseudoword reading accuracy and fluency, word reading accuracy and fluency, text comprehension, rapid automatized naming, spelling, block design, expressive and receptive vocabulary. Analyses focused on children who scored at or below the 10th %tile ($z < -1.3$) on standardized measures of word and pseudoword reading accuracy (RD; N=43, Mean = $-2.0 \pm .7$) vs. children who scored above the 50th %tile (NR; N=316, Mean = $.6 \pm .3$).

Results of Study. There were significant differences between groups on all measures which were independent of performance on WISC-III Block Design. Differences in excess of 1.5 SD, which can be considered as clinically significant, were found in spelling performance, sight word and pseudoword reading efficiency indicating severe deficits in the rate of decoding and printed word recognition as well as in the effective maintenance of accurate orthographic representations. The proportion of RD children who showed severe deficits in sight word reading efficiency was significant (89%), whereas only 4% of children with rapid word recognition difficulties were not classified as RD. The corresponding proportions of RD and NR children with severe reading comprehension difficulties were 64% and 10%.



		RD	NR
Poor	Sight Word Efficiency	89%	4%
	Reading Comprehension	64%	10%
Good	Sight Word Efficiency	11%	96%
	Reading Comprehension	36%	90%

Reading Fluency and Spelling These results indicate a deficit profile in RD children where rapid phonological decoding, word recognition, and orthographic knowledge are the most severely impaired skills. To our knowledge this is the first large-scale study who examined the psychometric profile of RD children which were classified on the basis of standardized tests using internationally established criteria. In general, our results agree with earlier studies comparing RD profiles between transparent and opaque orthographies. These findings corroborate previous results to suggest that effective intervention programs should incorporate instructional activities aiming to improve rapid serial decoding and word recognition.