

# Defining the Relationship between the Neurodevelopmental Disorders of Dyslexia and Specific Language Impairment



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## INTRODUCTION

Recent research findings have shown the existence of a close overlapping relationship between Dyslexia and SLI

- ✓ dyslexic individuals have early deficits in semantics and syntax.
- ✓ individuals with SLI have deficits in phonological processing and consequent reading problems (McArthur & Castles, 2013; Ramus, et al., 2013; Snowling et al., 2003).

## DYSLEXIA & SLI

*Are they separate disorders or similar in quality? To what extent do they overlap? What are the characteristics of people with Dyslexia, people with Specific Language Impairment, cases of comorbidity?*

**Dyslexia:** deficits in the key areas of phonological processing, verbal working memory, and reading skills (Lyon et al., 2003).

**SLI:** deficits in oral language processing at the level of morphology, syntax, and semantics, as well as difficulties in the ability to communicate (Leonard, 2014). Dyslexia and SLI can be better considered as distinct disorders with different etiology and developmental course, as they affect different but interrelated aspects of language (Bishop & Snowling, 2004).

There is a growing interest in focusing on the comorbidity of the disorders. (Ramus et al., 2013; Spanoudis et al., 2018)

- ✓ dyslexic individuals may also have language problems that extend to the areas of vocabulary and grammar development,
- ✓ problems with oral speech may increase risk factors for dyslexia.

## INTERPRETIVE MODELS OF THEIR OVERLAPPING RELATIONSHIP

❖ **Severity model:** variants of the same language developmental disorder, different degree of severity of the underlying cognitive deficit of phonological processing, language and reading difficulties are due to the same cognitive phonological deficit, but at a different point in the developmental course of individuals.

❖ **Additional Deficit model:** similar deficit between the two disorders in the fields of phonological processing and word reading, differentiation as to the existence of an independent deficit in oral language.

❖ **Comorbidity model:** distinct developmental speech disorders, different cognitive deficits and different behavioral manifestations while differing in their developmental course.

❖ **Multiple Deficits Model:** differentiation of the profile of causal, genetic or environmental, risk factors of Dyslexia & SLI. (Bishop & Snowling, 2004; Catts et al., 2005; Ramus et al., 2013; Tallal et al., 1997)

## CONCLUSIONS

- ❖ The difficulties in terms of phonological processing and phonological awareness are the focus of the deficit of developmental disorders of oral and written language.
- ❖ Despite the frequent co-morbidity of Dyslexia and SLI, clinical trials have shown cases of pure dyslexic individuals and people with pure SLI.
- ❖ Educational intervention needs to address simultaneously and explicitly phonological processing, letter recognition, reading whole words, and the connection of phonological units and spelling to deal with the difficulties of children with developmental speech disorders.
- ❖ It is necessary to carry out simultaneous studies assessing phonological and non-phonological skills in written and oral language on the one hand in groups of people diagnosed with one of the two disorders and on the other hand in case groups.
- ❖ To identify similar or different patterns in the language and reading profile, a comparative investigation between, but also within, groups is required in a wide range of skills.

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