

Contribution Details

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The relationship between literacy deficits and arithmetics

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Abstract

Specific learning disorders rarely occur alone. They tend to occur together. The prevalence of dyslexia and dyscalculia in the general population is around 5%, but in samples of dyslexic children the prevalence of dyscalculia rises to 35-70%. The high comorbidity between dyslexia and dyscalculia suggests a common cognitive mechanism underlying the aetiology of the disorders. Our study investigates the common language-based cognitive mechanisms behind the disorders.

In our study we recruited primary school children with isolated spelling deficits (n = 26), with isolated reading deficits (n = 19) with combined spelling and reading fluency deficits (n = 34), and typically developing children (n = 46). We investigated whether or not these children showed differences in arithmetic performance, and whether cognitive skills, like phonological awareness and rapid automatized naming accounts for these differences.

All deficit groups showed lower arithmetic performance than typically developing children. The phonological awareness skills of the combined deficit group was the lowest and the other groups did not differ in it, this pattern also emerges with lexical access. Nonverbal IQ did not differ between the groups.

Controlling for age, phonological awareness or RAN decreases group differences in arithmetics. Effect sizes suggest that phonological awareness plays a more central role in arithmetics than the speed of lexical access.

Session Details

Poster-Presentation: Gallery Walk

Time: Tuesday, 03/Sept/2024: 1:30pm - 3:00pm

Location: Foyer Hauptbibliothek

0062EG Universitätsplatz 3a, Erdgeschoß <https://campusplan.uni-graz.at/pois/4394>