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Alphanumeric and non-alphanumeric rapid automatized naming in children with reading and/or spelling difficulties and mathematical difficulties.

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Summary: Although poor Rapid Automatized Naming (RAN) is a risk factor for reading and/or spelling difficulties (RSD) as well as for mathematical difficulties (MD), many questions surround this relationship. The main objective of the present study was to obtain insight in the relationship between alphanumeric vs. non-alphanumeric RAN and reading/spelling and mathematics in groups of 7-to-10-year-old children with RSD, MD, both RSD+MD, and in typically developing (TD) children. Analyses of variance between the groups showed that the RSD and comorbid (RSD+MD) groups were impaired on both alphanumeric and non-alphanumeric RAN, whereas the MD group was impaired only on non-alphanumeric RAN. Furthermore, non-alphanumeric RAN correlated with all measures except spelling, whereas alphanumeric RAN correlated with the reading and spelling measures only. These findings point towards different/additional cognitive processes needed in non-alphanumeric RAN compared to alphanumeric RAN, which affects the relationship with literacy and math.

Classification: F22 C52 C42 D72

Keywords: rapid automatized naming (RAN); non-alphanumeric RAN; alphanumeric RAN; reading/spelling difficulties; mathematical difficulties

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