



Dyslexia and mental health problems: introduction to the special issue

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Mental health is recognized as one of the biggest problems in our schools today. It has been estimated that one in five school-aged youth (ages 4 to 19) experiences mental health problems (Kessler et al., 2005) with the risk being higher among children with learning disorders such as dyslexia (Francis et al., 2019). However, a closer look at the literature on mental health problems and dyslexia reveals mixed findings. Whereas some studies have shown that individuals with dyslexia experience higher rates of anxiety, depression, somatic complaints, and social withdrawal (e.g., Goldston et al., 2007; Heiervang et al., 2001; Ibbour et al., 2021), others have reported no significant effects of dyslexia on the prevalence of mental health problems (e.g., Mattek & Wierzbicki, 1998; Miller et al., 2005; Riddick et al., 1999). In addition, little is known about effective interventions for mental health problems in individuals with dyslexia or about factors that may protect individuals with dyslexia against mental health problems.

This special issue includes seven articles (six empirical studies and a systematic review/meta-analysis). The studies present data from six different countries and five different continents (Australia, McArthur et al.; China, Miao et al.; Ethiopia, Mekonnen et al.; Finland, Aro et al.; Greece, Kargiotidis & Manolitsis; and the USA, Fishstrom et al.). Four studies examined the association between dyslexia and anxiety, and two studies also looked at depression (Aro et al. and Miao et al.). Unfortunately, we did not receive submissions examining the association between dyslexia and externalizing problems.

Overall, the studies that examined the association between dyslexia and anxiety reported a significant connection between the two and in particular between dyslexia and social anxiety. For example, Kargiotidis and Manolitsis showed that children with literacy difficulties in grades 2 and 3 (particularly those with both reading and spelling difficulties) had higher levels of social anxiety in grade 5 than children without literacy difficulties and that the difference remained significant even after controlling for inattention. McArthur et al. showed that children with dyslexia plus inattention or hyperactivity (but not additional language difficulties) were more likely to experience elevated anxiety than children with dyslexia without these comorbidities and that inattention was more

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strongly related to social anxiety ($r = 0.37$) than reading anxiety ($r = 0.27$) or generalized anxiety ($r = 0.24$). These findings are interesting when viewed in conjunction with the results from Vieira et al.'s meta-analysis showing that among all the different kinds of internalizing problems, social withdrawal was the one producing the largest effect sizes. This seems to be an area worth further investigation as only seven studies have examined the relation between dyslexia and social withdrawal (see Vieira et al.).

Aro et al. and Miao et al. also examined the association of reading difficulties with depression but produced different findings. Aro et al. showed that it was childhood diagnosis of mathematics disabilities (and not of reading disabilities) that was associated with higher levels of self-reported depression in adulthood. In contrast, Miao et al. showed that, irrespective of the informant (self, parent, or teacher), grade 3 to 5 Chinese children with reading difficulties were experiencing higher levels of depression than their chronological-age controls. Miao et al. attributed their findings to the “unforgiving” Confucian culture influencing the Chinese education system, but it is possible that the age difference between the two groups also contributed to this difference as depression might be more pronounced among younger individuals.

In view of the significant association between reading difficulties and anxiety and depression (at least in Miao et al.'s study and in Vieira et al.'s meta-analysis), a natural follow-up question is whether intervention studies are able to minimize the negative impact of these mental health problems. Unfortunately, we did not receive as many intervention studies as we had hoped for this special issue. A shortage of intervention studies was also recently documented by Gyereh and Shukla (2023); they were able to identify only ten intervention studies published from 2010 to 2021. However, the findings of some studies in this special issue do have significant implications for both practice and policy. For example, Aro et al. showed that controlling for resilience and coping styles diminished the impact of mathematics disabilities on depression. This suggests that fostering children's resilience and copying mechanisms should alleviate the association of learning difficulties with mental health problems. It is critical that more effort and funding are directed towards conducting high-quality intervention studies.

The direction of the relation between reading difficulties and mental health problems is a subject of an ongoing debate (see McArthur et al., 2022), and the studies in this special issue do not provide a definite answer on this subject. For example, Kargiotidis and Manolitsis showed that early literacy difficulties were associated with later anxiety (implying a unidirectional relation from reading to anxiety), but they did not have data on anxiety in early grades. In contrast, Aro et al. showed that a childhood diagnosis of reading difficulties was not associated with depression in adulthood. Certainly, more longitudinal studies are needed to unpack the complex pathways connecting learning disorders and mental health outcomes during the school years and beyond.

To conclude, the studies in this special issue establish that there is a relation between reading difficulties and mental health problems, but the relation is likely moderated by different factors such as the type of mental health problems. Given that resilience or copying mechanisms may alleviate the association of reading difficulties with mental health problems, we recommend that school authorities work closely with parents to create those conditions for children with reading difficulties to feel supported and to seek help when they need it.

Declarations

Conflict of Interest The authors declare no competing interests.

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