

Poor reading, poor self-concept, and anxiety: A review of the evidence and some practical advice

Deanna Francis and Genevieve McArthur, based at Macquarie University Centre for Reading, provide an insight into some of the work being done by an international research team on emotional health problems in poor readers. This article contributes an overview of their extensive survey of the research literature, providing a brief summary of the research findings regarding the links between reading difficulties, self-concept and anxiety. They provide some follow-up suggestions for classrooms and clinicians regarding practical directions that the research points to.

Poor reading and emotional health

Over the years, various clinicians, educators, and reading researchers have raised concerns about the emotional health of children who struggle with reading. These concerns are validated by qualitative interview studies of individual children with poor reading (e.g., Boyes, Leitao, Claessen, Badcock, & Nayton, 2016; Riddick, 1996), as well as quantitative group studies that have compared emotional health in poor readers and typical readers (Francis et al., 2019). At the same time, these concerns are queried by studies that have not found emotional problems in poor readers (e.g., Miller, Hynd, & Miller, 2005).

The goal of our research collaborative, which reaches across Australia (NSW and WA) and the world (Australia, Finland, and the UK), is to make sense of the apparently complex relationship between poor reading and emotional health. To this end, the goal of this article is to provide a summary of our recent systematic review and meta-analysis of the evidence for an association between poor reading and one emotional health problem: poor self-concept (McArthur, Filardi, Francis, Boyes, & Badcock, 2020). This manuscript has been published in an open-access journal called PeerJ, and can be accessed for free: <https://peerj.com/articles/8772/>.

Poor reading and self-concept

Self-concept broadly refers to an individual's belief about themselves,



which is developed through experience and interactions with their environment (Marsh & Shavelson, 1985). Self-concept can be divided into different domains of life, such as academia, school, work, home, social life, and physical appearance (Harter, Whitesell, & Junkin, 1998). Therefore, our systematic review and meta-analysis had three aims: first, to determine if there was a statistically reliable association between poor reading and poor self-concept overall; second to measure the strength of this association; and third to explore if this association was influenced by factors such as the domain of poor self-concept, or by other factors such as type of poor reading, age, gender, reading instruction, or school environment.

For readers interested in the finer details, this review included studies that met a number of criteria. Study participants had to be English readers and speakers whose word reading accuracy or fluency was either one grade, one year, or one standard deviation below the mean level. In addition, self-concept had to be measured using a standardised and normed test that was administered directly to the participant. The primary outcome of the review was 'average self-concept', which was the mean score

of all the self-concept tests administered in the study. A secondary outcome was the different domains of self-concept, including reading-writing-spelling, academia, mathematics, behaviour, physical appearance, school, work, home, social, and athletics.

Of the 3000+ studies identified in our searches, only 13 fulfilled these criteria. We were surprised by this, since the criteria were by no means stringent from a scientific point of view.

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Meta-analyses of these studies suggested that the relationship between poor reading and average self-concept was both reliable and moderately strong (please see the publication for statistical details <https://peerj.com/articles/8772/>). In addition, it is possible that there are moderate-to-strong associations between poor reading and reading-writing-spelling, academic, and mathematic self-concept domains. However, more studies are needed to determine if these latter associations are reliable.

Implications for theory

The findings of this systematic review suggest that there is a moderately strong association between poor reading and self-concept. Furthermore, there is some preliminary evidence that poor reading is associated with the self-concept domains that are most directly related to reading and academic performance.

It is interesting to note that these findings may shed some light on why, in a separate systematic review (Francis, Caruana, Hudson, & McArthur, 2019), we have also found a moderate and reliable association between poor reading and anxiety. It may be the case that children with poor reading, who often experience reading failure in the classroom (Riddick, Sterling, Farmer, & Morgan, 1999), are at risk of forming the self-perception that they are 'bad readers' (Chapman, Tunmer, & Prochnow, 2001). This may heighten their fear of criticism from classmates and teachers, leading to anxiety. Their

need to avoid such criticism – whether real or perceived – may distract them from classroom instruction, including reading lessons. They may then fall even further behind in their reading, which may heighten their poor self-concept and their anxiety. This negative spiral of events has yet to be tested in a proper trial, and so it currently stands as a hypothesis that requires further empirical investigation.

Implications for classrooms

Despite our recent findings, we have a long way to go to fully understand the association between poor reading, poor self-concept, and anxiety. This makes it hard to provide evidence-based suggestions for teachers. We therefore offer the following suggestions with due caution. If a teacher suspects that a child is struggling with reading and self-concept or anxiety, they may consider speaking to the child's carers to see if they have noticed the same issues outside of school. This conversation may provide an opportunity to discuss referrals to specialists in both emotional health and reading. An ideal specialist for emotional health would be a clinical psychologist with expertise in child development, who could provide advice on how to increase self-concept and decrease anxiety in and out of school. An ideal specialist for reading would be a professional who could provide a detailed assessment of all the components of reading. This assessment would reveal which aspects of a child's reading needs extra support. Equipped with greater knowledge about a child's individual reading and emotional needs, a teacher may be able to identify where to focus their support for the child in the classroom.

Implications for clinical practice

As mentioned above, children with concurrent reading and emotional problems need detailed assessments of reading, self-concept, and anxiety to identify their individual needs. We have research under review suggesting that the reading assessment should include tests of reading accuracy (for letter-sound rules, nonword reading, irregular word reading), reading fluency (for words and texts), and reading comprehension. The self-concept assessment should include self-report questions for reading self-concept,

general self-concept, academic self-concept, and social self-concept; and the anxiety assessment should assess for social anxiety and generalised anxiety, as well as separation anxiety and specific phobias (email deanna.francis@mq.edu.au for details). Some of these assessments – notably for reading and reading self-concept – can be accessed for free from MOTif (<https://www.motif.org.au>). MOTif is hosted by the Macquarie University (MQ) Centre for Reading (mq.edu.au/research/MQCR) and the MQ Reading Clinic (mq.edu.au/reading-clinic) – both not-for-profit groups of reading scientists who provide independent support for reading difficulties.

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The outcomes of these comprehensive assessments for reading, self-concept, and anxiety can be used to design a program that integrates reading and anxiety intervention. If a clinician feels that they need some help with this, there are two sources of support. For children with concomitant problems with reading and anxiety, please contact us here at Macquarie University for a PRAX (poor reading + anxiety) intervention schema, which is currently under scientific review (email deanna.francis@mq.edu.au). For children with concomitant problems with reading and self-concept, our colleagues from Curtin University and Dyslexia SPELD WA have developed an afterschool program called "Clever Kids" (Boyes, Leitao, Claessen, Dzidic, Badcock, & Nayton, 2016. Also see Boyes et al. article in this issue of the LDA bulletin). This too is currently under scientific review, but the team can be contacted for details via mark.boyes@curtin.edu.au or <https://dsf.net.au/contact>.

In sum, our systematic review confirms that the links between reading difficulties and emotional health difficulties are very real, and we are very aware of the difficult task faced

by clinicians and educators who are asked to provide these young people with support. It is our hope that the recommendations in this article, and the resources that we provide, can help these people in some way.

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