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Framing Reading Literacy as a Public Health Crisis in South Africa

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The connection between literacy and health has been recognized by the medical and public health professions for several decades (Dewalt, Berkman, Sheridan, Lohr, & Pignone, 2004; Maughan & Carroll, 2006; Perazzo, et al., 2022; Rudd, Moeykens, & Colton, 1999; Weiss, et al., 1992). In the United States, for example, the National Institutes of Health (NIH), a federal agency focusing on biomedical science and health-related research, has been conducting and supporting systematic study of reading literacy at least since the 1970s (Lyon, 1998). The NIH views the ability to read as critical to a child's overall well-being and frames difficulty learning to read as a serious public health concern as much as an educational challenge.

This connection came into stark relief for the two of us—a career South African public health policy expert and an American literacy professional—when the most recent Progress in International Reading Literacy Study (PRILS) scores were published in 2023, showing once again the rock-bottom reading levels of South African children. Meanwhile, the persistence of diseases such as HIV and tuberculosis, high infant mortality, and other serious health challenges largely eradicated in other regions of the globe (Achoki, 2022) alerted us to take a closer look at the comorbidity of these conditions in the South African context.

In this article we briefly summarize what is known about the intersection of literacy and health, highlight PIRLS 2021 findings for South African children, and offer policy recommendations for improving both literacy and health relevant to South Africa as well to others beyond its borders facing similar challenges.

How Literacy and Health Intersect

The literature tells a grim story about children who struggle to learn to read and their health outcomes. Not only do these children have impaired academic achievement, but are at an increased risk of social, emotional, and mental health problems (Maughan & Carroll, 2006;); are more likely to leave school early (McArthur & Castles, 2017); are prone to engage in unhealthy behavior as adolescents (Zullig, Ubbes, & Mann, 2013); are susceptible to low health literacy as adults (Perazzo et al., 2022); and, ultimately, may have shorter life expectancy as compared to competent and engaged readers (Bavishi, Slade & Levy, 2017).

The American Academy of Pediatrics asserts that literacy is a major determinant of health, as evidenced by the close relationship between reading competence and health literacy. If children arrive at school unprepared to learn to read, they are more likely to exhibit limited reading skill throughout the primary grades and beyond. Low literacy among adolescents and adults affects understanding of personal health conditions, interferes with adherence to prescribed treatments, and often results in poor self-care (Klass, Miller-Fitzwater, & High, 2024).

A negative cycle from generation to generation has been documented in the literature (Perazzo et al., 2022) whereby adults with low levels of general and health literacy fail to adequately attend to their children’s health.

Poor pediatric care leads to childhood sicknesses and diseases that prevent regular school attendance. Sporadic participation at school results in failure to obtain critical basic skills, such as reading and writing. And, far too often, low literacy skills follow children into adolescence, adulthood, and parenthood, when the cycle begins anew (Moon, et al., 1998; Peterson, Loeb, & Chamberlain, 2018).

South Africa at the Bottom of the PIRLS League Table

There is a direct relationship between economic prosperity and the cognitive skills of a country's population (Hanushek & Woessmann 2015). Recent estimates suggest nearly 7 billion is lost to the South African economy each year due to a lack of literacy and numeracy skills for a significant percentage of its population (South Africa's Uneducated are Unable to Contribute to the Growth of the Economy - iAfrica). Thus, careful analysis of extant metrics of these skills is imperative (Schleicher, 2018; World Bank, 2021). One of the most important cognitive skills all students need to become effective problem solvers, flexible decision makers, and critical thinkers is proficient reading ability (Brozo, 2015). According to the European Declaration of the Right to Literacy (Valtin et al., 2016):

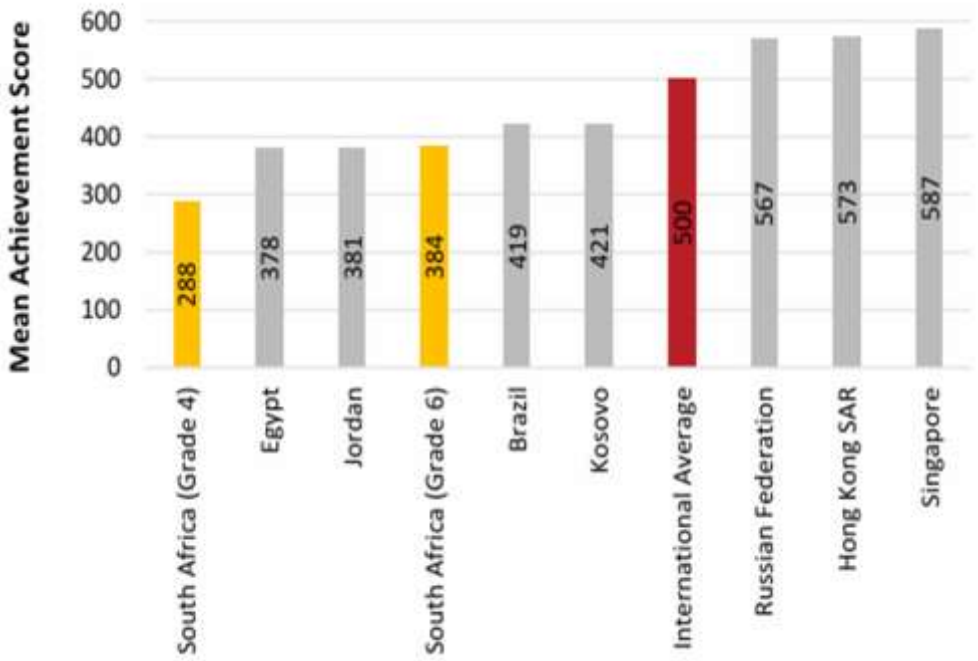
> Literacy is fundamental to human development. It enables people to live full and meaningful lives, and to contribute towards the enrichment of the communities in which we live

For many students around the globe in their fourth year of schooling, PIRLS (Progress in International Reading Literacy Study) is the first and in some cases the only international benchmark assessment of reading literacy they will take. The results offer a highly useful indicator of the effectiveness of reading instruction participating countries have provided their primary-level pupils. PIRLS-age readers are expected to be able to read for literary experience, acquire and use information, retrieve explicitly stated information, make inferences, interpret, and integrate ideas and information, and evaluate and critique content and textual elements (Mullis & Martin, 2019).

South Africa's first participation in PIRLS was in the 2006 cycle. Subsequent cycles followed, with participation in PIRLS and prePIRLS 2011, PIRLS 2016, and 2021. The results of PIRLS 2006, testing Grade 4 and 5 learners in all 11 official languages, confirmed the hypothesis that South African children were struggling with reading comprehension (mostly written in their home language). South African Grade 5 learners achieved the lowest score compared to Grade 4 children in the 39 participating countries, placing a full 200 points below the international average of 500. On PIRLS 2011, there was no difference in the overall achievement for South African learners compared to their 2006 levels. The results of PIRLS 2016 continued to show South Africa as one of the lowest performing countries of all 50 that participated.

South Africa's extremely poor showing on PIRLS 2016, particularly the finding that 78 percent of children could not read for meaning, prompted President Ramaphosa to issue a call to action from the government to make elevating literacy competencies a national priority. Despite the presidents' expressed concerns and his government's attention to South African children's very low reading levels, the results for PIRLS 2021 strongly suggest little if any progress has been made. The figure below reveals South African grade 4 students over 200 score points below the international average and a full 300 points below the highest performing nation, Singapore. What is more, grade 6 South Africans, although about 100 score points better than the fourth graders, performed significantly below the PIRLS center point of 500, even though the intended test takers are 9-year-olds or fourth graders, the level of most other students from the 57 participating countries.

South African Grade 4 and Grade 6 Achievement on PIRLS 2021 Compared to Grade 4 Average Scores of Other Countries*



*From: Department of Basic Education. (2023). *PIRLS 2021: South African Preliminary Highlights Report. Department of Basic Education*: Pretoria.

Persistent Public Health Challenges in South Africa

As we have seen, general literacy is highly correlated with health literacy. Individuals who possess high levels of general literacy are better able than their less skillful peers to "obtain, communicate, process, and understand basic health information and services to make appropriate health decisions" (Ubbes, Dillhoff, & Maldando, 2018, p. 51).

Concomitant with depressed literacy skills among far too many youth in South Africa are ever-present diseases and chronic illnesses associated with overall poor health maintenance and care, especially in high-poverty regions of the country. Despite some small areas of improvement, South Africa continues to experience unacceptably high numbers of deaths from communicable, maternal, perinatal and nutritional conditions (46%), noncommunicable diseases, such as cancer, stroke, chronic respiratory and cardiovascular diseases, and diabetes (38%). Meanwhile, HIV infections, tuberculosis, and Hepatitis B remain at stubbornly elevated levels. From a mental health perspective, South Africa's deaths by suicide (among the 10 highest countries globally; 3rd highest in Africa) and homicide (six times the global average) remain at epidemic proportions (Matzopoulos et al., 2023; iAHO_Suicide_Regional_Fact_sheet_August2022.pdf).

Policy Recommendations for Reversing Cycles of Low Literacy and Poor Health

What follows are policy-level proposals aimed at reversing the pattern of declining literacy levels and health outcomes for South African children. Although these are particularly relevant to education and health policy conditions in South Africa, they may have viability in other national and provincial settings where comorbidity of low literacy and poor health persist.

1. It can't be over-emphasized that *improved health outcomes in South Africa will only come about as a result of sustained and long-term efforts focused on improving literacy for children and youth*. As the evidence shows, with literacy improvement comes positive health outcomes. Nowhere is this more evident than for women who as their literacy competencies grow so does their responsiveness to their own health care needs as well as those of their children (Goodwin, Garrett, & Gala, 2005; The Effect of Girls' Education on Health Outcomes: Fact Sheet | PRB).

2. *Better approaches to early detection of literacy and related problems* (i.e., dyslexia, neuro-developmental issues, learning disabilities, ADHD) *are needed*. This is especially critical for children coming to school from high-risk populations (Gonzalez-Contreras et al., 2024). Simple and informative literacy assessment tools that can be easily implemented by the school nurse, counselor, teachers, social workers, and others should be made available to schools across the country. In addition, part of pediatric wellness visits could include attention to literacy assessment (Perazzo et al., 2022). Caregivers at these visits could also be assessed for their levels of health literacy. A recently developed instrument specific to the South African context, the *Sesotho Health Literacy Test* (Reid, Nel, van Rensburg-Bonthuyzen, 2019), has been used successfully for this purpose. Responding to health problems that grow out of low-levels of literacy, both general and health-related, places an enormous resource burden on the government; however, a serious focus on early detection and treatment of literacy challenges for children will go a long way toward reducing this burden (https://mg.co.za/education/2023-04-04-illiteracy-costs-south-africas-economy-r119-billion-report-says/; Shahid et al., 2022).

3. *Children identified as literacy challenged, along with their caregivers, should be provided specific reading training using health documents and related content as source material*. In this way, literacy skills can be acquired while learning about personal hygiene, preventive healthcare, good nutrition and dietary habits, substance abuse, STDs, and more. Investment in these types of programs can potentially save government millions in expenditures for unwanted pregnancies, chronic health problems, communicable diseases, and other preventable conditions.

4. Because mental health problems often grow out of poor literacy and academic achievement, *school counselors and psychologists need to include documentation of young students' reading performance in order to explore how challenges with reading may be impacting mental health*. When literacy challenges are evident, counselors and psychologists need to cooperate closely with other specialists and classroom teachers to ensure students with reading problems are provided needed support.

5. Early leavers find themselves with limited cognitive skills and few job and career options. Drop-outs are also at higher risk of engaging in reckless behavior that impacts directly on their health and well-being. *Keeping children and youth in school has been shown to correlate with higher reading achievement and healthier lifestyles*. Helping students stay the course in school involves finding ways to engage them as readers and learners with interesting and accessible texts, through personally-relevant learning experiences, and by forming close relationships with them. Ideally, these relationships form between teachers and students, but they also can be fostered by volunteers such as pensioners and peers who through shared literacy experiences can improve struggling readers' skills and attitudes (Brozo & Hargis, 2003).

6. *An all-hands-on-deck approach to eradicating literacy challenges for young people is needed to have a national impact on the crisis in South Africa*. In addition to the central government making the concern a national priority, NGOs, civil society groups, and corporate sponsors should work to elevate the literacy skills and abilities of children and youth. And as much as possible, coordination of effort among these sectors should be sought. Successful and promising activity such as the Road to Literacy Trolley Library campaign (Road To Literacy) should be scaled up to maximize involvement of literacy-challenged children and their caregivers.

7. Finally, *like most other countries, South African children, youth, and adults from underserved groups are often the neediest as concerns both general and health literacy*. PIRLS scores for students from high-poverty regions of any participating country are likely to have the lowest scores on the assessment. This is largely because these children often grow up in environments with limited and sub-standard options for schooling and that are populated by adults with low levels of educational attainment. Furthermore, these places are where health resources, such as well-trained doctors, clinics, and hospitals, are scarce. Thus, to break cycles of low literacy and poor health, the policy recommendations proposed here should be applied with unflagging vigor in regions of greatest need.

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