

# Academic resilience in challenging school contexts in South Africa

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## RESEP Policy Brief

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Poverty is considered a risk factor that jeopardizes children's academic performance. Yet even in high poverty contexts there are students who manage to achieve consistently good academic results despite their adverse circumstances or even the schools they attend. Understanding what enables these students to succeed against the odds may provide valuable insights into what is necessary for academic success in challenging socio-economic and school contexts.

This policy brief highlights the key findings of a study that aimed to identify academically resilient grade 6 learners in 60 township and rural schools across three provinces in South Africa. We show that these resilient learners are located across many schools, including very low-quality schools, and are reaching meaningful levels of literacy proficiency. We also highlight the characteristics of these resilient learners, particularly the socio-emotional skills that distinguish them from their lower-performing peers.



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## 1. Academically resilient learners are present in over half of African language classrooms

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In 2011, a nationally representative sample of grade 4 learners participated in PrePIRLS, a test of literacy that assessed the reading competencies of children in whatever language their school used in Grades 1–3. These test results and subsequent PIRLS tests<sup>2</sup> have highlighted the very low levels of literacy among grade 4 South African learners. But an interesting finding is that in contexts of low average literacy, some students are still doing very well. There are one or two outlier achievers reaching high international literacy benchmarks in over half of all grade 4 classrooms or schools tested in African languages.<sup>3</sup>

The 60-school sample used in our study is not nationally representative; but it mirrors patterns in PrePIRLS. Scores obtained on a reading comprehension and vocabulary test, administered to 2379 grade 6 learners at the beginning and end of the 2017 year, were used to identify learners who perform notably better than equally poor peers (see Box 1 for how we identified resilient learners). We identified 87 academically resilient learners among the 2 379 learners. These 87 learners are distributed across 36 out of the 60 township and rural primary schools sampled.<sup>4</sup>

### Box 1: Defining academic resilience

We define academic resilience as consistent, exceptional literacy performance for a given level of socio-economic status. “Exceptional performance” is defined as scoring two standard deviations above the expected level. Identifying consistent, relative performance is supported through the availability of two points of test score data. Statistical, multivariate regression models are applied to these data to identify learners’ performance level relative to what they would be expected to achieve given their socio-economic status and home background environment.

## 2. Academically resilient learners are present in very low quality schools

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*Academically resilient learners are also located in classes with very low median levels of performance.*

Figure 1 ranks the grade 6 classes across the 60 schools in our study in order of the test score of the middle learner in each class (i.e. median class performance). The figure also shows the highest and lowest mark in each class. On the second reversed axis, the red bars indicate the percentage of resilient learners identified in each school. It is clear from the figure that resilient learners are more likely to be identified in schools that are better performing overall. For example, in the school class with the highest median mark, 30% of learners are identified as resilient. But there are clear exceptions to this trend. Academically resilient learners are also located in school classes with very low median levels of performance.

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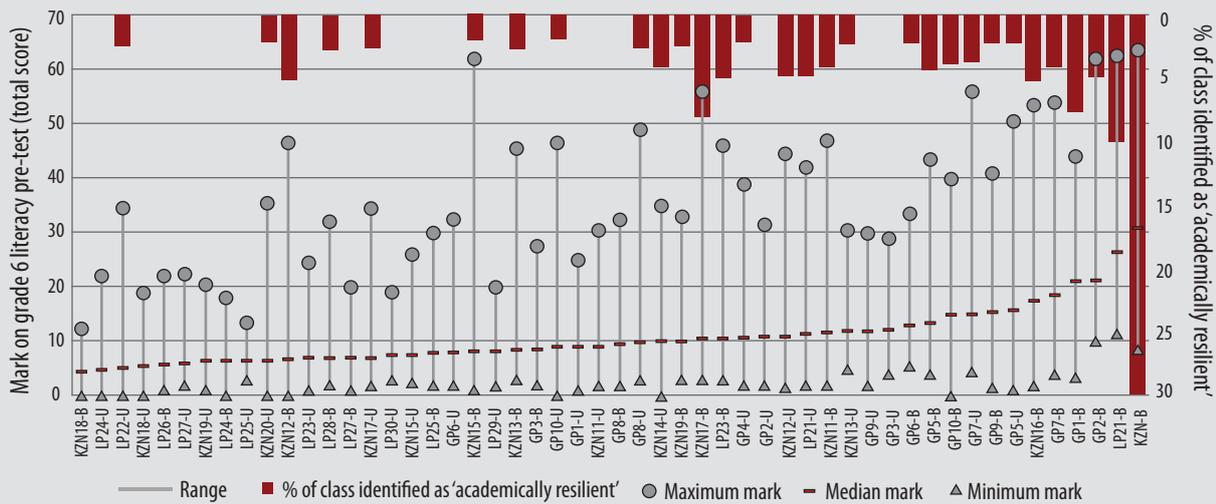
2 Howie, S., Combrink, C., Roux, K., Tshele, M., Mokoena, G.M., McLeod Palane, N., 2017. PIRLS Literacy 2016: South African Highlights Report. Pretoria.

3 Wills, G., 2017. What do you mean by ‘good’? The search for exceptional primary schools in South Africa’s no-fee school system (No. WP16/2017), Stellenbosch Economics Working Paper Series. [www.ekon.sun.ac.za/wpapers/2017/wp162017](http://www.ekon.sun.ac.za/wpapers/2017/wp162017)

4 See Wills 2017 for a description of the intentionally purposeful sampling process.

In more than half of the 60 classes in our sample, there are one or two learners who achieved literacy test scores three or more times higher than the score of the middle learner in their class. Some top achieving learners score five or six times higher than the middle learner in the class. The large gaps remain even after accounting for the possibility that higher achieving learners may come from wealthier or more resourced home backgrounds. This points to a wider problem affecting teaching in South Africa; namely a very large range of learner proficiencies exist within the same classrooms. This is depicted by the very large gaps between test scores of the best and worst performing learners in each class in Figure 1.

*A very large range of learner proficiencies exist within the same classrooms.*



**FIGURE 1: The presence of resilient learners in grade 6 school classrooms with different median literacy test score levels.**

Source: 2017 'Leadership for Literacy' 60 school sample dataset.

### 3. Academically resilient learners achieve literacy levels comparable to international benchmarks

The use of an international assessment allows us to benchmark literacy levels among our study sample against students in other countries. Table 1 shows how resilient learners in the sample compare with students in other countries participating in PIRLS. Our sample of grade 6 students is best compared to countries whose grade 6 students participated in PIRLS (Honduras, Morocco, and Botswana) but most of the PIRLS countries administered the tests at the grade 4 level. Despite this limitation, the 87 resilient learners achieved test scores that exceed the median performance of grade 4 learners in highly-resourced country contexts like Australia and Germany. Their literacy test scores are also comparable with those of grade 4 learners in Finland. Although these resilient learners are almost 2 grade years ahead of grade 4 learners in comparator countries, their performance remains encouraging considering the challenging and under-resourced environments from which they come.

*Their performance remains encouraging considering the challenging and under-resourced environments from which they come.*



**TABLE 1: Percentage correct on a PIRLS comprehension test – our sample vs. PIRLS country samples**

	% correct at 10 <sup>th</sup> pct.	% correct at 50 <sup>th</sup> pct.	% correct at 90 <sup>th</sup> pct.
Morocco (Gr.6)	0	19	44
Our Gr. 6 sample: Students with average academic performance	13	25	50
Botswana (Gr.6)	6	31	69
Azerbaijan (Gr.4)	19	44	69
Honduras (Gr.6)	19	50	75
Iran, Islamic Rep. (Gr.4)	13	50	75
Low to middle income	13	50	81
Georgia (Gr.4)	25	63	88
Romania (Gr.4)	25	63	88
Australia (Gr.4)	25	63	88
Germany (Gr.4)	38	69	88
Croatia (Gr.4)	44	75	94
Russian Fed. (Gr.4)	44	75	94
Finland (Gr.4)	44	75	94
Our Gr. 6 sample: Academically resilient students	63	81	94

Source: 2017 'Leadership for Literacy' 60 school sample dataset and own calculations from country samples writing the same released PIRLS 2011 passage. Results are sorted by the 50th percentile. Pct. stands for 'percentile.'

#### 4. Socio-emotional skills are strongly associated with academic resilience and literacy performance

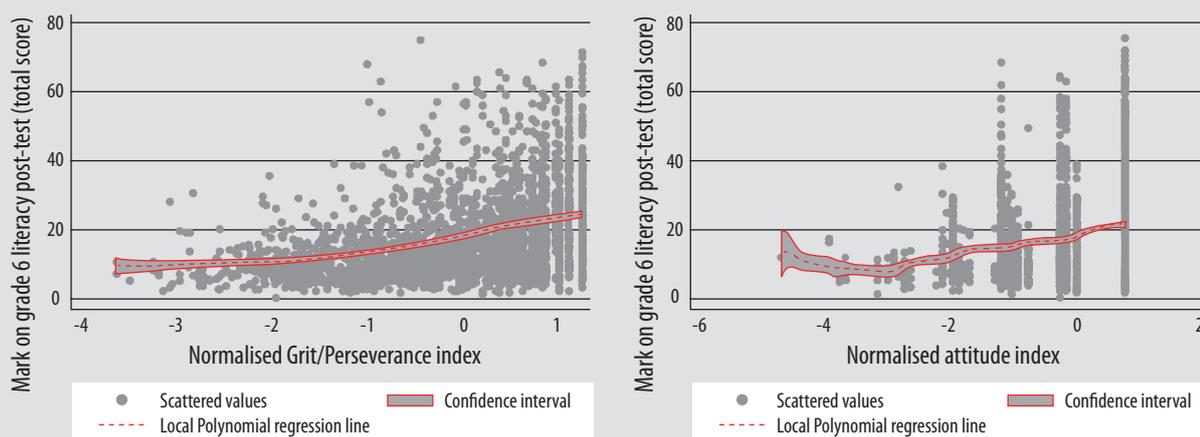
*The strongest predictors of resilience in our models were socio-emotional skills including grit (passion and perseverance for long-term goals) and academic aspirations.*

Our study was not only interested in identifying exceptionally performing, resilient learners. We wanted to know how these resilient learners differ from their less resilient peers. Statistical models are used to do this, aiming to identify which individual, home and school factors will predict whether a learner is academically resilient. We observed many differences across resilient and less resilient learners. But the strongest predictors of resilience in our models were socio-emotional skills including grit<sup>5</sup> (passion and perseverance for long-term goals) and academic aspirations. The strong relationship

between socio-emotional skills and literacy levels more generally across our entire grade 6 sample is visually represented in Figure 2. This finding is also consistent with the international literature that confirms the importance of socio-emotional skills in promoting academic resilience<sup>6</sup>.

5 Duckworth, A.L. & Yeager, D.S. 2015. Measurement Matters: Assessing Personal Qualities Other Than Cognitive Ability for Educational Purposes. *Educational Researcher*. 44(4): 237–251. (Duckworth and Yeager, 2015)(Duckworth and Yeager, 2015)(Duckworth and Yeager, 2015)(Duckworth and Yeager, 2015)

6 OECD. 2011. *Against The Odds: Disadvantaged Students Who Succeed in School*. Paris: OECD Publishing.  
Erberder et al. 2015. Socioeconomically disadvantaged students who are academically successful: Examining academic resilience cross-nationally. *IEA's Policy Brief Series*. No 5.  
Vera et al. 2015. Against All Odds: Outstanding Reading Performance among Chilean Youth in Vulnerable Conditions. *Comparative Education Review*. 59(4): 693–716.



**FIGURE 2: Grade 6 literacy performance for a student sample against measures of a) students' grit/perseverance levels and b) students' attitudes towards their school and teacher, 2017**

Source: 2017 'Leadership for Literacy' dataset. The scatter points represent 2379 different learners from 60 different schools. A local polynomial regression line shows a relationship between two variables that best fits the data.

## 5. Implications for Future Research and Policy

The results presented above have at least two important recommendations for future research and education policy in South Africa.

1. **Future research should consider the role of socio-emotional skills in determining academic performance.** Our findings reveal strong positive associations between these skills and academic performance, including among learners growing up in highly adverse contexts. This is an important finding in South African education research. Few local empirical studies have considered the importance of socio-emotional skills in explaining learning differences across students and schools. Future school surveys should consider collecting measures that allow for the identification of socio-emotional skills. More research is required, however, to disentangle the possible two-way relationship that may exist between socio-emotional skills and higher academic proficiency. For example, higher literacy levels may encourage a stronger sense of self-efficacy or lead to higher educational aspirations.
2. **Funding and political support is required for experimental research on curriculum and teaching approaches to actively cater to varying learner proficiencies within classrooms.** There are wide gaps or ranges in the levels of academic preparedness among learners in the same classrooms. This is likely to pose a major challenge to teachers, and these gaps are likely to widen as learners are promoted into higher grades without mastering basic skills.<sup>7</sup> Policy and research needs to explore ways in which teachers can more effectively teach to the right level of the child. This will require experimenting with new models for teaching at the right level and possible technologies that are internationally shown to aid learning in classrooms with multiple learner proficiencies.<sup>8</sup> This experimentation requires funding and political support.

The presence of unusually high achievers in classrooms is no excuse not to improve school quality. More research into how this small proportion of socio-economically disadvantaged learners manage to succeed against the odds is likely to hold new insights for improving the educational outcomes for South African children.

7 Spaul, N., Kotze, J., 2015. Starting behind and staying behind in South Africa. The case of insurmountable learning deficits in mathematics. *Int. J. Educ. Dev.* 41, 13–24. doi:10.1016/j.jijedudev.2015.01.002

8 Muralidharan, K., Singh, A., Ganiman, A. 2017. *Disrupting Education? Experimental Evidence on Technology Aided Instruction in India*. Working Paper. [http://econweb.ucsd.edu/~kamurali/papers/Working%20Papers/Disrupting%20Education%20\(Current%20WP\).pdf](http://econweb.ucsd.edu/~kamurali/papers/Working%20Papers/Disrupting%20Education%20(Current%20WP).pdf)