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Troubling trends:

An international decline in attitudes toward reading

SUMMARY

- Trend results from the Progress in International Reading Literacy Study (PIRLS) show a decline from 2001 through 2016 in most countries in fourth graders' and their parents' reading attitudes, as measured by *students like reading* and *parents like reading* scale scores.
- Average *students like reading* scale scores, as reported by the students themselves, decreased between 2001 and 2016 in 13 of the 18 countries that participated in all cycles of PIRLS.
- *Students like reading* scores, on average, only increased in England and Iran between 2001 and 2016 and remained essentially constant in the United States, New Zealand, and Hong Kong.
- *Parents like reading* scores, on average, also decreased in 14 of the 16 countries that participated in all cycles of PIRLS.

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IMPLICATIONS

- Educators and educational policymakers should take notice of these falling trends in reading attitudes. Current curricula may need to be reevaluated to support the development of positive attitudes toward reading.
- Given that the results show the decline in reading attitudes involves not just students but also parents, policymakers should consider widespread campaigns and programs to promote positive attitudes toward reading among adults and families.

INTRODUCTION

Reading is an important and beneficial activity for both children and adults. The promises of reading abound: reading more has been found to be related to student achievement, vocabulary growth, and positive brain development (e.g., Suk 2016, Romeo et al. 2018). For adults, frequent reading has been found to be associated with improved well-being, including better mental and cognitive health (e.g., Sullivan 2015).

A catalyst for reading for enjoyment is one's attitude toward reading—their feelings toward reading (Schiefele et al. 2012). A major objective of many educational systems is to develop lifelong readers by instilling positive attitudes toward reading and fostering motivation to read (see Mullis et al. 2017b). To accomplish this goal, research suggests that effective strategies include providing a diversity of relevant reading materials that match students' interests, supporting students to be autonomous readers and to choose what they read, and setting up social and collaborative reading opportunities (Guthrie & Barber 2019; Wigfield et al. 2004).

The purpose of this brief is to highlight international trends in reading attitudes for fourth graders and their parents, through analysis of data collected through the IEA's Progress in International Reading Literacy Study (PIRLS). PIRLS is recognized as the global standard for assessing trends in the reading achievement of students at the fourth grade, providing internationally comparative data on how well children read, and policy-relevant information for improving learning and teaching. In addition to assessing fourth grade students internationally in reading comprehension, PIRLS also includes extensive contextual questionnaires that collect information on students' and parents' views on reading. This brief analyzes international trends in the reading attitudes of fourth grade students and their parents as measured by PIRLS. PIRLS measures these attitudes toward reading through two scales that are based on responses to items in the questionnaires: the *students like reading* and *parents like reading* scales.

BACKGROUND

Over the last three decades, the world has experienced a dramatic shift in reading habits. People are increasingly obtaining information through online reading of newspapers, periodicals, blogs, and social media. Reading books for pleasure has also shifted to digital media platforms, with many using e-reader devices, such as Kindles, Nooks, and even smartphones. Given this shift to digital reading, it is unclear to what extent there have been concurrent shifts in reading attitudes and habits.

Across four cycles of the assessment over a 15-year time period, PIRLS has consistently found that students who like reading tend to demonstrate higher fourth grade reading achievement, consistent with a wide breadth of other studies (see Petscher 2010). This positive relationship between students' attitudes toward reading and their achievement comes as little surprise, as it has been long theorized that the relationship between having a positive attitude toward reading and reading achievement is bidirectional; students who like reading tend to read more and by reading more they become more proficient readers making reading even more enjoyable.

Analysis of PIRLS data has also shown that students who have parents who report positive attitudes toward reading also tend to have higher fourth grade reading achievement. Stephens et al. (2015) found that the PIRLS data indicated an alignment between parents' attitudes and their reading habits and their fourth grade children's attitudes and reading habits. These findings support the theory that there is an intergenerational transfer of reading for pleasure; parental modeling inspires children to appreciate reading.

This brief summarizes the results of Hooper et al. (2020), who found recently that many of the countries that participated in the four PIRLS assessments (conducted in 2001, 2006, 2011, and 2016) showed declining trends in reading attitudes, as measured by the *students like reading* and *parents like reading* scales.[1] These long-term trend results build on PIRLS reports identifying declines in many countries in *students like reading* from 2001 to 2006 (Mullis et al. 2007) and declines in *parents like reading* scale scores from 2011 to 2016 (Mullis et al. 2017a). The Programme for International Student Assessment (PISA), an international assessment of 15-year-olds occurring every three years that focuses on reading literacy every nine years, also recently reported international declines in many of students' reading attitudes items when comparing attitudes between the 2009 and 2018 reading-focused assessments (OECD 2019).

1 See Hooper et al. (2020) for an in-depth analysis of these and other PIRLS and TIMSS trends.

DATA AND ANALYSIS

As mentioned, with each administration of the PIRLS reading assessment, students complete survey questionnaires, as do parents, teachers, and school principals. The student questionnaire includes items about the students and their attitudes toward reading, and the parent questionnaire includes items about the home reading environment, including parental attitudes toward reading.

Although the questionnaires are updated with every cycle, a number of questionnaire items, including some of those measuring attitudes toward reading, have remained the same. By including the same items over time and administering these items to representative populations in each country, it becomes possible to examine whether scores on the attitudinal items have increased or decreased over time.

Eighteen countries and two benchmarking participants, the Canadian provinces of Ontario and Quebec, participated in all four PIRLS assessment cycles (Table 1). England and the United States did not administer the parents' questionnaire, hence for these countries only the results for *students like reading*, as assessed by the student questionnaire, can be reported.

For the purposes of this trend analysis, *students like reading* is measured by three items that have remained the same across the four PIRLS cycles: "I enjoy reading," "I would be happy if someone gave me a book as a present," and "I think reading is boring."[2] In educational measurement it is generally understood that a phenomenon (construct) such as *students like reading* is more reliably measured by combining responses to multiple items. For this reason, student responses were first quantified so that "Agree a lot" was assigned a score of 3, "Agree a little" a 2, "Disagree a little" a 1, and "Disagree a lot" a 0, and the scores were summed across the items to give each student a score from 0–9 on the scale.[3]

For *parents like reading*, four items that remained the same across the four PIRLS cycles were used for this trend analysis. These items include: "Reading is an important activity in my home," "I read only if I have to," "I like to spend my spare time reading," and "I read only if I need information." The items were scored and summed so students would receive a score of 12 if their parents "Agreed a lot" with all of the items and 0 if their parents "Disagreed a lot" with all of the items.[4]

Average student scale scores for the two measures (*students like reading* and *parents like reading*) were calculated for each country for each assessment year. Significance tests were conducted to examine whether a country's mean score changed over time.

Table 1: PIRLS participants with trend data across all cycles of PIRLS (2001, 2006, 2011, and 2016)

COUNTRIES PARTICIPATING IN ALL CYCLES OF PIRLS			
Bulgaria	Hungary	New Zealand	Singapore
England	Iran, Islamic Republic of	Norway	Slovak Republic
France	Italy	Ontario, Canada	Slovenia
Germany	Lithuania	Quebec, Canada	Sweden
Hong Kong, SAR	Netherlands	Russian Federation	United States

2 Over the four cycles, PIRLS has used a number of other items to measure these constructs, but the items that are included in these analyses are only those that were unchanged across the cycles. By using items that were unchanged, we are able to dismiss the possibility that the change in scores is due to changes in the measures.

3 "I think reading is boring" was reverse coded so that "Agree a lot" was assigned a value of 0 and "Disagree a lot" a value of 3.

4 "I read only if I have to" and "I read only if I need information" were reverse coded so that "Agree a lot" was assigned a value of 0 and "Disagree a lot" a value of 3.

RESULTS

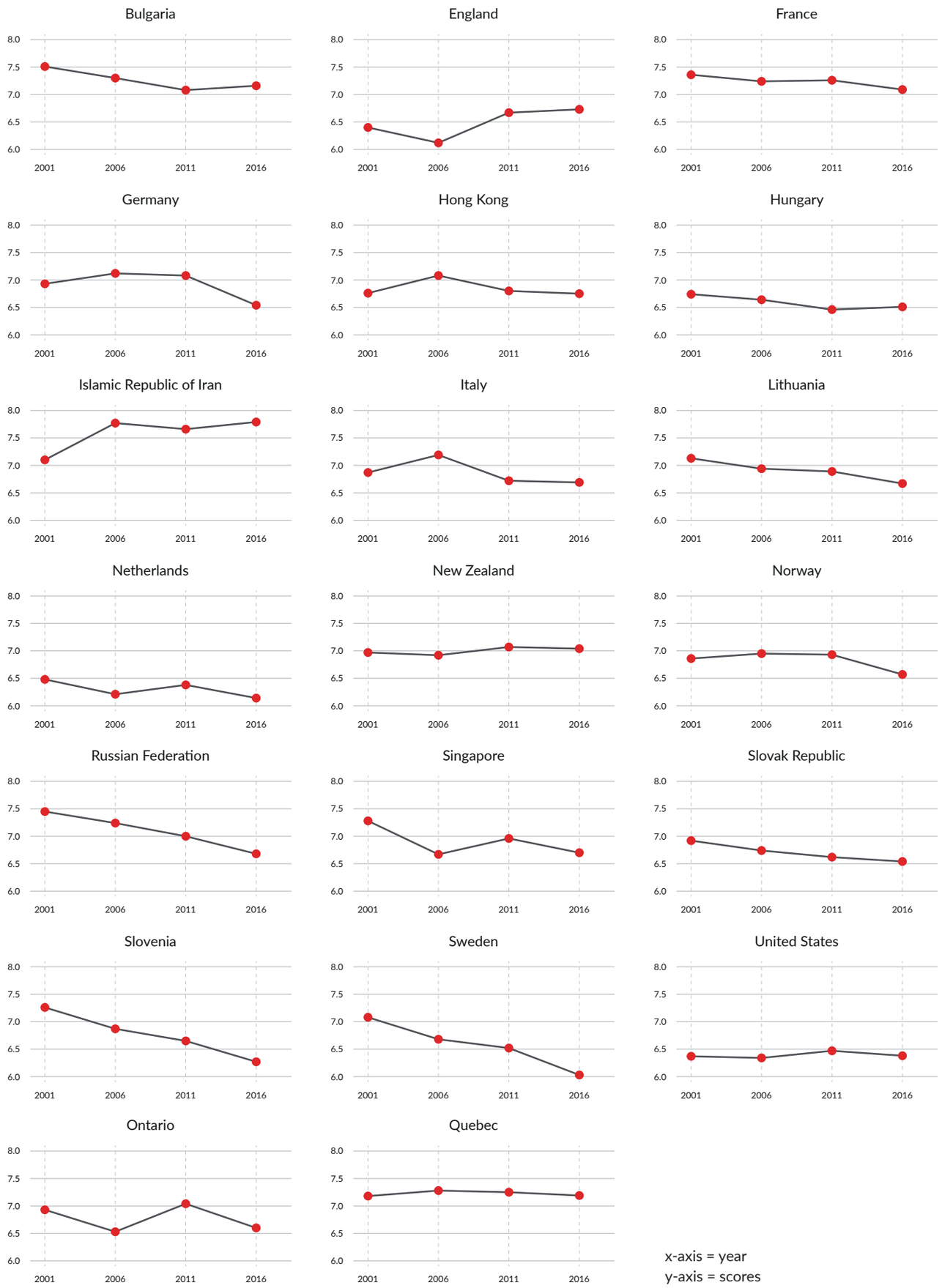
Analysis of the nine-point *students like reading* scale revealed that 13 countries and Ontario showed declines in average *students like reading* scale scores when comparing the PIRLS 2001 and 2016 scores, 10 countries showed declines when comparing 2006 and 2016 scores, and nine countries and Ontario showed declines when comparing scores for 2011 and 2016 (Table 2). Only England and Iran showed an increase in students' reading attitudes between 2001 and 2016, only England and New Zealand showed an increase between 2006 and 2016, and no countries showed an increase between 2011 and 2016. Attitudes in the United States and Quebec remained essentially unchanged across the four cycles. Figure 1 provides a graphical representation of the results.

Table 2: Average students like reading *scale scores in each country and for each PIRLS cycle (on a scale of 0–9)*

COUNTRY	2001	2006	2011	2016
Bulgaria	**7.51** *(0.068)* ↓	**7.30** *(0.060)*	**7.08** *(0.066)*	**7.16** *(0.087)*
England	**6.40** *(0.076)* ↑	**6.12** *(0.073)* ↑	**6.67** *(0.074)*	**6.73** *(0.057)*
France	**7.36** *(0.035)* ↓	**7.24** *(0.039)* ↓	**7.26** *(0.058)* ↓	**7.09** *(0.045)*
Germany	**6.93** *(0.044)* ↓	**7.12** *(0.042)* ↓	**7.08** *(0.049)* ↓	**6.54** *(0.077)*
Hong Kong, SAR	**6.76** *(0.050)*	**7.08** *(0.046)* ↓	**6.80** *(0.059)*	**6.75** *(0.064)*
Hungary	**6.74** *(0.068)* ↓	**6.64** *(0.061)*	**6.46** *(0.068)*	**6.51** *(0.080)*
Iran, Islamic Republic of	**7.10** *(0.087)* ↑	**7.77** *(0.061)*	**7.66** *(0.050)*	**7.79** *(0.060)*
Italy	**6.87** *(0.060)* ↓	**7.19** *(0.061)* ↓	**6.72** *(0.061)*	**6.69** *(0.060)*
Lithuania	**7.13** *(0.067)* ↓	**6.94** *(0.047)* ↓	**6.89** *(0.052)* ↓	**6.67** *(0.069)*
Netherlands	**6.48** *(0.075)* ↓	**6.21** *(0.061)*	**6.38** *(0.061)* ↓	**6.14** *(0.071)*
New Zealand	**6.97** *(0.068)*	**6.92** *(0.043)* ↑	**7.07** *(0.040)*	**7.04** *(0.045)*
Norway	**6.86** *(0.062)* ↓	**6.95** *(0.070)* ↓	**6.93** *(0.101)* ↓	**6.57** *(0.060)*
Russian Federation	**7.45** *(0.059)* ↓	**7.24** *(0.055)* ↓	**7.00** *(0.057)* ↓	**6.68** *(0.061)*
Singapore	**7.28** *(0.048)* ↓	**6.67** *(0.043)*	**6.96** *(0.038)* ↓	**6.70** *(0.041)*
Slovak Republic	**6.92** *(0.061)* ↓	**6.74** *(0.051)* ↓	**6.62** *(0.060)*	**6.54** *(0.062)*
Slovenia	**7.26** *(0.065)* ↓	**6.87** *(0.050)* ↓	**6.65** *(0.060)* ↓	**6.27** *(0.063)*
Sweden	**7.08** *(0.054)* ↓	**6.68** *(0.060)* ↓	**6.52** *(0.062)* ↓	**6.03** *(0.066)*
United States	**6.37** *(0.074)*	**6.34** *(0.069)*	**6.47** *(0.041)*	**6.38** *(0.065)*
BENCHMARKING PARTICIPANTS				
Ontario, Canada	**6.93** *(0.059)* ↓	**6.53** *(0.083)*	**7.04** *(0.067)* ↓	**6.60** *(0.074)*
Quebec, Canada	**7.18** *(0.070)*	**7.28** *(0.065)*	**7.25** *(0.053)*	**7.19** *(0.059)*

Notes:
↑ PIRLS 2016 *students like reading* scale score was significantly ($p < 0.05$) higher than the score for this cycle.
↓ PIRLS 2016 *students like reading* scale score was significantly ($p < 0.05$) lower than the score for this cycle.
Standard errors in parentheses.
Source: Table slightly modified from Table 1.2 in Hooper et al. (2020, p. 9)

Figure 1: Trend graphs of average students like reading *scale scores (on a scale of 0–9)*



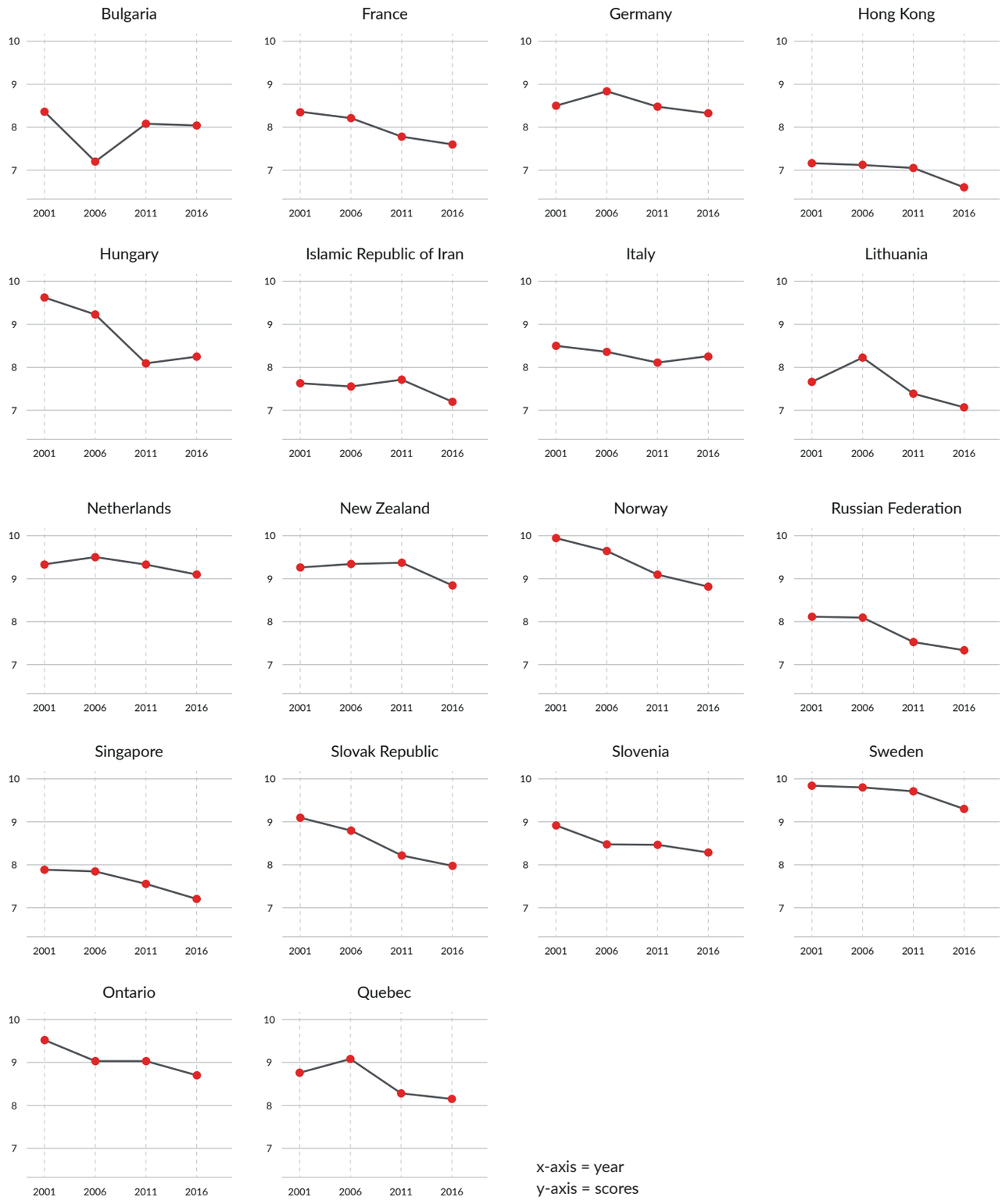
A similar process was followed to examine trends in *parents like reading* scale scores, and this also showed declines in positive attitudes toward reading (Table 3). Between PIRLS 2001 and 2016 and between 2006 and 2016, 14 of the 16 countries and Ontario and Quebec showed declines in average *parents like reading* scale scores. Between 2011 and 2016, 10 countries and Ontario showed declines in *parents like reading* scale scores. Only Bulgaria and Germany showed no change in parents' attitudes toward reading between 2001 and 2016, although Bulgaria showed an increase in parents' reported enjoyment of reading over the shorter time period from 2006 to 2016. No countries showed an increase between 2011 and 2016. Figure 2 provides trend graphs depicting the results.

Table 3: Average parents like reading *scale scores in each country and for each PIRLS cycle (on a scale of 0–12)*

COUNTRY	2001	2006	2011	2016
Bulgaria	**8.36** *(0.139)*	**7.20** *(0.159)* ↑	**8.08** *(0.130)*	**8.04** *(0.122)*
France	**8.35** *(0.068)* ↓	**8.21** *(0.061)* ↓	**7.78** *(0.065)*	**7.60** *(0.069)*
Germany	**8.50** *(0.067)*	**8.83** *(0.074)* ↓	**8.47** *(0.086)*	**8.32** *(0.078)*
Hong Kong, SAR	**7.17** *(0.053)* ↓	**7.12** *(0.049)* ↓	**7.04** *(0.050)* ↓	**6.60** *(0.047)*
Hungary	**9.63** *(0.063)* ↓	**9.24** *(0.079)* ↓	**8.10** *(0.078)*	**8.26** *(0.105)*
Iran, Islamic Republic of	**7.63** *(0.101)* ↓	**7.56** *(0.080)* ↓	**7.71** *(0.060)* ↓	**7.20** *(0.093)*
Italy	**8.50** *(0.066)* ↓	**8.36** *(0.075)*	**8.11** *(0.067)*	**8.26** *(0.075)*
Lithuania	**7.66** *(0.069)* ↓	**8.22** *(0.059)* ↓	**7.39** *(0.061)* ↓	**7.07** *(0.074)*
Netherlands	**9.33** *(0.074)* ↓	**9.50** *(0.077)* ↓	**9.32** *(0.069)* ↓	**9.08** *(0.082)*
New Zealand	**9.26** *(0.073)* ↓	**9.34** *(0.070)* ↓	**9.37** *(0.071)* ↓	**8.84** *(0.084)**
Norway	**9.95** *(0.066)* ↓	**9.65** *(0.052)* ↓	**9.10** *(0.087)* ↓	**8.82** *(0.056)*
Russian Federation	**8.12** *(0.075)* ↓	**8.10** *(0.070)* ↓	**7.53** *(0.071)*	**7.34** *(0.067)*
Singapore	**7.89** *(0.051)* ↓	**7.85** *(0.045)* ↓	**7.56** *(0.038)* ↓	**7.21** *(0.044)*
Slovak Republic	**9.10** *(0.068)* ↓	**8.80** *(0.083)* ↓	**8.22** *(0.071)* ↓	**7.98** *(0.084)*
Slovenia	**8.92** *(0.054)* ↓	**8.48** *(0.063)* ↓	**8.47** *(0.062)* ↓	**8.29** *(0.054)*
Sweden	**9.84** *(0.058)* ↓	**9.80** *(0.067)* ↓	**9.71** *(0.070)* ↓	**9.30** *(0.073)*
BENCHMARKING PARTICIPANTS				
Ontario, Canada	**9.52** *(0.073)* ↓	**9.03** *(0.090)* ↓	**9.03** *(0.082)* ↓	**8.70** *(0.089)*
Quebec, Canada	**8.76** *(0.079)* ↓	**9.08** *(0.079)* ↓	**8.28** *(0.075)*	**8.15** *(0.096)*

Notes:
↑ PIRLS 2016 *parents like reading* scale score is significantly ($p < 0.05$) higher than the score for this cycle.
↓ PIRLS 2016 *parents like reading* scale score is significantly ($p < 0.05$) lower than the score for this cycle.
Standard errors in parentheses. For countries with gray cells, the response rate to the questionnaire was below 80 percent.
*New Zealand in 2016 is the only instance of a response rate of less than 50 percent (47%).
Source: Table slightly modified from Table 1.3 in Hooper et al. (2020, p. 11)

Figure 2: Trend graphs of average parents like reading *scale scores (on a scale of 0–12)*



DISCUSSION

The combined results show a clear pattern of declines across many countries over the last 15 years in both parents' and students' self-reported attitudes toward reading.

Such descriptive trend analyses by themselves do not provide evidence that pinpoints the causes for the declines or possible remedies. However, given these results, educational systems with downward trends at fourth grade should reevaluate and potentially revamp school programs and curricula focused on instilling positive attitudes toward reading, and ensure practices are well aligned with research recommendations, such as providing a variety of relevant reading materials and allowing children to choose what they read (Guthrie & Barber 2019; Wigfield et al. 2004).

Interestingly, parents of fourth graders show a similar decline in positive attitudes toward reading, suggesting that it may also be necessary to promote reading among adults, especially given the known intergenerational transfer of liking of reading from parents to children. As most parents are currently out of school, instilling positive reading attitudes in adults may necessitate a more widespread campaign that could, for example, focus on encouraging library visits, book clubs, and other known adult literacy activities.

Finally, the alignment of these declines in reading attitudes and the concomitant growth in digital information raises questions about how the prevalence of new media, such as reading online newspapers, blogs, social media, and emails, may have influenced the results. Future research should examine the relationship between reading attitudes and the ever expanding mediums through which people read in this digital era.

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Prior to joining AIR, Dr Hooper was the assistant research director, TIMSS and PIRLS Questionnaire Development and Policy Studies, at the TIMSS & PIRLS International Study Center (2012–2018). Dr Hooper led the development of the context questionnaire surveys for these studies, co-authored the international results reports, and edited the *Methods and Procedures* technical reports.

Dr Hooper's research focuses on international and national large-scale assessments with expertise in survey development, analysis of survey data, and trend analysis. He was awarded the IEA's 2018 Bruce H. Choppin Memorial Award for outstanding dissertation. Dr Hooper has also worked as an adjunct professor of survey methods at Boston College.

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