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IEA COMPASS: BRIEFS IN EDUCATION

WHY BOYS MAY NEED MORE SUPPORT IN BUILDING THEIR READING MOTIVATION, CONFIDENCE, AND ENGAGEMENT



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SUMMARY

Using data from the 2016 and 2021 cycles of PIRLS (Progress in International Reading Literacy Study), this brief examines gender disparities of fourth-grade students in reading enjoyment, confidence, and engagement. It explores how parents' reading habits influence their children's reading performance. Our findings indicate that girls in general enjoy reading more than boys and display greater confidence in their reading abilities. Both enjoyment and confidence in reading show positive correlations with academic achievement in reading, although it is difficult to determine the direction of the relationship. Additionally, girls tend to read more frequently outside of school than boys. We also observe that parents' enjoyment of reading positively relates to their children's reading success, with female caregivers typically enjoying reading more than male caregivers. This means boys are less likely to have a male reading role model in the home. The majority of reading teachers are female, suggesting that boys are likely to lack male reading mentors in their school. This brief concludes by discussing the potential implications of these findings, proposing measures to enhance reading skills among boys, and identifying areas for further investigation.

IMPLICATIONS

- ▶ Enhancing boys' motivation, confidence, and engagement in reading is essential and should be emphasized in educational policy to foster their reading development.
- ▶ Pre-service and in-service teacher training needs to make teachers aware of the specific challenges that boys face and how gender norms affect their reading practices.
- ▶ Addressing boys' underachievement in reading at an early stage, starts with comprehensive support in early childhood education. Both teachers and parents/caregivers play pivotal roles in this effort.
- ▶ Providing boys with access to male role models and mentors can help break down prevailing stereotypes, boosting their interest in reading.

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INTRODUCTION

Proficiency in reading is a foundational skill essential for children to progress academically, achieve their personal aims, increase their knowledge and participate fully in society. Literacy empowers people by expanding their capabilities which in turn reduces poverty, increases participation in the labor market, and has positive effects on health. Yet, 89% and 94% of youth do not reach basic skills levels in South Asia and Sub-Saharan Africa, respectively (Gust, et al., 2024).

With regards to high- and middle-income countries, PIRLS 2021 revealed that in most participating education systems,¹ 85% of the students were able to read easy literary and informational texts. While this is a relatively high percentage, it leaves a considerable number of students in high- and middle-income countries who are still unable to read such texts, that is, the remaining 15% and even more in countries not meeting this threshold. Moreover, the COVID-19 pandemic negatively impacted reading achievement (Jakubowski et al., 2023; Patrinos et al., 2022). Further, boys were found to have on average, lower reading skills, by the end of primary school. This is an almost universal finding that has not changed in the last 20 years. In PIRLS 2021, girls performed better in reading in 51 of the 57 education systems that participated in PIRLS with an average difference of 19 points, which is a significant difference (Mullis et al., 2023). Significant gender gaps are still observed when looking at achievement based on different reading purposes; however, it is larger for reading for literary experience (22 points) compared to reading to acquire and use information (15 points). According to OECD (2023), gender differences in reading generally persist into later adolescence, a trend that was observed across multiple PISA (Programme for International Student Assessment) cycles.

The literature argues that reading achievement has been shown to be driven by reading attitudes and confidence and vice-versa (Petscher, 2010). Previous research has shown that girls report more positive reading attitudes than boys (Nonte et al., 2018). Findings by McGeown et al. (2015) show that enjoyment of reading develops at a young age. This underlines the importance of exposure to reading activities in early childhood to stimulate both girls' and boys' positive reading attitudes. Such activities can take place in early education and care settings, and in the family context. The involvement of parents in literacy activities with their children matters, notably as they can set a positive example by reading frequently themselves.

Also, parents' reading-related gender stereotypes favoring girls—such as beliefs that girls read better, read more, and have more fun reading—have been shown to affect particularly their sons' confidence and motivation in reading and in turn their achievement negatively (Muntoni and Retelsdorf, 2019).

Given the importance of reading skills for academic success in school and broader societal outcomes, boys' lower reading achievement is an important education policy concern.

Using IEA's PIRLS data, this brief addresses the following questions:

- ▶ Are there gender differences in the confidence in and enjoyment of reading?
- ▶ Are there gender differences in reading habits?
- ▶ Are there gender differences in parents' enjoyment of reading?

DATA

Examining results of the 57 participating education systems from the PIRLS 2021 reading assessment of fourth-grade students, our analyses are based on responses from students about their reading attitudes and habits. In addition, we use information about parents' reading attitudes taken

from 45 education systems that administered the home questionnaire in PIRLS 2016. The home questionnaire during the 2016 cycle allows disaggregated responses by gender of the caregiver.² This distinction was not possible in the PIRLS 2021 cycle.

RESULTS

▶ **Reading attitudes and habits outside of school are important correlates of reading achievement, with boys often falling behind in these aspects.**

Figure 1 presents the average reading achievement by different levels of reading attitudes or time spent doing reading activities. The results are presented for both boys

and girls and are connected by line to simplify the reading of the graph.

Figure 2 shows the percentage of boys and girls that respond to the highest category of reading attitudes or time spent doing reading activities. The averages in both figures,

¹ The word education systems is used here for the ease of reading to describe a country or a territory or a certain sub-group of a country that is participating in PIRLS.

² In the international version of the PIRLS 2016 Home Questionnaire, "caregiver" referred to mother/father, stepmother/father, grandmother/father, or guardian.

presented by gender, are calculated across all 57 PIRLS 2021 participating education systems. We first examine students' enjoyment of reading. The *Students Like Reading* scale uses student responses to eight items capturing their thoughts on reading and reading activities outside of school. Students that *very much like reading* have higher average reading achievement than students who either just *somewhat* or *do not like reading* (Figure 1). This relationship holds for both boys and girls. However, our analysis in Figure 2 shows that fewer boys (37%) *very much like reading* compared to girls (46%). This general pattern still holds after comparing boys and girls with similar reading achievement. The difference is statistically significant overall, as well as in 55 of the 57 participating education systems.

We next explore students' confidence in reading. The *Students Confident in Reading* scale captures information based on student agreement to six statements regarding how well they read. Again, we found a positive relationship between confidence and average reading achievement (Figure 1). Students who are *very confident* in reading had higher reading achievement, on average, than students who either are *somewhat* or *not confident* in reading. Note that the direction of the relationship cannot be determined from this analysis (i.e., are students more confident because of their higher achievement or do they have higher achievement because they are more confident?). There is good reason to assume it to be bidirectional. This relationship is consistent for both boys and girls, indicating that students tend to be quite good at judging their own reading ability as measured on the PIRLS assessment. We further find a gender difference in reading confidence. A higher percentage of girls (46%) were *very confident* about their reading ability compared to boys (40%). This pattern remains even after comparing boys and girls with

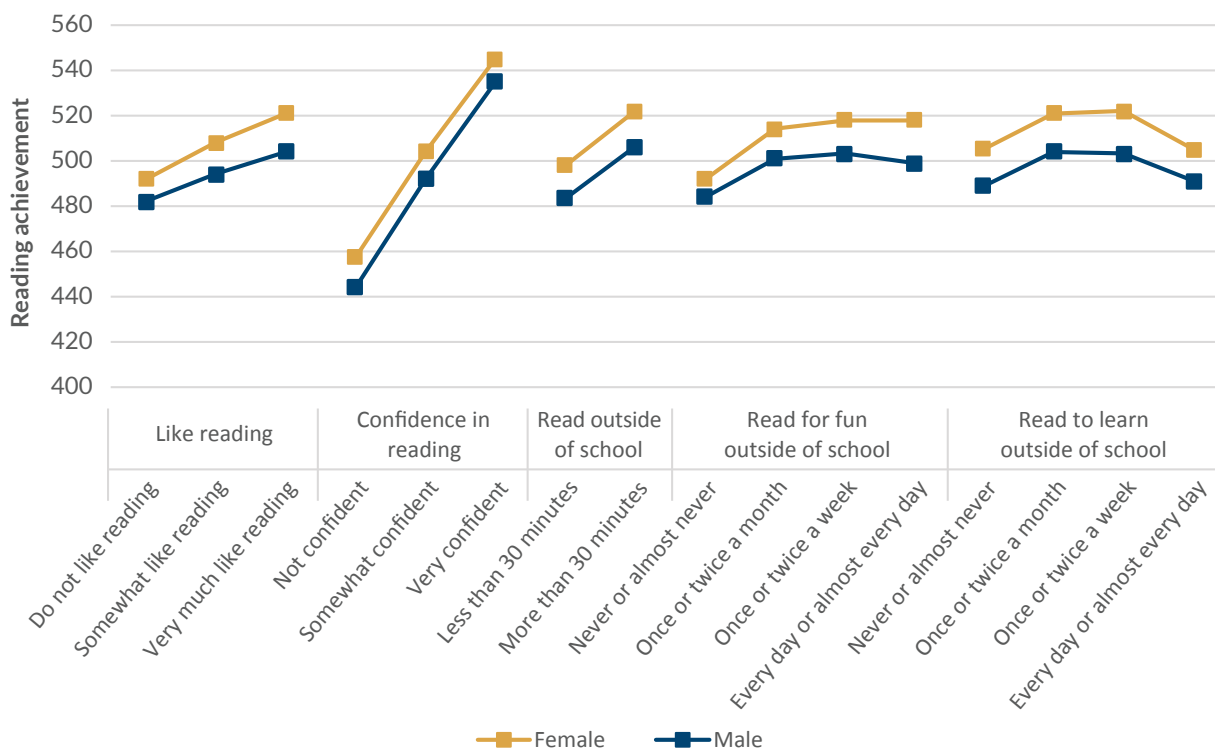
similar reading achievement. This difference is statistically significant in 42 of the 57 participating education systems.

Further measures capture students' reading habits outside of school: minutes spent reading on a normal school day, frequency of reading for fun, and frequency of reading to learn. The time spent reading outside of school positively relates to reading achievement. Specifically, students who spend *more than 30 minutes* reading outside of school on a typical day have higher average reading achievement than students who read *less than 30 minutes* (Figure 1). Students who read for fun at least *once or twice a month* have a higher average reading achievement than students who do these activities *never or almost never*.

The relationship between reading to learn appears to have a non-linear relationship with reading achievement. There appears to be a "U-shaped" relationship where students who read to learn either very little (*never or almost never*) or those who report doing it most often (*every day or almost every day*) score, on average, lower than those who do it *once or twice a week/month*. Students who report to *read every day or almost every day* could potentially include struggling readers who are aiming to get better at reading by spending more time doing so to learn outside of school.

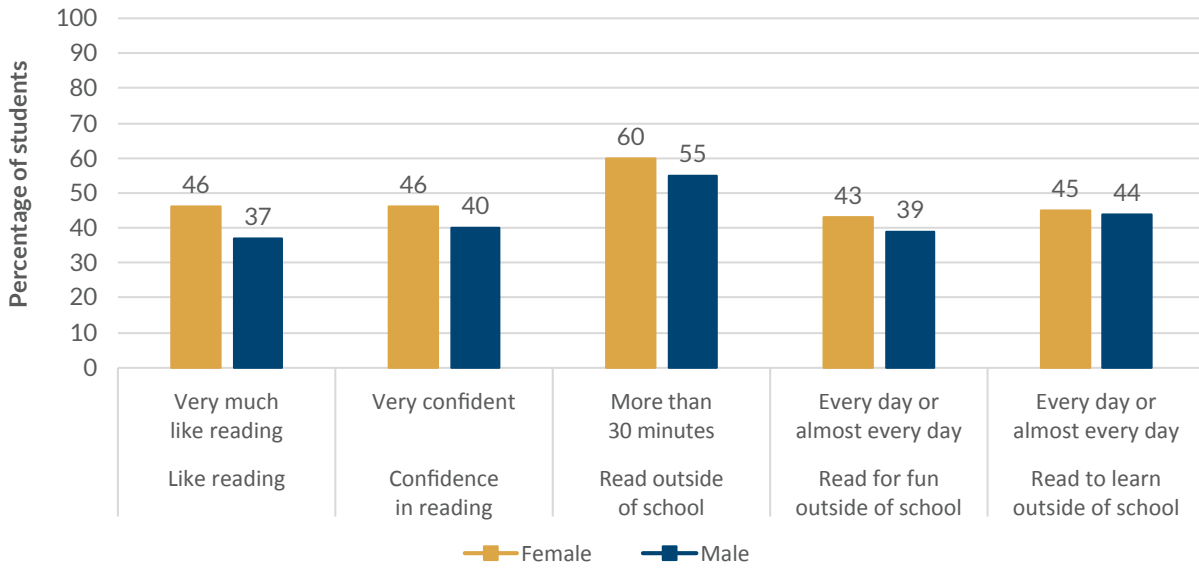
In light of these relationships, it is interesting to see that girls report engaging in reading activities more frequently outside the school environment than boys (see Figure 2). This difference is significant in 43 of 57 education systems for reading outside of school and 36 of 57 education systems for reading for fun. However, there is almost no difference in how girls and boys report on the frequency of reading for learning outside of school.

Figure 1: Average reading achievement by category regarding students' reading attitudes and habits by gender



► Source: Responses to the PIRLS 2021 Student Background Questionnaire

Figure 2: Percentage of students reporting specific students' reading attitudes and habits by gender



- ▶ Note: All differences presented here are statistically significant.
- ▶ Source: Responses to the PIRLS 2021 Student Background Questionnaire

► **A role model effect? Male caregivers enjoy reading less than female caregivers**

Based on responses in PIRLS 2016, caregivers' enjoyment of reading does relate to student achievement. The *Parents Like Reading* scale is based on home questionnaire responses to items related to reading as well as how often caregivers read for fun.

Figure 3 shows the average reading achievement of students based on their caregivers' enjoyment of reading. Students whose caregivers very much like reading have, on average, significantly higher reading achievement than students whose caregivers either only somewhat or do not like reading. Figure 3 does not focus on the different relationships of the different categories of the *Parents Like Reading* scale by students' gender; however, a separate analysis indicates that the patterns are similar for both boys and girls.

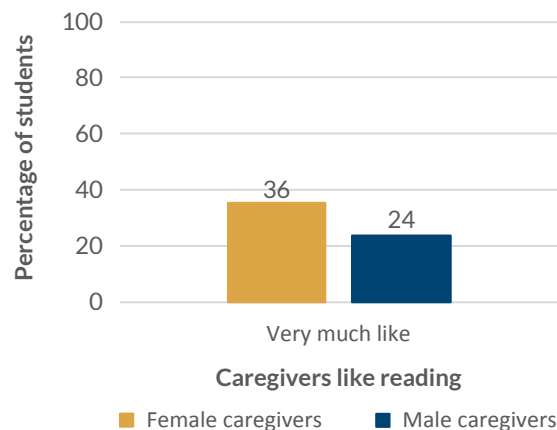
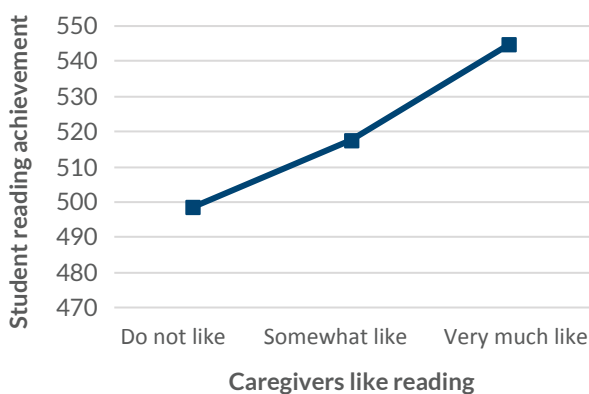
Analyzing responses by the gender of caregivers reveals that a lower percentage of students with a male caregiver responding to the home questionnaire had a caregiver reporting higher levels of enjoyment in reading compared to those students whose responding caregiver was female (24%

versus 36% very much like reading). This difference is observed and is significant in 39 of 44 education systems participating in PIRLS 2016. This suggests that boys are less likely than girls to have a male role model in the home who enjoys reading.

It should be noted that only 15% of students had a caregiver who identified as male respond to the home questionnaire, meaning that for almost six out of seven students female caregivers were involved in the completion of the home questionnaire. While this is a hint that traditional gender roles are still dominant in the PIRLS participating education systems, with, mothers or female caretakes most often taking care of school matters for their children, it also holds some potential for bias. We acknowledge that other male family members may be in the home to serve as role models who were not captured by the home questionnaire.

Another possible reading role model for students could be their reading teacher. However, when examining the data from PIRLS 2021, in 54 of 57 education systems, more than four out of five primary school students were taught reading literacy by a female teacher. Many boys in school do not have a male teacher who could serve as a positive same-gender role model for fostering reading habits.

Figure 3: Average student reading achievement and percentage of students by caregiver enjoyment of reading



- ▶ Source: Responses to the PIRLS 2016 Home Questionnaire

DISCUSSION AND CONCLUSION

Our results confirm earlier research showing that positive reading attitudes and confidence are important predictors of reading achievement, with girls having more positive attitudes, reading engagement, and greater confidence (Mullis et al., 2017 and McGeown et al., 2015). Despite marked gender gaps in reading and skills to boys' disadvantage, policy frameworks and programs rarely address the gender dimensions of this issue (UNESCO, 2022). Building boys' reading motivation, engagement, and confidence to help them develop their reading skills needs to become a policy priority. Working closely with teachers, parents, and communities will be key to achieving this.

Both pre-service and in-service teacher training programs need to provide teachers with the relevant pedagogy to increase children's reading skills and motivate both girls and boys. There are successful reading literacy programs improving children's reading literacy however, they do often not address the gender dimension specifically. Some programs engage critically with gender. The *Läslyftet* (Boost for reading and writing development) program, was implemented in Sweden from 2015 to 2020, aiming to increase children's reading and writing skills and strengthen teaching quality. Tasks were implemented in the form of additional activities and included reviewing text critically, paying attention to power and gender (OECD, 2015). Future programs should sensitize teachers to boys' specific needs, such as being more engaged in reading and motivated to read and take into consideration how reading-related gender stereotypes can favor girls. These approaches need to develop boys' love of reading. An example is the *Boys, Blokes, Books & Bytes* program in Australia, which involves men as positive role models and reading partners to develop a culture of reading among adolescent boys. This program had positive outcomes for the participants' reading skills and habits (OECD, 2015).

The relationship between children's reading skills and their enjoyment of reading is established early in life, and gender differences in early learning activities can have an impact on the development of reading competency (Muntoni and Retelsdorf, 2019). Research suggests that boys and girls generally have similar cognitive abilities, but differences in early learning experiences, including reading activities, may contribute to variations in reading competency between genders (McGinnity et al., 2022).

Parental beliefs and attitudes on gender can influence children's reading attitudes and outcomes (Muntoni and Retelsdorf, 2019). Moreover, as our own previous research has shown, parents tend to engage girls more in reading activities than boys (Hencke et al., 2023). Reading-related stereotypes and gendered practice not only affect boys' reading-related outcomes directly but also through the mediation of their own competence beliefs and motivation.

Programs engaging parents by providing reading materials and encouraging parents to read to their children can improve their literacy skills. Early reading for leisure has

shown to have a lasting effect on children's reading skills in 14 education systems worldwide regardless of their gender (OECD, 2012). In the United Kingdom, the Bookstart program gives free reading materials to parents of babies during their medical checks and parents of three-year-olds at nurseries and preschools. Students who benefited from the program achieved higher scores in reading tests (EU Read, 2021; OECD, 2012). In Germany, the *Lesestart* (Start to read) program cooperates with local libraries and pediatricians to distribute books and reading guides to parents of children aged 1–3. An evaluation showed that 62% of parents who receive the material from pediatricians increase the time reading to their children and 72% of participating libraries acquired new books for children aged 1 to 3 (Lesestart, 2021; OECD, 2015). Another example is the *We Love Reading* program in Jordan, which aims to foster positive reading attitudes among children and their parents through the establishment of libraries run by women of the community in every neighborhood. The involvement of parents, has shown to be beneficial to all children's engagement in reading and to the boys' development of positive masculinity and learning to respect women in leadership positions (UNESCO-UIL, 2021). More programs should sensitize parents to the gendered dimensions of reading and target male caregivers, given their important role model function for boys, while also sensitizing mothers on boys' specific needs.

Exposure to male role models and mentors can also dismantle stereotypes and increase boys' motivation to learn. Boys who do not conform to rigid norms regarding male identity face discrimination which can impact on their participation and learning (GLSEN, 2019). For example, a case study on a school in Chile (Olavarria et al., 2015) found that young people consider reading to be an unsuitable, feminine activity for men, and boys who show interest in reading are often mocked, which discourages them from doing so. In the Caribbean, academic pursuits can be considered "feminine," and if success in particular subjects—such as reading—does not align with masculine norms and expectations then boys may well reject them, impacting negatively on achievement (Jha and Pouzevara, 2016). Effective interventions need to challenge these norms. The Premier League Reading Stars program was implemented in England, using role models from football to engage boys and girls who are interested in football in reading and improving their literacy skills. Administered by teachers and school librarians, football stars shared their passion for reading over 10 weeks. The program improved participating children's reading confidence and significantly impacted reading autonomy, frequency, competence, and achievement (Wood et al., 2016).

Male caregivers and teachers can also play an important role in shaping boys' reading habits. Recent research suggests that boys model their masculinity and behavior after that of their male caregivers (Perales et al., 2023). If male caregivers and teachers convey their interest in reading and engage boys, boys' confidence of and enjoyment in reading could increase.

In sum, multi-level interventions addressing teacher preparation, school- and teacher-related factors, as well as parental involvement could be promising.

This brief raises important questions for further research. How can reading programs be effectively tailored to the

specific needs of boys? Also, our analysis did not look into specific areas of reading, such as digital media. Do boys enjoy reading digital content more? Are they more confident in using digital devices for reading? When it comes to teachers, do boys with male reading teachers perform better in reading?

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