



Ugandan pre-primary and primary education through a gender equity lens

In Short

- The 2021 Uwezo data shows that, on average, the proportion of Ugandan girls of pre-primary and primary school age (3-14) with literacy and numeracy competence is slightly higher than boys.
- This difference exists in the midst of a significant learning crisis for both boys and girls, with the majority of children unable to read a short sentence in English or do simple subtraction exercises.
- Learning outcomes must be improved, and policies that have improved pedagogy have been effective at raising girls' learning outcomes.
- Despite better enrollment and learning outcomes than their male counterparts at national level, girls in the country are still facing other challenges to engage with the education system.

Introduction

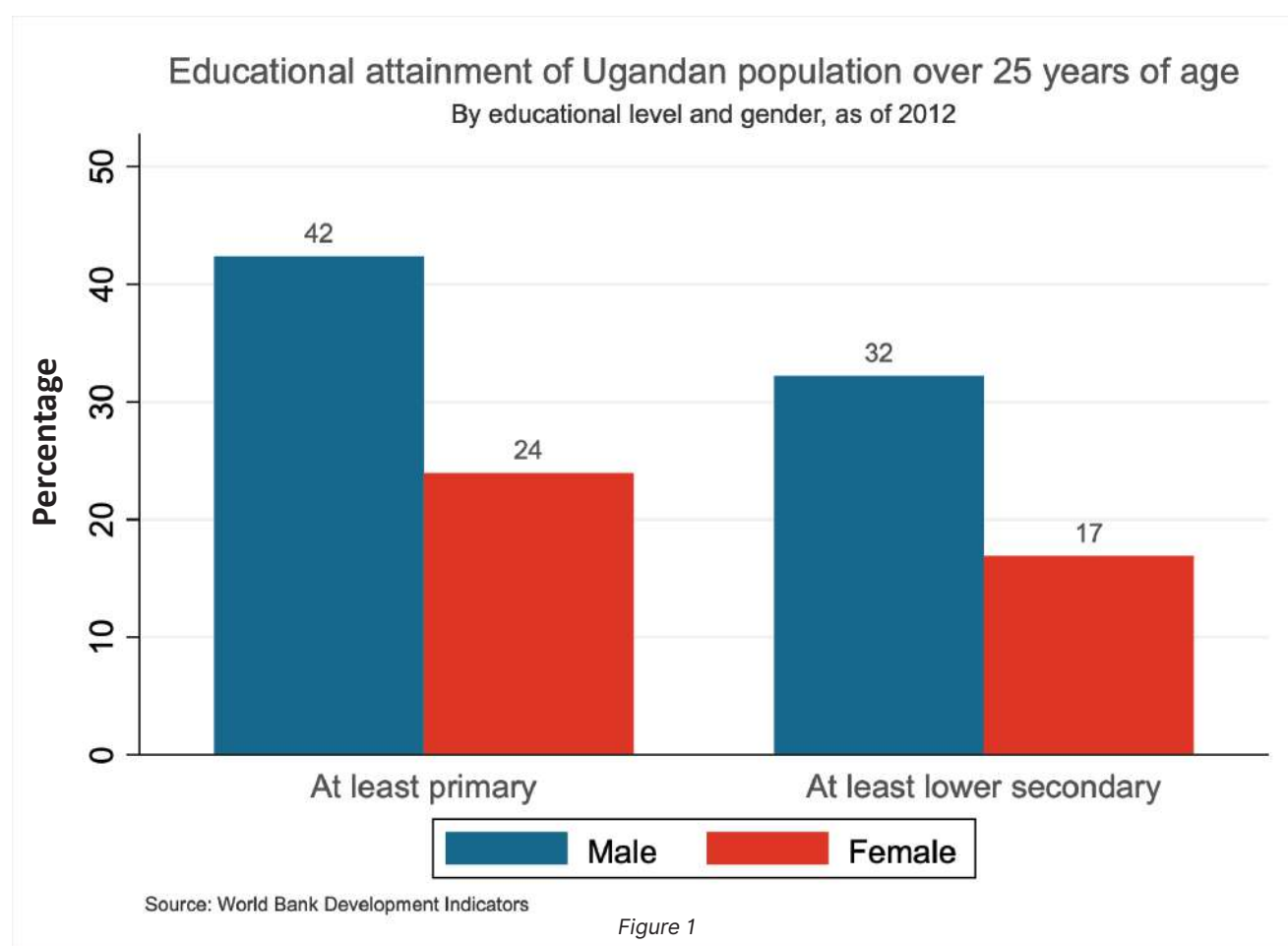
Gender equality is a cornerstone of thriving communities. Providing all citizens with equal access to economic, political, and social opportunities, regardless of gender, is a fundamental mandate of prosperous societies. Given that education plays a pivotal role in driving economic growth and facilitating social mobility, it is essential to ensure that educational systems deliver similar outcomes to both boys and girls to ensure that everyone benefits

equally from school, and that in doing so, education also serves as a conduit towards greater gender equality. The current brief explores past and recent trends in gender gaps within the Ugandan education system. To do so, we use the latest round of Uwezo data (2021) and provide seven insights into similarities and differences between pre- and primary-aged boys and girls in terms of their mastery of foundational skills at the national level.

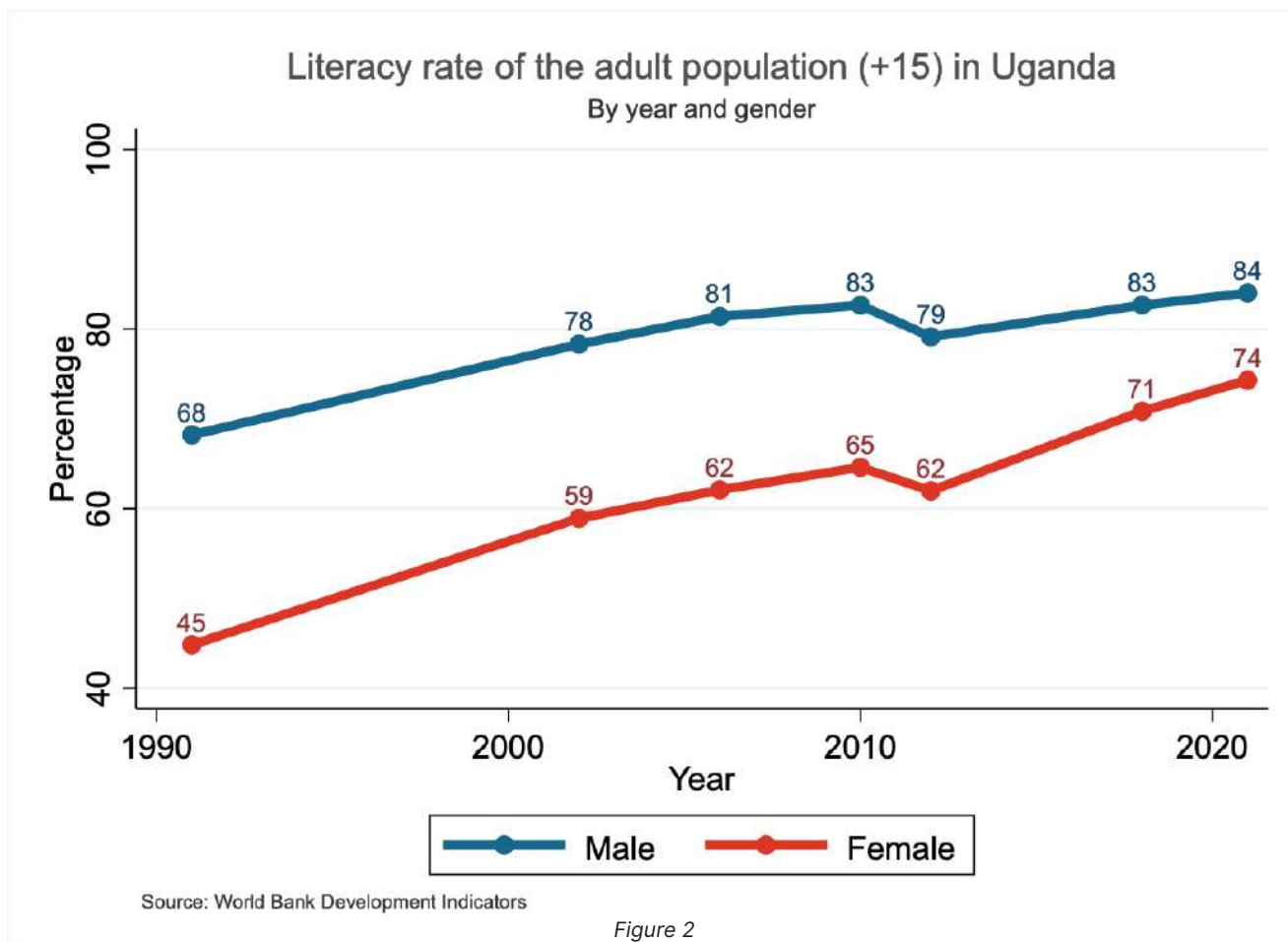
National trends in gender gaps over the past decades

1. Gender inequality has long roots in the Ugandan education system

Historically, access to education in Uganda has heavily favoured males. For example, in 1975, there were two boys enrolled in primary school for every girl in the country. These imbalances still have serious repercussions on the educational achievement of the current adult population. Even as recently as 2012, there was still a gap of 18 percentage points in the share of adults who had finished at least primary school in favour of adult males (Figure 1). Similarly, adult men were 15 percentage points more likely to have finished at least lower secondary schooling, nearly twice as much, than their female counterparts.



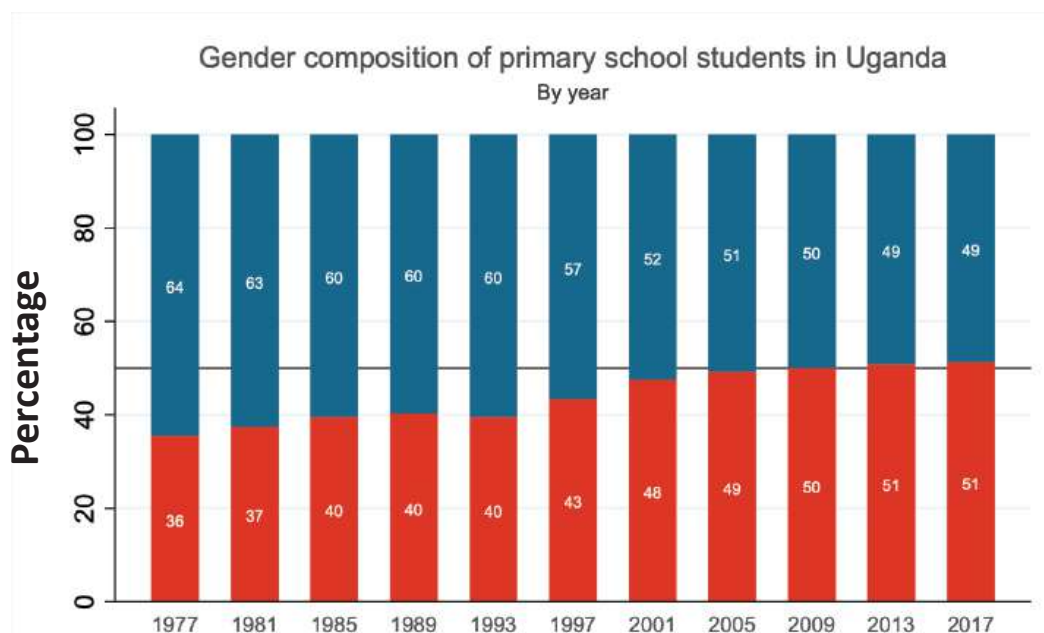
Similarly, although literacy rates have been steadily rising for all adults aged over 15 years in Uganda in the past few decades, there is still a 10-percentage point gap in favour of men (Figure 2). Although this gap is currently the narrowest it has ever been—for example, in 1991, it was as large as 23 percentage points, it still implies that as of right now, there are approximately 800,000 more literate adult males than females in the country. This disparity not only has detrimental effects on the economic and social agency of adult women in society but can also affect the educational experience of younger generations who might not have a literate adult to support them in their own schooling experience.



The gaps in educational attainment and achievement among the Ugandan adult population reveal the deep-seated roots of gender inequality within the educational system, specifically through the disadvantages experienced by women during their formative years, which in turn lead to lasting impacts on their adult lives.

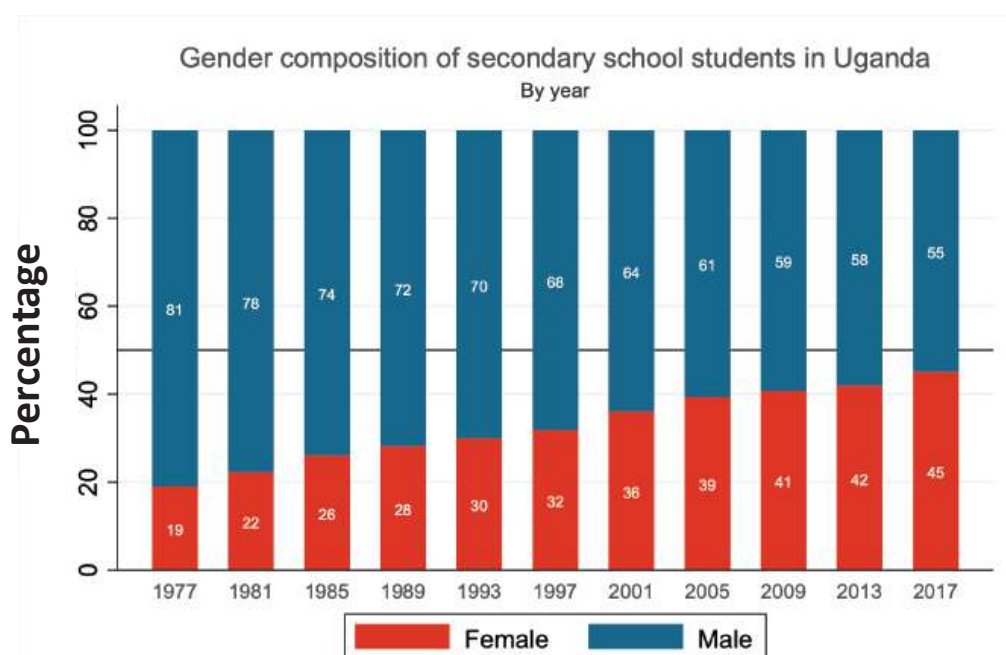
2. Significant progress advancing gender equity has been achieved over the past two decades

Uganda has made significant progress towards achieving greater gender equity in the education system over the past two decades. For instance, the gross enrollment rate of girls in primary school has recently achieved full parity with, and even exceeded, that of boys (Figure 3a). This is particularly impressive given that, less than 50 years ago, only one in three of primary school pupils was a girl. Although the gross enrollment rate of girls in secondary school has not yet achieved full parity (Figure 3b), it has been steadily increasing over the past five decades. For example, in 1977, there were four boys for every girl in secondary school, but by 2017, there were only 1.2 boys for every girl enrolled in secondary school. Given the high and increasing enrollment rates of girls in primary school, it is likely that the enrollment gap between boys and girls in secondary school will soon close among the younger cohorts as they reach that level.



Note: values estimated from the gender parity index on gross enrollment for the respective year and educational level, according to the World Bank Development Indicators

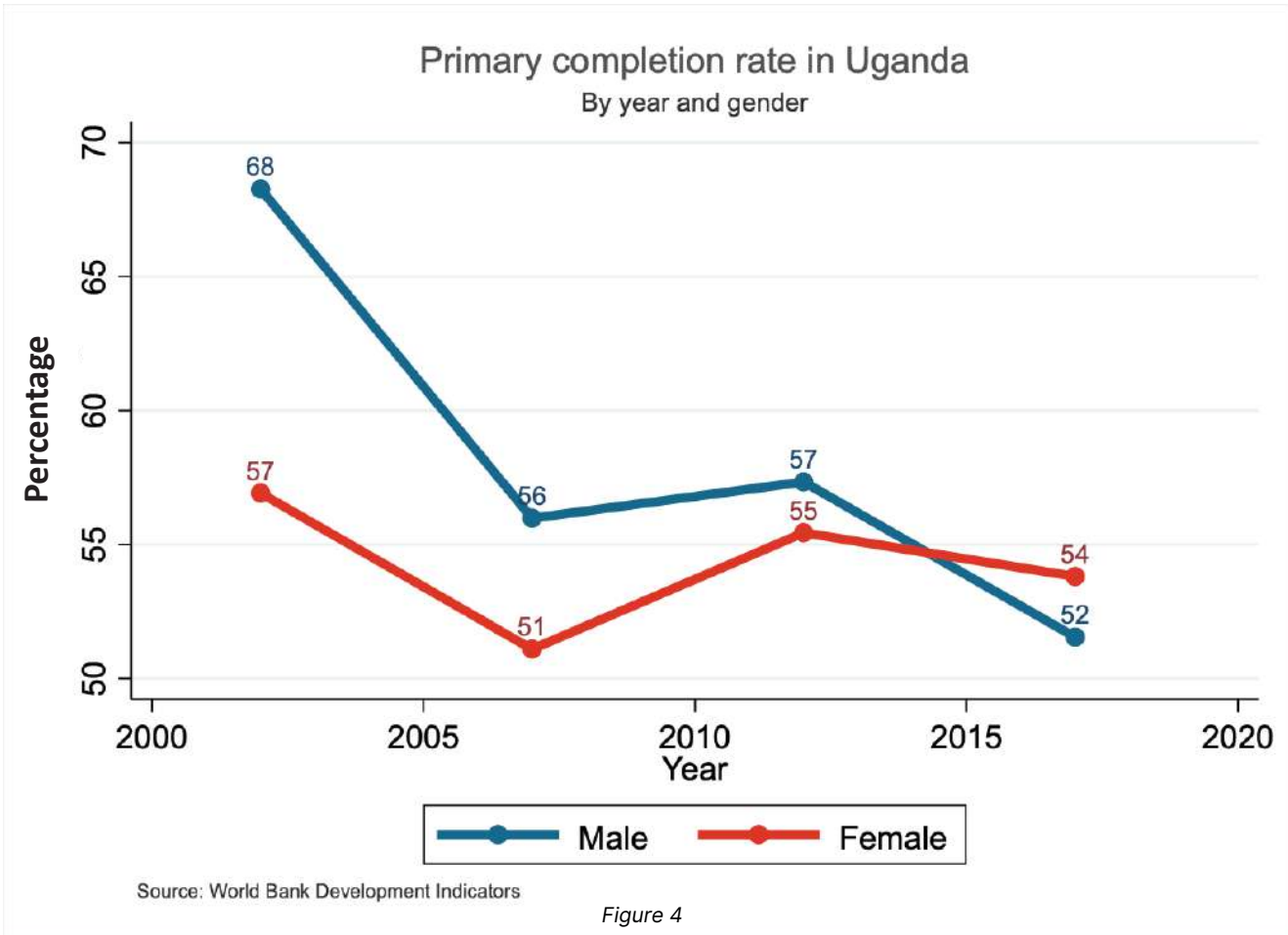
Figure 3a



Note: values estimated from the gender parity index on gross enrollment for the respective year and educational level, according to the World Bank Development Indicators

Figure 3b

Importantly, not only are girls enrolling in primary school at historically high levels surpassing their male counterparts, but they are also completing primary school at higher rates. In 2002, boys were completing primary school at a rate that was 11 percentage points higher than girls. That means for every 100 female graduates, there were 119 male graduates. However, by 2017, the gap had reversed to being 2 percentage points higher for girls than boys. Interestingly, a large part of the narrowing of this gap comes from the fact that the primary completion rate for males has decreased significantly over the past two decades, while for girls, it has decreased only marginally. Although additional research must be conducted to uncover the causes for this decrease in completion rates, one can speculate that a combination of a decline in educational quality over time (similar to those documented in Le Nestour et al., 2022), and an increase in the number of primary school pupils by 1.5 million —likely leading to a skew in the student body composition towards pupils from more disadvantaged backgrounds— have played a role in this trend.



In all, these facts about greater female participation in primary education over the past decades are encouraging, but they also call for a deeper inquiry of whether learning outcomes for girls have also been at pace with those of their male counterparts. The following section explores this question in greater depth.

Differences in learning outcomes by gender in the Uwezo data

To examine differences in learning outcomes between boys and girls, we use data from the Uwezo household-based learning assessment and survey conducted in 2021. Our analysis focuses on children aged 3-14, which is the intended age range for pre-primary and primary education, regardless of enrollment status. This age group is highly policy-relevant due to its large size and is also a major focus of the Uwezo data collection effort. For detailed information on the sampling methodology, please refer to the Uwezo National Learning Assessment Report, 2021 (Uwezo, 2021).

3. Girls in Uganda are displaying similarly low learning outcomes as boys

Fewer than one in two children of ages 10-14 in Uganda can read at least a short word in English and do simple subtraction exercises. Therefore, when discussing relative differences in performance between boys and girls in the country, it is important to first acknowledge the deep learning crisis that the vast majority of Ugandan children experience — regardless of gender. In this sense, while the following set of findings acknowledges that there are certain differences in performance between boys and girls, it is key to remember that these gaps exist in the midst of deeper learning deficits that curtail children’s potential across the board.

When examining differences in learning outcomes between boys and girls in Uganda, one of the most robust findings from the Uwezo data (2021) is that, on average, girls' learning outcomes in the country are at least equal to, and often exceed, those of their male counterparts (Figure 5). In fact, girls are —for the most part— outperforming boys in English, maths, and local languages. Importantly, this pattern remains largely the same after controlling for factors like the age of the pupil, the years of preschool attended, whether their mother went to school, and the type of school attended, among others (Annex Table 1). In other words, even when comparing children with similar household and school characteristics, girls still perform better on literacy and numeracy than their male peers.

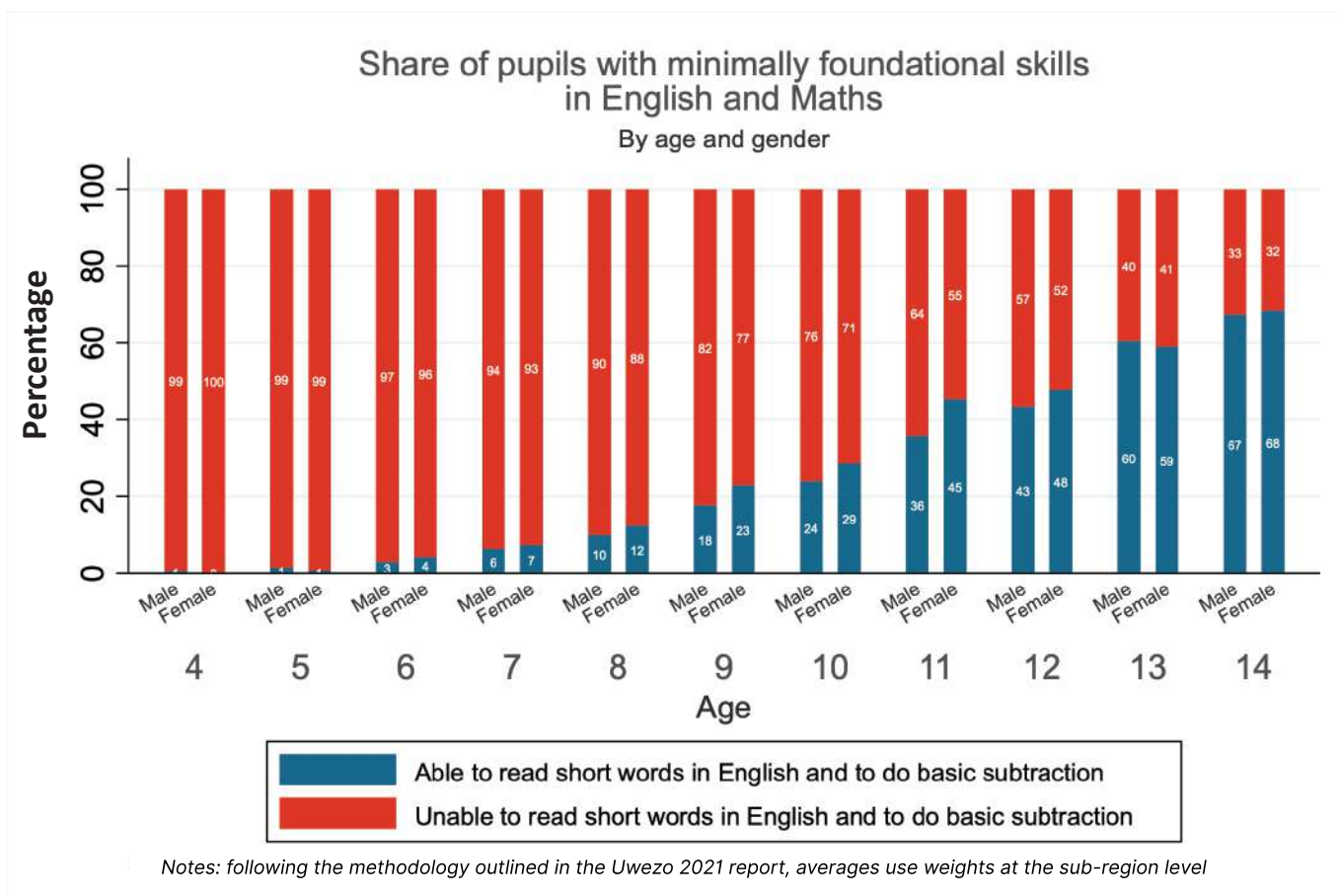
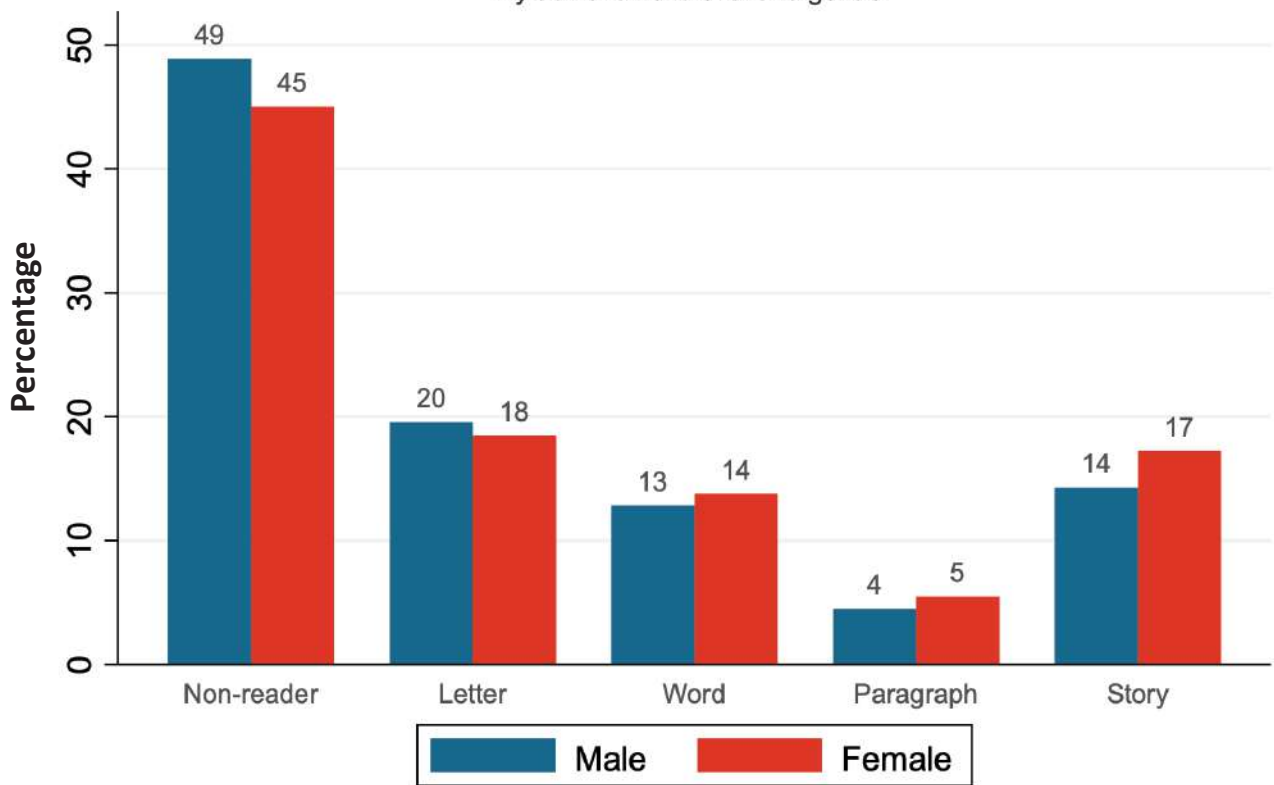


Figure 5

These gaps in favour of girls are not only statistically significant but also meaningful in terms of their magnitude. For instance, in numeracy, girls are typically about three months ahead of boys; while in English and local language literacy, they are ahead by approximately half a year (Annex Table 1). As Figure 5 shows, these differences are observable across most age groups, with some evidence suggesting that the gaps may be more pronounced for middle and upper primary school-aged children, that is, between the ages of 9 and 12.

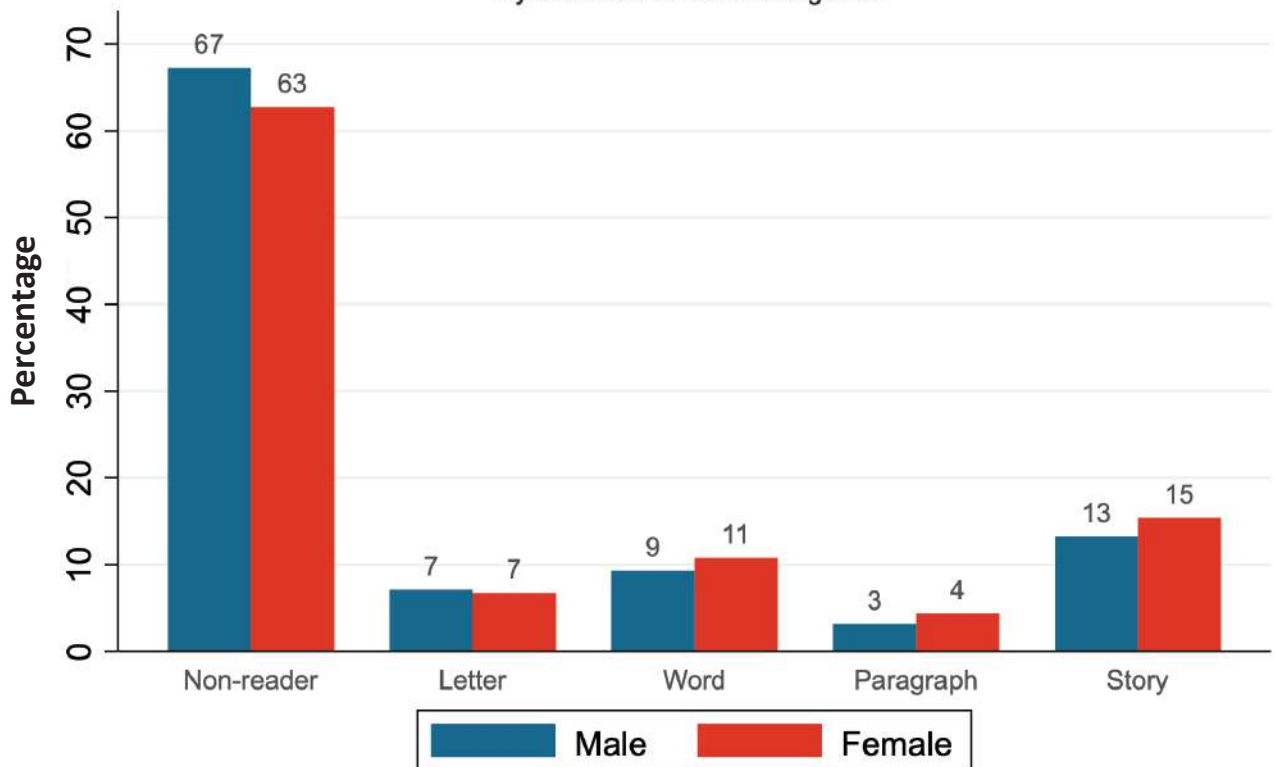
Furthermore, these average gaps in favour of girls can also be broken down into finer levels to better understand which parts of the performance distribution contribute the most to the overall differences. As shown in Figures 6a-6c, the biggest differences between boys and girls are concentrated at both ends of the performance distribution, particularly the lower end. For instance, while females outperform males in the English word and paragraph levels —that is, the "middle range" of the skills assessed in Uwezo— by 1 percentage point, males are 4 percentage points more likely to be non-readers and 3 percentage points less likely to be able to read stories. A similar pattern is observed for local languages, where girls outperform boys by 1-2 percentage points on words and paragraphs but are 4 percentage points less likely to be non-readers. For numeracy, this pattern is less pronounced, likely due in part to the fact that the average gaps in numeracy are also smaller. However, even in numeracy, girls are 3 percentage points less likely to be innumerate and 2 percentage points more likely than boys to reach the highest assessed level, i.e. division.

Distribution of English performance among children age 3-14 By achievement level and gender

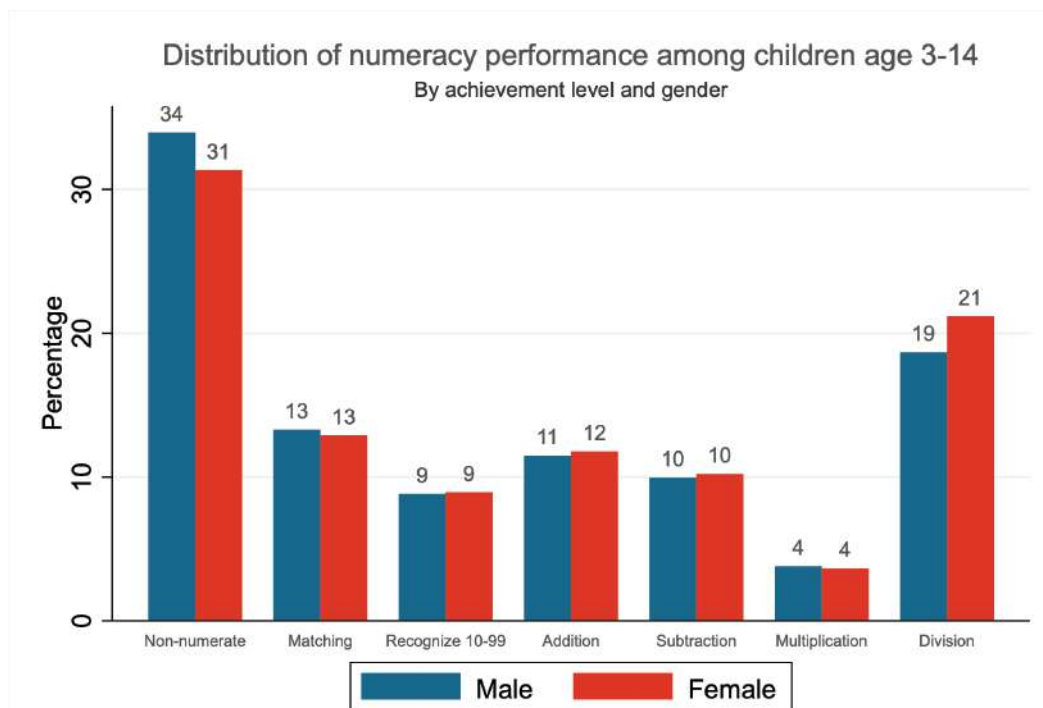


Notes: following the methodology outlined in the Uwezo 2021 report, averages use weights at the sub-region level
Figure 6a

Distribution of local language performance among children age 3-14 By achievement level and gender



Notes: following the methodology outlined in the Uwezo 2021 report, averages use weights at the district level
Figure 6b



Notes: following the methodology outlined in the Uwezo 2021 report, averages use weights at the sub-region level

Figure 6c

The gaps in learning outcomes between boys and girls cannot be explained by differences in enrolment rates, as both groups report similar enrolment rates in this dataset, consistent with other sources such as the World Development Indicators (World Bank, 2023). Specifically, 90% of all children ages 3-14 in the Uwezo data report being enrolled in school, with no significant difference between boys and girls.

Girls do appear slightly more likely than boys to enrol in private schools. For every 100 boys aged 3-14 enrolled in private schools in Uganda, there are 107 girls of the same age group also enrolled in private schools. However, the gaps in learning outcomes discussed above remain largely unchanged when controlling for pupil- and school-level factors, including school ownership type. Therefore, it is unlikely that the differences in performance are caused by girls enrolling in private schools at a slightly higher rate than boys.

Another interesting pattern emerging from the Uwezo data is that girls display more age-appropriate grade progression than boys. Specifically, out of all children surveyed ages 3-14, girls are three percentage points more likely than boys to report being enrolled in a grade that is appropriate for their age, and after age 8, this gap is maintained across the

rest of the age range. Although this difference is meaningful and statistically significant, both groups have a fairly low starting point: only 24% of boys display grade-appropriate progression, and only 27% of girls do. Furthermore, this gap seems to be fully explained by overage children, not underage children. In other words, there is no difference between boys and girls in the share of children enrolled in a grade that is too advanced for their age, but girls are three percentage points less likely than boys—who are overage in their respective grades 67% of the time—to be enrolled in a grade that is too 'young' for their age, and this difference is also statistically significant.

One might wonder whether the mechanism behind this pattern is that lower learning outcomes for boys lead to more grade repetition, or the other way around. While it is a matter worthy of further research, it is valuable to note that in Primary 1, boys and girls have the same age profile (11% underage, 52% overage, 37% appropriately placed) and the gap in learning outcomes is only a fraction of what it is for children in subsequent grades. More specifically, the difference between boys and girls in Primary 1 is only one third of what it is in the later grades in English, and in numeracy there is virtually no difference between the two groups in Primary 1.

¹ More specifically, using a linear probability model regressing an indicator for enrolment status on a dummy variable for female children (using weights at the sub-region level, and clustering standard errors at the enumeration area-level) results in girls being 0.8 percentage points less likely to be enrolled, and this coefficient does not achieve statistical significance.

² Given that the age variable is coded in years (as opposed to a more exact date of birth), for anonymity purposes, age-appropriate grade progression is coded as 1 if a child is, for example, 6 or 7 years of age, and enrolled in Primary 1, 7 or 8 and enrolled in Primary 2, etc.

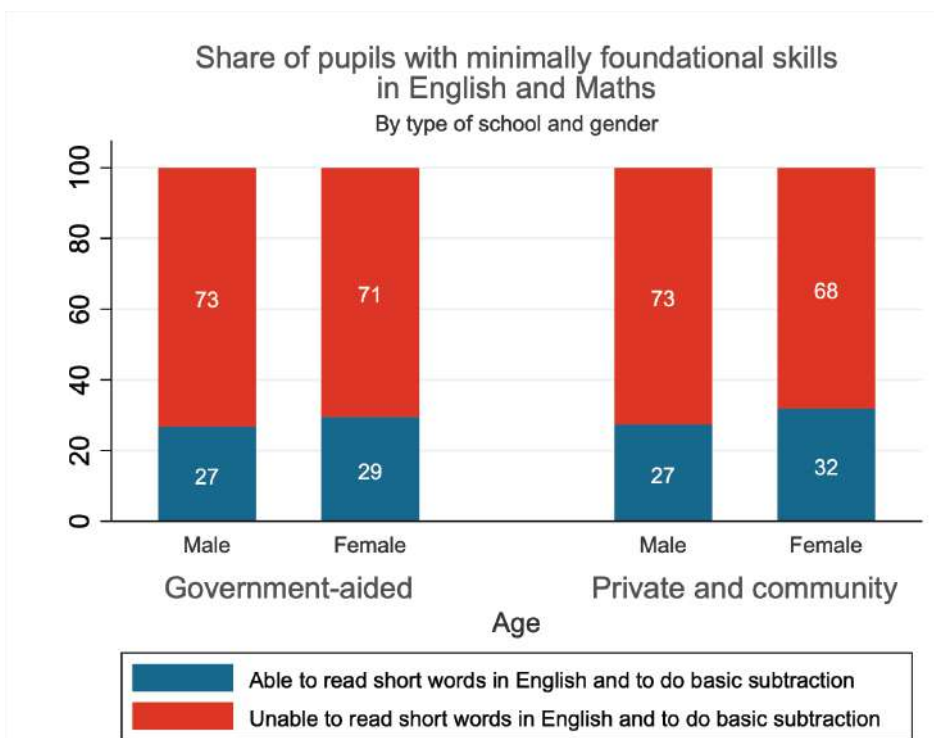
By Primary 2, the more significant gaps in appropriate grade progression and learning outcomes start to emerge. This implies that, to a certain extent, these gaps in grade progression are indeed correlated with learning gaps, and that appropriate grade progression might be, at least partly, due to differential learning outcomes.

4. The gaps in learning outcomes in favour of girls are larger in private schools than in public schools

Girls in both public and private schools are, in relative terms, outperforming boys. However, these gaps are larger in private schools than in public schools. For example, while girls in private schools are 5 percentage points more likely to be able to read short words and do subtraction exercises than their male counterparts, this gap is only 2 percentage points in public schools (Figure 7). Similarly, while girls in private schools are ahead of their male counterparts by almost seven months in literacy and five months in numeracy, in public schools, they are only ahead by almost six and three months, respectively.³

rules out the possibility that perhaps girls are enrolling in private schools that are, on average, of higher quality than the public schools that boys are enrolling in, and that this is driving the gap in learning outcomes. However, it is also the case that the learning gap in favour of girls is larger in private schools. Although further research is required to better understand this pattern, this fact is compatible with potential mechanisms like high-performing girls enrolling in private schools at a higher rate than high-performing boys, and/or private schools being particularly effective for girls.

As discussed before, the differences in enrolment patterns of boys and girls in private schools do not explain the average gaps in learning outcomes between the two groups. In other words, this analysis



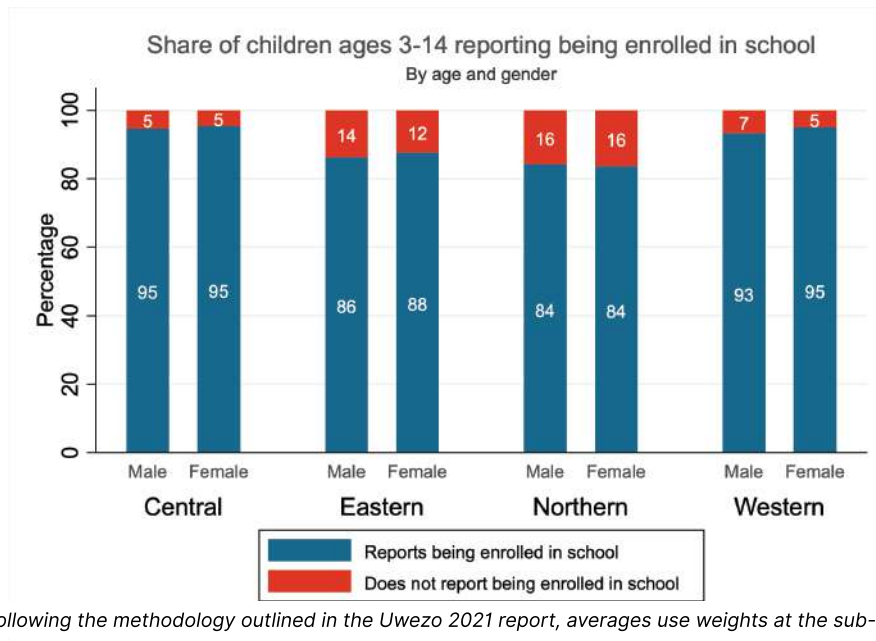
Note: following the methodology outlined in the Uwezo 2021 report, averages use weights at the sub-region level

Figure 7

³ For English literacy, girls in private schools display an advantage of 0.12 standard deviations (SD) (statistically significant at the 1% level) over their male counterparts, while this gap is only 0.08 SD (statistically significant at the 5% level) in public schools. The respective growth gradients (average year-on-year increase) were 0.22 SD and 0.17 SD. For numeracy, girls in private schools display an advantage of 0.09 SD (statistically significant at the 1% level) over their male counterparts, while this gap is only 0.04 SD (not statistically significant) in public schools. The respective growth gradients (average year-on-year increase) were 0.22 SD and 0.19 SD.

5. The Northern region is lagging behind in terms of gender equity on learning and enrolment outcomes

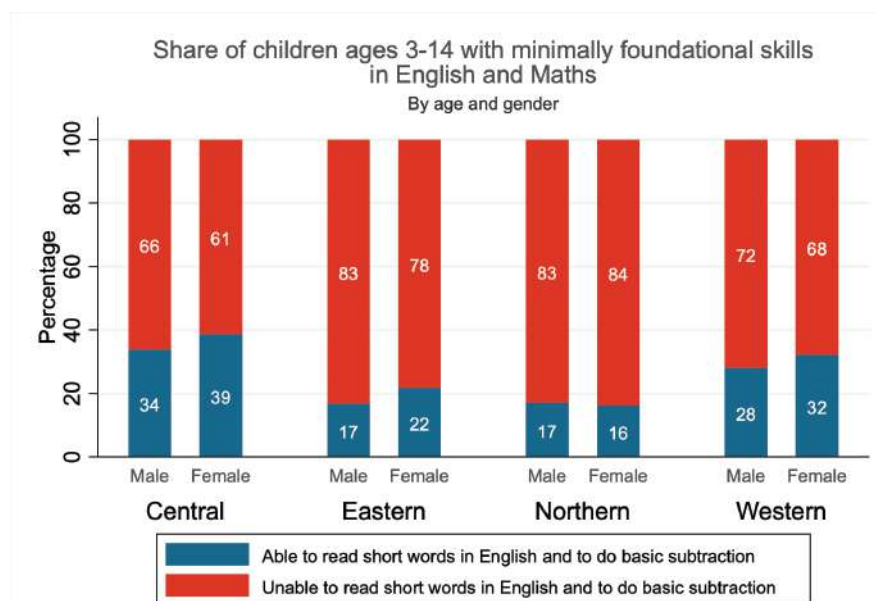
While girls appear to have higher learning outcomes and enrolment rates on average across the country, there is some regional variability worth highlighting. In particular, in the Northern region of the country, girls are still enrolling at the same rate as their male counterparts, which is significant as this is also the region with the highest rate of non-enrolment overall (Figure 8a).



Note: following the methodology outlined in the Uwezo 2021 report, averages use weights at the sub-region level

Figure 8a

A similar pattern is observed for learning outcomes: while girls are 5, 5, and 4 percentage points more likely than boys to be able to read short words and do simple subtraction exercises than boys in the Central, Eastern, and Western regions, they are 1 percentage point less likely than boys to reach this benchmark in the Northern region. This is also coupled with the fact that the Northern region also displays on average the lowest learning outcomes overall, which puts girls in the region at a further disadvantage relative to other groups in the country.



Note: following the methodology outlined in the Uwezo 2021 report, averages use weights at the sub-region level

Figure 8b

Looking forward

6. Beyond learning, girls in Uganda still face challenges not shared by their male peers

The Uwezo data reveals that, in terms of learning outcomes, Ugandan girls on average do as well as their male peers and often outperform them. Coupled with rising enrolment and literacy rates among women, this fact is worthy of celebration given the severe barriers to education that previous generations of women in the country faced. However, the lack of gaps in learning outcomes along the gender dimension for children ages 3-14 does not indicate that girls have reached full equality in school. Girls still face many challenges on top of the issues that their male peers face in school. For instance, according to Psaki et al. (2018), girls might face

school-related gender-based violence, child marriage, and adolescent pregnancy, lack of safe spaces in school, poor menstrual hygiene management protocols, among other serious challenges that may hinder their education. In this sense, the significant gains in girls' education in Uganda during recent years—including the parity in learning outcomes documented here—should not be taken as the end of the journey but rather as an encouraging starting point to keep working towards greater gender equality in the country.

7. Learning outcomes are low for both boys and girls, and there is a need to develop policy that turns the situation around

The fact that girls in Uganda are displaying, on average, higher learning outcomes than their male counterparts does not mean that they have strong learning outcomes. One in three 10-year-old Ugandan girls is a non-reader in English, and over two in five cannot perform basic addition. The weak learning outcomes, even among girls, indicate that a substantial proportion of pupils have been in the public education system for many years but still struggle to solve basic learning exercises by the time they reach upper primary. This is a concerning situation that highlights a significant misalignment between pupils' competencies and the expected levels for their respective grades. Consequently, a large number of pupils have failed to keep pace with the increasingly demanding school curriculum, and without further intervention, the gap between their skills and the curriculum expectations will continue to widen, impeding their potential for future academic and personal development.

A recent review of the evidence (Evans and Yuan, 2022) explores the kind of interventions that have improved learning outcomes for girls in low- and middle-income countries. Surprisingly, the authors find that effective "general" interventions (i.e., not targeted only to girls) can be just as powerful at improving educational outcomes for girls as more targeted interventions. The authors note that while there are effective girl-targeted interventions,

governments might face political pressure to implement general programs, and as such, ensuring that the program itself is effective in general can also further girls' learning outcomes even if they were not specifically targeted.

Importantly, Evans and Yuan (2022) find that the most effective programs at raising learning outcomes for girls all targeted improvements to pedagogy. In other words, by ensuring that teachers are better equipped to deliver effective instruction to all pupils, policymakers can ensure that girls' learning outcomes also improve. In terms of improving access to school for girls, the authors find that interventions which lower the cost of education, via programs like the elimination of school fees, shortening the distance to school, or cash transfers, have been particularly effective, even if they are not specifically targeted towards girls.

While enrolment or learning gaps that favour boys are not currently evident in Ugandan education at the pre-primary or primary school level, there is still significant room for improvement in learning outcomes for both boys and girls. In this sense, improving education through effective policies—even if not specifically targeted towards girls—can lead to greater gender equality in the country and better educational outcomes for all Ugandans.

Annex

Table 1: difference in learning outcomes between girls and boys (age 3-14) on selected variables

Subject	Outcomes	[1]	[2]	[3]	Average yearly growth	Gender difference as a share of average yearly growth
Maths	Uwezo level (standardized)	0.06** (0.02)	0.04* (0.02)	0.05*** (0.02)	0.19*** (0.01)	26%
	Can do basic subtraction exercises	0.02*** (0.01)	0.01 (0.01)	0.01** (0.01)	0.08*** (0.00)	20%
	Observations	12520	9040	9040	12521	
English	Uwezo level (standardized)	0.10*** (0.02)	0.07*** (0.02)	0.08*** (0.01)	0.17*** (0.01)	48%
	Can read short words in English	0.05*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.08*** (0.01)	53%
	Observations	12573	9062	9062	12574	
Local language	Uwezo level (standardized)	0.10*** (0.03)	0.08*** (0.03)	0.09*** (0.02)	0.16*** (0.01)	55%
	Can read short words in local language	0.05*** (0.01)	0.04*** (0.01)	0.05** (0.01)	0.08*** (0.01)	61%
	Observations	4838	3541	3541	4838	
Aggregate outcomes	Can read short words in English and do simple subtraction exercises	0.03*** (0.01)	0.02*** (0.01)	0.03*** (0.01)	0.07*** (0.00)	40%
	Observations	12317	8910	8910	12318	
	Can read short words in English/local language and do simple subtraction exercises	0.03** (0.01)	0.03** (0.01)	0.03*** (0.01)	0.06*** (0.01)	46%
Observations	4698	3453	3453	3980		
Controls		N	Y	Y	N	
Enumeration area fixed-effects		N	N	Y	N	

Notes: each point estimate comes from regressing the outcome of interest on a binary variable equal to 1 if the pupil is a girl, and 0 otherwise. The list of controls include variables for the age of the pupil, years of preschool attended, indicators for different types of disability, an indicator for whether their mother went to school, an indicator for whether the pupil is displaying appropriate grade progression in school, and indicators for the type of school attended (public/private/community). All regressions use weights following the methodology outlined in the Uwezo 2021 report, where estimations with maths and English outcomes use weights at the sub-region level, and estimations that include outcomes for local languages use weights at the district level. Standard errors clusters at the level of the enumeration area, consistent with the sampling approach. Statistical significance as follows: ***p<0.01, **p<0.05, *p<0.10

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