

Uganda: Census-based Analysis of Disability Gaps in Educational Outcomes

Part 1 – Hearing difficulties

Chata Malé and Quentin Wodon

April 2023

Children with disabilities are at a disadvantage for schooling and learning. Ensuring that these children have better educational opportunities is a challenge, but also an opportunity as inclusive education brings benefits to all children, not only those with disabilities. The analysis in this brief is based on census data. These data have limitations, including the fact that they are somewhat dated, but they are still useful because larger samples allow for a more detailed analysis by type of disability than is feasible with other data (household surveys are also used for analysis in this series; on data sources on disability in Uganda, see Brief 2023-30).

Using a 10 percent sample of the 2014 census, Figure 1 provides district-level estimates of the prevalence of hearing difficulties among children ages 7 to 13, showing that it is much higher in some parts of the country than others. Nationally, the data suggest that 1.5 percent of children of primary school age suffer from hearing difficulties (with 6.4 percent of children of that age suffering from any type of disability, which is high). Note that children having some difficulties to hear are included (results only for children with a lot of difficulties



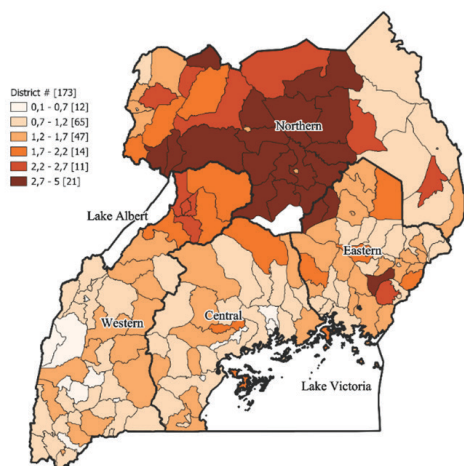
Background: This brief was prepared for a KIX Africa 19 Hub national policy dialogue in Uganda with a focus on inclusive education. KIX (Knowledge and Innovation Exchange) Africa 19 contributes to education systems strengthening in African anglophone countries by bridging the gap between research and policy making. With support from the Global Partnership for Education and Canada's International Development Research Center, KIX Africa 19 is managed by UNESCO IICBA.

Key findings: Using data from the latest available census (10 percent sample), this brief provides an analysis of educational outcomes for children with hearing difficulties.

- Nationally, census data suggest that 1.5 percent of children of primary school age suffer from hearing difficulties, with 6.4 percent of children of that age suffering from any type of disability, which is high. The prevalence of hearing difficulties is much higher in some parts of the country than others.
- Over time, disability gaps in primary completion rates, perceived literacy, and the likelihood of ever enrolling in school between children with hearing difficulties and children without any disability have decreased, but gaps remain.
- Regression analysis suggests that after controlling for other factors affecting educational outcomes, hearing difficulties remain associated with statistically significant losses in the likelihood of primary school completion, perceived literacy, and ever enrolling in school. If the analysis had considered only children with a lot of difficulties or who cannot hear at all, gaps would likely be even larger.
- While the data used for the analysis does not account for recent gains in educational outcomes, they suggest that exclusion related to disabilities remains an issue.

or who cannot hear at all are available from the authors). The question considered in this brief is to what extent hearing difficulties may affect educational outcomes. The focus is on primary school completion, perceived literacy, and the risk of never enrolling in school. Basic statistics are provided on disability gaps in educational outcomes by age. As older individuals may have suffered from a disability after the normal years of schooling, trends may not precisely reflect disability gaps that existed in childhood. Still, they help in suggesting changes over time. Regression analysis is conducted next to assess the potential impact of exclusion related to hearing difficulties on outcomes. The analysis broadly follows the approach used in Malé and Wodon (2017) and Wodon et al. (2018). Briefs are also available for other types of disability.

Figure 1: Prevalence of Hearing Difficulties, Children Ages 7-13



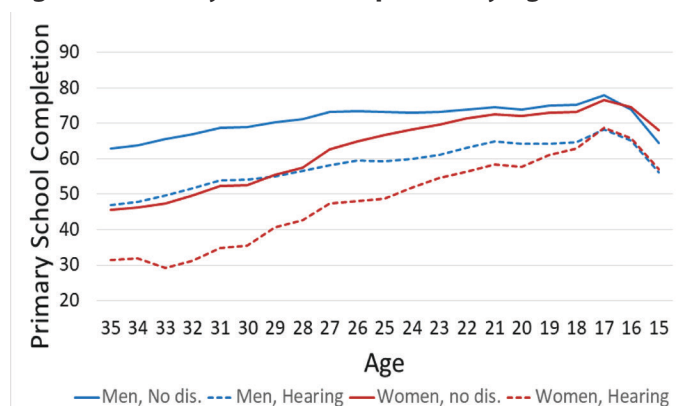
Source: Authors based on data from the Uganda 2014 census.

Disability gaps in primary school completion have decreased but persist

Figure 2 provides primary completion rates for individuals aged 15 to 35. Completion rates for younger children are not shown because they tend to be too low versus the likelihood of completing primary education at some point. This is because some children enter primary school late or repeat grades. Since the last census was implemented in 2014, estimates do not account for recent gains in educational attainment, but they are suggestive of changes over time in disability gaps. Four groups are considered: boys/men with no disability, girls/women with no disability, boys/men with hearing difficulties, and girls/women with hearing difficulties. Statistics are three-year moving averages to reduce jumps in the data when few observations are available for children with hearing difficulties. Completion rates at the primary level have increased over time since they are much higher for younger than older individuals. Over the period in review,

gender gaps in completion rates were essentially closed (such gaps however remain at higher levels of education). As to disability gaps in completion rates, they were reduced but gaps nevertheless persist.

Figure 2: Primary School Completion by Age (%)

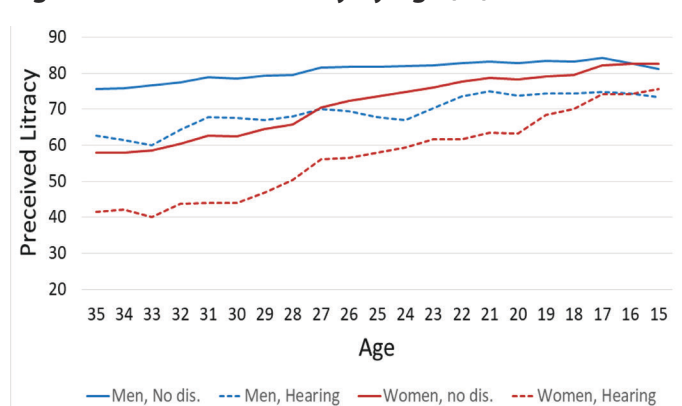


Source: Authors based on data from the Uganda 2014 CENSUS.

Similarly, disability gaps in literacy rate have decreased but persist

Figure 3 provides a similar analysis for perceived literacy. Perceptions of literacy are likely to lead to higher literacy rates than an actual reading and comprehension test, but the data are still useful to suggest changes over time in disability gaps for literacy. Findings are similar to those observed for primary school completion, namely there have been gains over time, gender gaps have been closed, but disability gaps persist even if they have been reduced.

Figure 3: Perceived Literacy by Age (%)



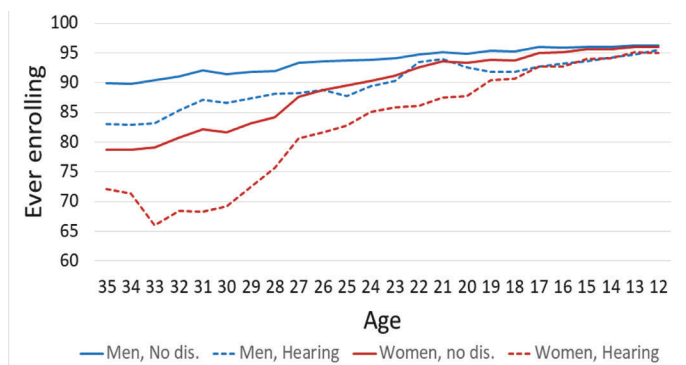
Source: Authors based on data from the Uganda 2014 census.

There have also been gains in the share of children ever enrolling in school

Disability gaps in primary school completion rates and perceived literacy may come from the fact that some children never enroll in school. Figure 4 provides estimates of the share of individuals who ever enrolled in school by age. The story is similar, with one caveat: there have been gains over time and gender gaps have been closed, but for

ever enrolling in school, disability gaps have also almost been closed since only small gaps persist for the youngest individuals in the Figure. This is a bit surprising, although as discussed below, the results are different when using regression analysis to control for other factors affecting outcomes. Recall also that individuals considered as having mild hearing difficulties are included in the groups with a disability. If the analysis had been restricted to individuals with a lot of difficulties or who cannot hear at all, larger disability gaps in ever enrolling in schools would remain.

Figure 4: Ever Enrolling in School by Age (%)



Source: Authors based on data from the Uganda 2014 census.

Regression analysis confirms the persistence of disability gaps

Table 1 summarizes key statistics for the youngest appropriate age groups. Recall that estimates are for the 2014 census, and therefore do not factor in recent gains in educational outcomes. The Table shows, for example, that the perceived literacy rate is 7.8 percentage points higher for boys without a disability than those with hearing difficulties.

Table 1: Disability Gaps for the Most Recent Age Group (%)

	Boys			Girls		
	No diff.	Difficulties	Gap	No diff.	Difficulties	Gap
Perceived literacy	81.2	73.4	7.8	82.7	75.6	7.1
Primary completion	64.5	56.3	8.3	68.0	57.0	11.0
Ever enrolling	96.2	95.5	0.8	96.0	95.0	1.0

Source: Authors based on data from the Uganda 2014 census.

Are these gaps the result of exclusion associated with a disability, or do they result from other characteristics that could be correlated with such a disability? To assess the potential impact of exclusion related to disability on

educational outcomes after controlling for other factors that may affect these outcomes, regression analysis is used. The term “impact” is used for simplicity (see Box 1). The analysis considers slightly larger age groups for sample size reasons. Regressions are estimated for (1) whether a child completed primary education (children ages 15 to 18 to allow time for completion); (2) whether a child is considered literate by parents (children ages 15 to 18); and (3) whether a child ever enrolled in school (children ages 6 to 11). While censuses have limits in terms of the variables that can be used as controls, many controls are still available (the list of controls is available from the authors).

Box 1: What Is Meant by “Impacts” of Exclusion Related to Disabilities?

The term “impact” is used for simplicity, but the analysis is based on correlations, and therefore need not imply causality. What is measured are statistical associations, and not necessarily impacts as could be observed with randomized control trials. Since a disability cannot be randomized, we rely on regression analysis to estimate likely impacts, but there is always a risk of bias. At the same time, the fact that we observe strong effects that are robust to various specifications does suggest, as expected, that exclusion related to disability persists.

Table 2 provides key results from the analysis for hearing difficulties and other disabilities for comparison purposes. When a coefficient is not statistically significant, this is indicated by NS in the Table. The interpretation of marginal impacts is in percentage points. For example, after controlling for other factors affecting outcomes, a child with hearing difficulties is 5.6 percentage point (coefficient of -0.056) less likely to complete primary education than a child with no disability. Typically, marginal impacts for hearing difficulties are smaller than the statistical gaps in Table 1, as expected. Still, these marginal impacts are almost always statistically significant, and some are large, especially for perceived literacy which may matter more for a range of outcomes later in life than primary school completion. To provide perspective, exclusion related to disability often leads to larger negative effects on educational outcomes than some of the other variables included as controls in the analysis. Surprisingly, for seeing difficulties, marginal effects are positive (see the discussion in the related brief).

Table 2: Marginal Impacts of Exclusion Related to Disabilities on Educational Outcomes

Difficulties	Primary Completion	Perceived Literacy	Ever enrolling
Seeing	0.056	0.015	NS
Hearing	-0.056	-0.057	-0.007
Mobility	-0.030	-0.048	-0.031
Mental	-0.071	-0.106	-0.018
Multiple	-0.150	-0.193	-0.113

Source: Authors based on data from the Uganda 2014 census.
 Note: All coefficients are statistically significant at the one percent level except the coefficient for seeing difficulties noted NS for Not Statistically Significant at the ten percent level.

Takeaways

Using data from the latest census, this brief considered gaps in educational outcomes for children with hearing difficulties in comparison to children without any disability. Nationally, 1.5 percent of children of primary school age appear to suffer from hearing difficulties, but that prevalence is much higher in some parts of the country than others. Disability gaps in primary completion rates, perceived literacy, and the likelihood of ever enrolling in school between children with hearing difficulties and children without any disability have

decreased over time, but gaps remain. Regression analysis confirms that children with hearing difficulties are at a disadvantage after controlling for other factors affecting educational outcomes. While the data used for the analysis does not account for recent gains in educational outcomes, they suggest that exclusion related to disability persists.

References

- Malé, C., and Q. Wodon. 2017. *Disability Gaps in Educational Attainment and Literacy*. Washington, DC: The World Bank.
- Wodon, Q., C. Malé, C. Montenegro, and A. Nayihouba. 2018. *The Challenge of Inclusive Education in sub-Saharan Africa*. Washington, DC: The World Bank.

Disclaimer & Acknowledgment

The analysis in this brief is that of the authors only and need not reflect the views of UNESCO, its Executive Directors, of the countries they represent, nor do they necessarily represent the views of the UNESCO International Institute for Capacity Building in Africa.