Estimate on lifetime schooling lost – accompanying note

The impact of COVID-19 on education

We are facing an education emergency. For the first time in human history, an entire global generation has had their education disrupted: at the height of the COVID-19 pandemic, over 1.6 billion learners were out of school. This will have a long-lasting, far-reaching impact on multiple levels. First, we know from previous crises that the longer children are out of school, the greater the risk that they don't return. In addition, students will suffer the consequences of stunted peer interaction – a vital aspect of development – since school is not only where children learn, but also where their social life unfolds. Finally, school closures will likely exacerbate gender inequality, since means years of schooling are usually lower for girls (this means that relative to their male peers, a lost year of school is a greater portion of their lifetime schooling) and, when faced with budget constraints, families often prioritize a son's education over a daughter's.

Methodology

Our analysis estimates the **total lost days of school worldwide as a percentage of lifetime schooling** since the onset of the COVID-19 pandemic. To do this, we used existing country data on school closures, number of school days in an academic year, mean years of schooling, and school-aged population (Table 1). Data on mean years of schooling and school-aged population is disaggregated by gender, as are the overall estimates.

- Data on **school closures** and **number of school days in an academic year** comes from UNESCO. At the time of using, the entire dataset spans 16 February 2020 to 31 May 2021; however, to calculate how many days are in an academic year, a portion of the dataset covering one full solar year is used (from 16 February 2020, when the dataset starts, until 15 February 2021).
- Data on **mean years of schooling** is taken from the UNESCO Institute for Statistics (UIS) and the World Inequality Database on Education (WIDE). In the WIDE dataset, the indicator is called 'mean years of education.'
- Data on **school-aged population** was drawn from the World Bank. The age brackets considered are 5-9 years old, 10-14 years old, and 15-19 years old.

Indicator	Source	Coverage	Level of analysis	Time period
School closures	UNESCO	Global	National level	16 February 2020 to 31 May 2021
Number of school days in an academic year	UNESCO	Global	National level	16 February 2020 to 15 February 2021
Mean years of schooling/education	UNESCO Institute of Statistics; World Inequality Database on Education	Global (118 countries, of which 117 disaggregated by sex)	National level, disaggregation by gender	Latest available value
School-aged population	World Bank	Global	National level, disaggregation by gender	2021

We consider a lost day of school a day in which *a student, who would otherwise have attended school, was physically not in school due to school closures*. This is reflected in the formula below, which was applied for every country:

Lifetime schooling lost = Lost days of school / (Mean years of schooling x number of days in an academic year)

For instance, if in country X the typical academic year has 250 days, students average 10 years of schooling in their lifetime, and schools were closed for 150 days, then students lost 6% of their lifetime schooling due to COVID-19. If in that country girls average 8 years of schooling, and boys have 12, then girls miss out on 7.5% of their lifetime schooling during that same timespan, while boys lose 5%. This also means that girls are disproportionately affected, as they miss out on 50% more lifetime schooling than boys do.

Lifetime schooling lost is calculated by country, income level, and region. The table below reports the latter, where the regional average is weighted by school-age population.

Region	Lifetime schooling lost, total	Lifetime schooling lost, boys	Lifetime schooling lost, girls	Delta between boys and girls
Sub-Saharan Africa	6.7%	6.1%	7.6%	23.8%
South Asia	7.7%	6.9%	8.9%	29.3%
East Asia and Pacific	4.1%	4.1%	4.2%	2.2%
Latin America and the Caribbean	10.1%	10.1%	10.1%	N/A
Middle East and North Africa	6.2%	6.2%	6.3%	1.6%
Eastern Europe and Central Asia (excl. Western Europe[1])	3.7%	3.5%	4%	14.4%
North America	0.2%	0.2%	0.2%	N/A
Western Europe	2.8%	2.8%	2.8%	N/A

A likely underestimate

As huge as the figures may appear, they're actually a remote best-case scenario. Indeed, results from calculations are most likely an underestimate. This is due to both the data sources and the assumptions we use in our model. In particular:

- Data on school closures worldwide is collected by UNESCO, the Centre for Global Development, and the World Bank. An important difference between them is that the UNESCO dataset is the only one where the status of school closures in a country is reported day by day – which is why we selected it for our model. A second difference between UNESCO and World Bank data is that they don't completely align on the status of school closures for selected dates in selected countries. Specifically, when UNESCO reports that schools in a country are fully or partially open on a certain day, the World Bank reports that they are closed (e.g., Indonesia, Egypt, Thailand). This means that using World Bank data in the model would have yielded a higher number of lost school days, and consequently of lifetime schooling lost, while UNESCO data yields a lower one.

- The UNESCO dataset groups schools in any given country into four categories: 1. on an academic break, 2. fully open, 3. fully closed due to COVID-19, and 4. partially open (meaning that some schools are open are some are not). While data is available on the number of children affected when schools are fully closed, this is not the case when schools are classified as partially closed. In the absence of a figure on the extend of the

---

[1] Western Europe = high-income countries in Europe and Central Asia.

Save the Children

closure (e.g., X% of schools, or Y% of children at home), we decided to treat partially open schools as fully open. If we decided to factor in partial school closures (for instance by assuming that the school system is operating at a 50% capacity on those days), the number of lost school days, and consequently of lifetime schooling lost, would be much higher.

- UIS and WIDE data on mean years of schooling/education sometimes varies. When that was the case, the higher value is used. If the lower figure had been used, this would have translated into a higher proportion of lost lifetime schooling.

- Available data suggests that the number of school days in a year might be overreported in some instances. The most blatant example of this is Angola, where 0 days are labelled as academic break in a full year (thus making the school year 365 days long). Without going to such extremes, in the UNESCO dataset, as many as 18 countries have less than 35 days of academic break, and of these, 8 are reported as having less than 25. By making the denominator of the formula above bigger, this likely overreporting downplays the actual percentage of lifetime schooling lost, which is higher the shorter an academic year is.

Save the Children