



© UNESCO/Diana Quintela

The teachers we need for the education we want

The global imperative to reverse the teacher shortage

Fact sheet

World Teachers' Day 2023 focuses on the need to reverse global teacher shortages, including how to improve the profession's appeal. This fact sheet aims to highlight new global and regional data on the number of teachers needed to meet the Sustainable Development Goals. It also explores the issue of attrition as an important factor in projecting future demand, its role in exacerbating teacher shortages and highlights several contributing factors. This analysis in turn can enable countries to develop improved policies that ensure the dignity and value of teaching as well as support and sustain qualified teacher workforces.

UNESCO - a global leader in education

Education is UNESCO's top priority because it is a basic human right and the foundation for peace and sustainable development. UNESCO is the United Nations' specialized agency for education, providing global and regional leadership to drive progress, strengthening the resilience and capacity of national systems to serve all learners. UNESCO also leads efforts to respond to contemporary global challenges through transformative learning, with special focus on gender equality and Africa across all actions.



The Global Education 2030 Agenda

UNESCO, as the United Nations' specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to "*ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.*" The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.



Published in 2023 by the United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75352 Paris 07 SP, France

© UNESCO 2023



This document is available in Open Access under the Attribution-ShareAlike 3.0 IGO (CC-BY-SA 3.0 IGO) license (<http://creativecommons.org/licenses/by-sa/3.0/igo/>). By using the content of this document, the users accept to be bound by the terms of use of the UNESCO Open Access Repository (<http://www.unesco.org/open-access/terms-use-ccbysa-en>).

The designations employed and the presentation of material throughout this document do not imply the expression of any opinion whatsoever on the part of UNESCO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The ideas and opinions expressed in this document are those of the Author; they are not necessarily those of UNESCO and do not commit the Organization.

Cover photo: UNESCO/Diana Quintela

Designed and printed by UNESCO

Key messages

- Globally, 44 million additional teachers need to be recruited to meet universal primary and secondary education in 2030 of which 1 in 3, or 15 million, are needed in sub-Saharan Africa alone - a number which has decreased by only 2 million since 2016.
- Secondary education needs more teachers than primary education - about 7 out of 10 recruits globally. This is particularly so in Southern Asia and sub-Saharan Africa where many new secondary level teacher posts will need to be filled to meet the requirements of expanding education systems.
- Attrition among primary teachers almost doubled from 4.62 per cent globally in 2015 to 9.06 in 2022; moreover, the global male primary attrition rate in 2021 was 9.2 per cent compared to the female rate of 4.2.
- Only half of all countries pay primary teachers more than other professions requiring similar qualifications, while this decreases to just 3 in 10 countries in Europe and Northern America.
- Teacher shortage is a global phenomenon, affecting developing and developed countries alike. In Europe and Northern America, retirement and a lack of interest in entering the profession pose challenges to ensuring the recruitment of 4.8 million teachers needed to secure quality primary and secondary education for all.

Introduction

Teachers are at the core of all education systems, laying the foundation for achieving Sustainable Development Goal (SDG) 4, to ensure inclusive and equitable quality education and lifelong learning opportunities for all. However, serious teacher shortages persist in many countries around the world and this is true across regions and within countries themselves. It is particularly true in poor and remote regions. These disparities hinder the achievement of global and national education targets.

Exacerbated during the COVID-19 pandemic, teacher shortages and the challenge of attrition gained renewed emphasis in policy discussions on a global scale. Discussions focused on the teaching profession's lack of capacity to attract and retain qualified and talented teachers.

World Teachers' Day 2023 focuses on the need to reverse global teacher shortages, including how to improve the profession's appeal. This fact sheet therefore aims to highlight new global and regional data on the number of teachers needed to meet the Sustainable Development Goals. Since attrition is an important factor in projecting future demand, this fact sheet also explores this issue, its role in exacerbating teacher shortages and highlights contributing factors. The data analyses presented can enable countries to develop improved policies that ensure the dignity and value of teaching as well as support and sustain qualified teacher workforces.

This fact sheet complements an analysis conducted by the UNESCO Institute for Statistics (2023) on a new dataset of country teacher requirements to strengthen the comparability of international teacher data (UNESCO-UIS, 2023c).

Teacher projections

New teacher projections for meeting universal primary and secondary education in 2030 reveal a global gap of 44 million additional teachers (Table 1) — down from 69 million teachers in 2016 (UIS, 2016). The new figure is a significant decrease, however, progress falls short, since for every additional teacher since 2016, two more are still needed to meet all students' needs in 2030.

Progress to recruit and professionalize enough teachers has varied across regions. Halfway through the SDG era, Northern Africa, Western Asia and South-eastern Asia have encountered challenges in achieving teacher



recruitment targets: 4.3 million and 4.5 million additional teachers are needed across those regions, and the situation is direr still in sub-Saharan Africa where 15 million additional teachers are needed. Indeed, current teacher recruitment targets in these regions are about 70 per cent of 2016 targets, and are unlikely to be achieved by 2030. This is especially so in sub-Saharan Africa where the current target has only changed slightly since 2016 due to a rapidly expanding school-age population constrained by a lack of resources.

Current projections for Eastern Asia (3.4 million) and Southern Asia (7.8 million) are about half the share they were in 2016, suggesting targets are more achievable. However, further efforts are urgently needed to recruit teachers particularly in Southern Asia, where the reduction in need can be attributed to both an increase in teacher

recruitment efforts as well as a decrease in the number of students expected based on declining birth rates (Arora, 2021; Bora et al., 2021; DESA, 2022; Pearce, 2021).

In contrast, Europe and Northern America, where fertility rates are low, has the third largest number of teachers needed (4.8 million). In France, the results of a recent teacher union survey calculates that at least one teacher is needed in half of all secondary schools (Le Monde, 2023), while in the United States (US), teacher job openings have not been adequately filled since 2017 (NEA, 2022). Generally, very low interest in the profession can be witnessed across the region, which struggles to fill vacancies and where teachers continue to leave the profession. Renewed efforts are also needed in Latin America and the Caribbean where 3.2 million additional teachers are needed.

Table 1: Total numbers of additional primary and secondary teachers needed by region for 2030 (in thousands)

Region	Teachers (in thousands) 2022	Recruitment targets for 2030 (in thousands)			Current target as a share of the 2016 Target (%)
		Replacing staff attrition	New teaching posts	Totals	
Central Asia	1 206	404	343	747	m
Eastern Asia	15 499	2 252	1 028	3 280	50
Europe and Northern America	12 637	4 519	310	4 829	m
Latin America and the Caribbean	7 197	2 846	361	3 207	59
Northern Africa and Western Asia	6 197	2 506	1 751	4 257	68
Oceania	m	196	79	275	m
South-eastern Asia	6 757	4 015	524	4 540	72
Southern Asia	14 982	3 063	4 714	7 777	52
Sub-Saharan Africa	8 459	5 638	9 411	15 049	88
Total	73 133	25 439	18 521	43 961	64

Source: UNESCO and Teacher Task Force, 2023.

Note: m = missing data.

In sub-saharan Africa, most teachers needed are to fill new posts, whereas in Europe and Northern America most are needed to fill vacant posts due to attrition

Teacher gaps can be attributed to the need to fill i) new posts and ii) posts that are vacant due to teacher attrition. For countries with rapidly growing populations, policy-makers must balance investing in the expansion of available spots in teacher training institutions,

with improving the attractiveness of the profession to ensure retention. This is especially the case for sub-Saharan Africa where 9.4 million new teachers (representing 62 per cent of the total teacher gap in the region) is attributed to filling new posts (Table 1 and Figure 1).

Where gaps are mostly attributed to attrition, because school-age population growth is slow or negative, countries have greater capacity to focus investments on professionalizing teaching to ensure good candidates enter and remain in the job. For example, in Europe

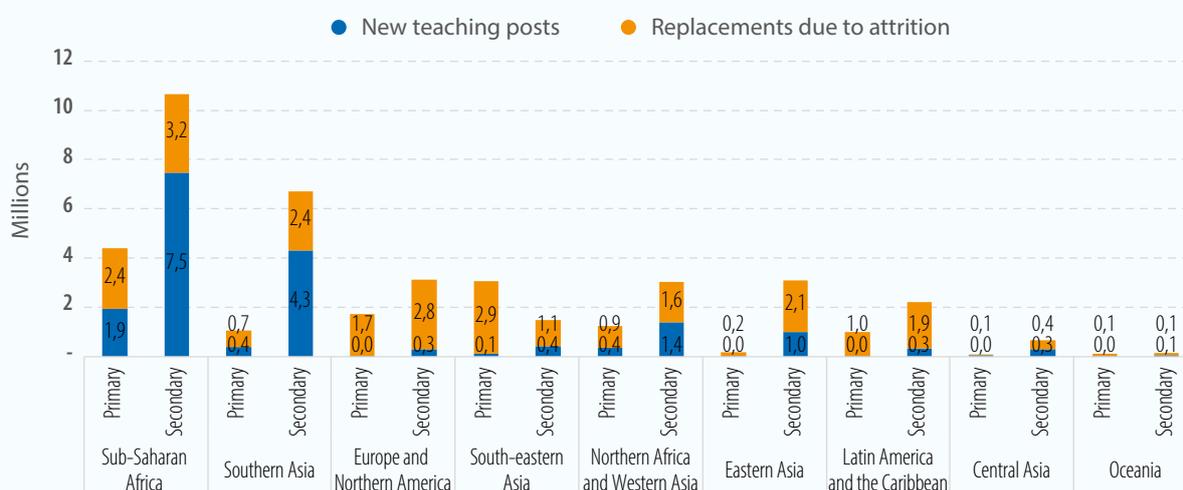
and Northern America and in Latin America and the Caribbean, 94 and 89 per cent of teacher shortages, respectively, are related to anticipated attrition (Figure 1).

Secondary education needs more teachers than primary education - 7 out of 10 new recruits, globally

Globally, the world requires an additional 13 million primary teachers by 2030 compared to 31 million secondary teachers – or 7 out of 10. In sub-Saharan Africa, more than twice as many teachers are needed in secondary education (10.7 million) compared to

primary (4.4 million). The gap is even wider in Southern Asia where 6.7 million teachers are needed in secondary education compared to 1.1 in primary education (Figure 1).

Figure 1: Teacher projections to meet universal primary and secondary education, by level, 2022



Source: UNESCO and Teacher Task Force, 2023.

What teacher attrition is and why collecting more data matters

Teacher attrition refers to the number of personnel leaving the profession in a given year. Departures may be due to retirement, health reasons, family obligations, taking a job in another field or death¹ (UIS, 2023b; OECD, 2021). A system with a consistent attrition rate of 10 per cent would equate to an average teaching career of only 10 years. Systems aiming for teachers to work over longer careers of 30 and more years would need to maintain consistent attrition rates well below 5 per cent (UIS, 2023b).

Attrition rates play an important role in understanding the motivation of a workforce and anticipating human resource needs, but they are also difficult to collect. UNESCO’s Institute for Statistics (UIS) holds the most comprehensive data collection of teacher attrition, yet it only includes inputs from 79 countries at the primary level, 44 at the lower secondary level and 48 at the upper secondary level between 2012–2022 (UIS, 2023a).

¹ Attrition should not be confused with teacher turnover, which could also include teachers moving between schools or levels of education in addition to leaving the profession (OECD, 2021; UIS, 2023b). Attrition rates can be estimated directly- by obtaining the number of individual teachers leaving the profession- or indirectly by examining the number of teachers in a system in two consecutive years as well as the number of new teachers entering a system.

Interpretation of data can also be difficult due to a number of issues, including mobility within countries, teachers re-entering the profession soon after leaving, and differing methods of accounting for teacher numbers (e.g. using headcounts, which do not account for part-time teachers) (UNESCO, 2018, 2023). A 2016

study found attrition rates for primary teachers using the headcount method to be 12.4 per cent in Norway and 4.4 per cent in Austria, but those rates dropped to 8.1 and 2.4 per cent respectively when calculating attrition rates using full-time equivalents (OECD, 2021).

Teacher attrition is a global challenge, but rates vary greatly by level and by region

Global attrition rates among primary teachers almost doubled from 4.62 per cent in 2015 to 9.06 in 2022; in lower secondary education, it increased substantially in 2020 but has since begun to decrease (Table 2). While

recent data for upper secondary attrition is lacking, older UIS data generally show that attrition decreases at higher levels of education.

Table 2: Global teacher attrition, both sexes, 2015–2022

	2015	2016	2017	2018	2019	2020	2021	2022
Primary	4.62	...	...	...	5.36	5.17	5.83	9.06
Lower secondary	...	5.00	4.89	4.14	6.61	7.85	5.75	5.71
Upper secondary	...	4.14	4.03	4.19	...	...	...	...

Source: UIS, 2023a: Indicator 4.c.6.

Patterns of attrition will inevitably vary by region and country. However, due to a systemic lack of reporting data across countries, many regional averages are not available. In 2022, available regional averages include Eastern Asia, where primary teacher attrition outpaces lower secondary rates (8.92 per cent versus 6.16), and in Central and Southern Asia where the trend is reversed (3.65 in lower secondary compared to 2.26 in primary).

In **sub-Saharan Africa**, Bennell (2023) collected data from the mid to late 2010s, which estimated the mean primary teacher attrition rate to be 4.8 per cent, compared to 7.3 per cent in lower secondary, which is approximately 50 per cent higher.

Attrition is a serious concern in many countries regardless of income level

Country level attrition rates can vary widely by education level and from year to year (see Figure 2). However, information is missing as to why attrition is very high in one context and very low in another. For example, Sierra Leone recorded high attrition rates of 17, 5, and 21 per cent for primary teachers in the years 2019 to 2021, while Georgia had rates of 12, 5 and 4 per cent during the same time-span (UIS, 2023a). Moreover, attrition will vary within countries with many factors leading to such discrepancies, especially for schools or districts with high poverty rates, in remote locations or facing emergency situations (see Box 1) (Elacqua et al., 2022; Falk et al., 2019).

Between 2020 and 2022, primary level teacher attrition was very high (10 per cent or more) in a number of countries across different regions: 10 per cent in Sri Lanka; 11 per cent in the British Virgin Islands and Côte d'Ivoire; 12 per cent in Honduras, Jordan and Lebanon; 16 per cent in Mauritania and 19 per cent in Rwanda. It was alarmingly high (20 per cent or more) in Benin, (28 per cent), Sierra Leone (21 per cent) and Turks and Caicos (25 per cent). While teacher attrition is very high in some countries in sub-Saharan Africa, some evidence suggests it is decreasing in others due to a lack of alternative employment opportunities (Bennell, 2023).

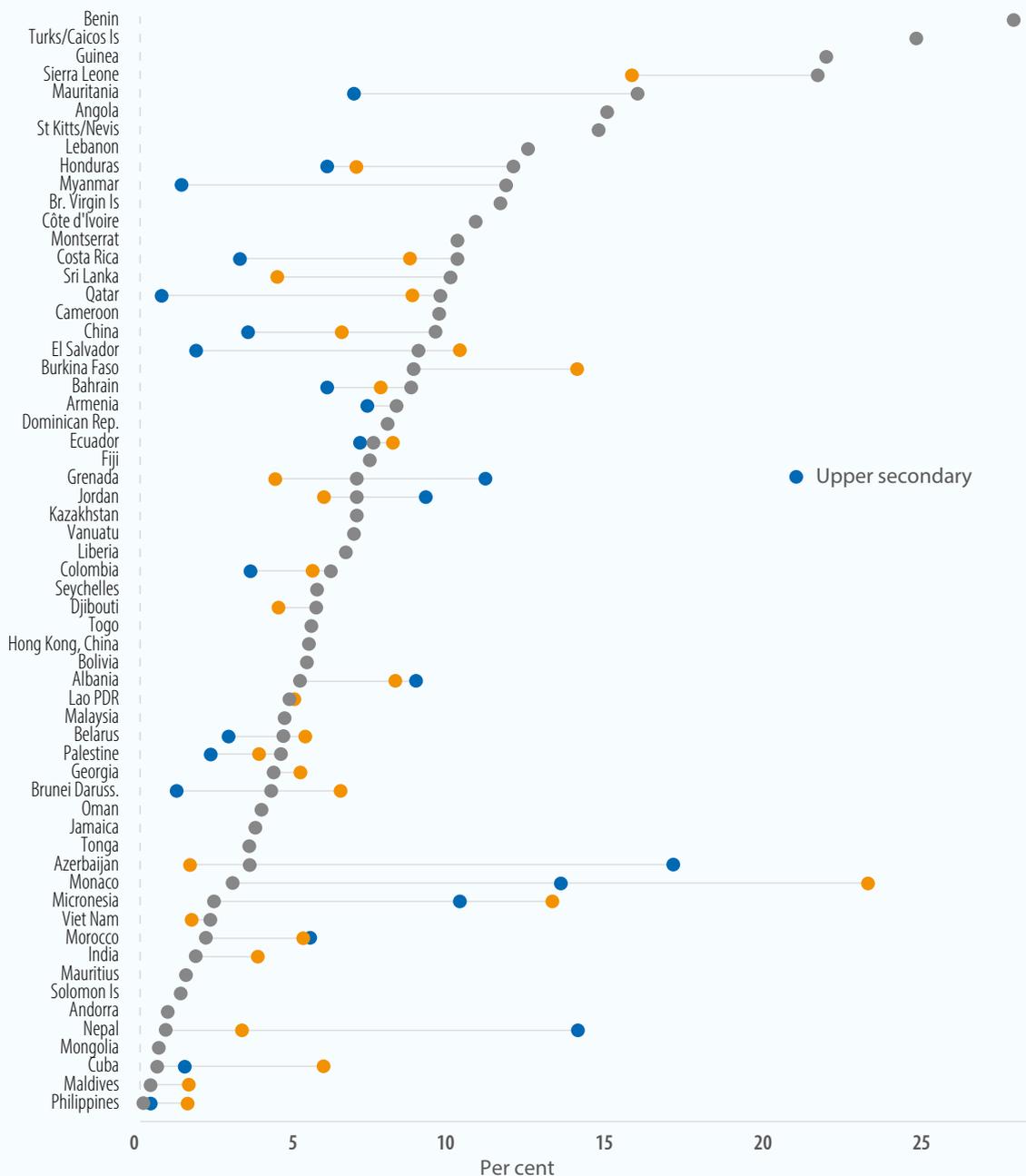
In contrast, primary attrition was very low — 3 per cent or under — in several countries from different regions. For example, it was 1 per cent in China, Special Administrative Region of Macao, Egypt, Mauritius, Mongolia, Nepal and Solomon Islands; 2 per cent in India, Micronesia, Morocco, Niger and Viet Nam; and 3 per cent in Marshall Islands and Tonga.

UIS data show that attrition is slightly at lower levels of education overall (Figure 2 and Table 2); however,

this trend is not universal and data show significant variation between countries. Honduras, Mauritania, Myanmar and Sierra Leone demonstrate higher primary attrition rates than rates at the secondary level, while the reverse is true in Burkina Faso, Micronesia and Nepal.

In upper middle- and high-income countries in Europe and Latin America evidence demonstrates that attrition rates in secondary level are higher than in primary in seven out of nine countries (Figure 3) (OECD, 2021).

Figure 2: Teacher attrition rates in primary, lower secondary and upper secondary, 2022 or most recent year available

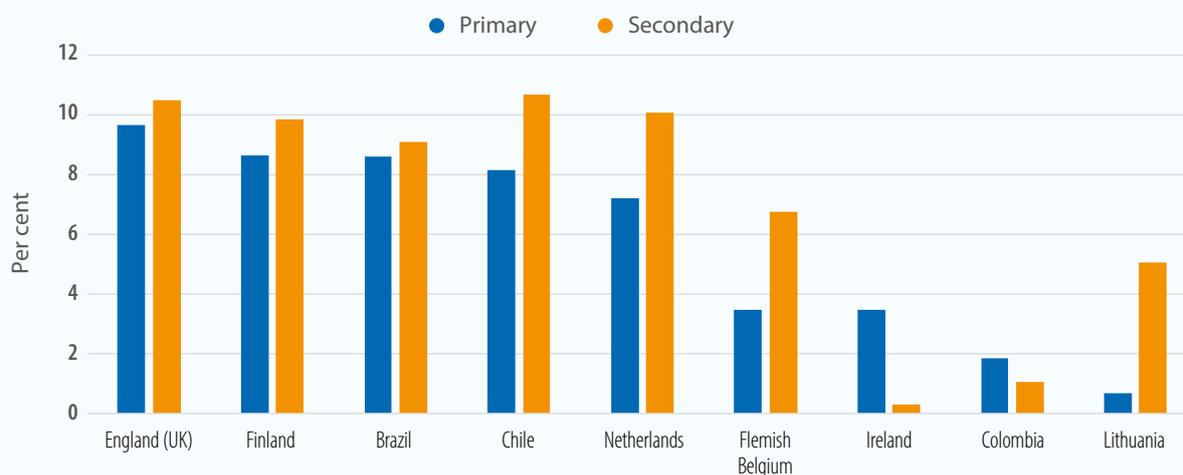


Source: UIS 2023a.

While there is not enough evidence to demonstrate a conclusive trend among countries, higher attrition rates at the secondary level in both higher- and lower-income countries may be due to greater access to other employment opportunities outside of teaching,

especially for highly qualified and science, technology, engineering and mathematics (STEM) teachers (Bennell, 2023; UNESCO, 2018). For example, data from Rwanda showed math teachers leaving the profession at a higher rate than teachers in other subjects (Zeitlin, 2020).

Figure 3: Attrition rates for primary and secondary teachers, 2016



Source: OECD, 2021; adapted from Figure D7.1 and Table D7.2.
Note: Finland data from 2017; Colombia data from 2018.

Teacher attrition and gender inequality

Male teachers generally leave the profession at higher rates than their female colleagues (Figure 4). Global attrition rates in 2021 were 9.2 and 5.9 per cent for male primary teachers and lower secondary teachers compared to 4.2 and 5.6 per cent for female teachers (UIS, 2023a).

The causes of higher male attrition rates vary by region or country. However, some general trends have emerged such as men having more employment mobility than women, especially in fields such as construction, business, manufacturing and agriculture (OECD, 2023). Globally, women are overrepresented in lower-paying service sectors (such as education and social care) and the gender gap in labour force participation stands at 25% (OECD, 2023).

Teaching at lower levels of education is also often considered a women’s profession due to cultural norms and gender bias regarding the responsibility of the education and care of children (UNESCO, 2019; OECD,

2023). This trend only seems to be growing, as female pre-primary teachers represented 92 per cent of the global teaching force in 2000 and 94 per cent in 2022, and female primary teachers increased from 60 per cent to 68 per cent over the same period (UNESCO, 2022).

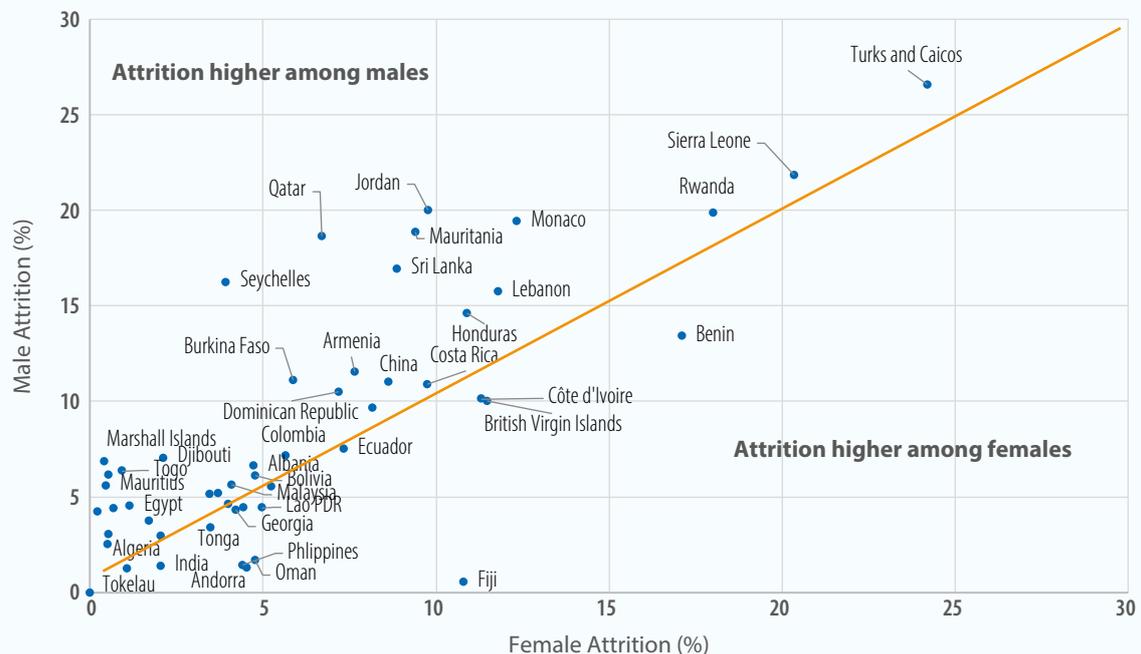
Attrition among male teachers in primary education is higher than females in 80 per cent of countries. It is more than 2 times higher in Algeria, Belarus, Bhutan, Djibouti, Egypt, Marshall Islands, Mauritius, Morocco, Mongolia, Niger, Seychelles, Togo. In some circumstances, women have higher attrition rates than men: for instance, in India, female primary teachers had an attrition rate of 2.04 per cent in 2022 compared to a 1.4 per cent rate for male primary teachers (UIS, 2023a). The factors causing more women than men to leave the profession will again vary by context, but some common reasons include a lack of suitable housing, unsafe or unsanitary working conditions, or discrimination due to views on women’s role in the workforce (UNESCO, 2022).

Box 1: Attrition in crisis and conflict

Emergencies and crisis situations can present especially difficult conditions for teachers and cause enough strain to increase attrition rates. Teachers may face issues ranging from violence and safety concerns to a lack of adequate teaching facilities or supplies. In 2022 the most attacks on schools, personnel and students, were in the State of Palestine (298), Myanmar (287), Democratic Republic of the Congo (210) and Afghanistan (150). Some specific examples of teacher hardship that lead to increased attrition in crisis or conflicts include:

- Reports from Ukraine in 2022 indicated that 22,000 teachers — or 5 per cent of the workforce — had left the country since the beginning of the war (Osadcha, 2022). Moreover, since 24 February 2022, more than 3,500 educational institutions have reportedly been damaged or destroyed by bombing and shelling in Ukraine, according to the country’s Ministry of Education and Science (GCPEA, 2023).
- In Burkina Faso, where the primary and lower secondary level attrition rates have risen to 8.6 and 13.8 per cent in 2022, paramilitary groups specifically targeted more than 220 education workers for violence in 2020 (Amnesty International, 2021) while there were 129 attacks.
- Paramilitary groups in Colombia intimidate some teachers for union involvement, with all 25 teachers in one school in the El Salado community threatened with violence on their way to school (CGPEA, 2022). In 2022 there were 89 attacks.

Figure 4. Teacher attrition in primary education, 2021 or latest data



Source: UIS, 2023a; adapted from UNESCO and Teacher Task Force, 2022: 10.

Attrition rates by age of the teacher

Few countries provide data about when teachers leave the profession over the course of their careers, but some studies show that early career teachers are more likely to leave the profession than their more experienced

colleagues. As highlighted in Table 3, a study from the Organisation for Economic Co-operation and Development (OECD) found that across systems, attrition rates were much higher for teachers younger than age

35 and over age 55 due to nearing retirement (OECD, 2021). Recent data from the United Kingdom show that nearly 24 per cent of new teachers in England leave the

profession by their third year and more than 41 per cent leave by their tenth (United Kingdom DfE, 2023).

Table 3: Teacher attrition rates in pre-primary to upper secondary by age group in full-time equivalents, 2016

	Aged 24 or below	Aged 25-34	Aged 35-44	Aged 45-56	Aged 55 or over
Austria	3.2	1.6	1.1	1.0	5.9
Chile	8.1	7.2	6.7	5.7	14.8
Finland	35.7	12.7	8.0	6.0	16.4
Israel	9.3	4.6	3.1	2.7	10.7
Norway	23.2	9.1	6.4	5.6	12.0
Sweden	33.8	7.0	4.4	4.1	11.2
Flemish Belgium	3.3	1.8	1.2	1.2	13.4
French Belgium	5.2	2.9	1.8	1.8	11.9

Source: OECD, 2021, Table D7.4.

Young teachers may leave the profession for a variety of reasons, but many cite low numbers of hours/part-time employment or poor leadership/mentorship as reasons (OECD, 2021). A study from Belgium found that first-year teachers in the French sector working the equivalent of four months or less left the profession at much higher rates than those working the equivalent of 10 months at both the pre-primary/primary levels (59.5 per cent compared to 13.7 per cent) and the secondary level (68.7 per cent to 22.0 per cent) (Dupriez et al., 2016).

The loss of many young teachers is a drain on education systems and is costly in terms of training and recruiting replacements. At the other end of the age range, older teachers inevitably retire also placing pressure on education systems. Where the average age of teachers is considerably older, this can place enormous pressure on systems to adapt such as in Italy or Lithuania where more than half of primary teachers are at least 50 years old (Eurostat, 2022).

Emerging challenges and trends in attrition since COVID-19

During the pandemic, global averages show that schools closed completely for 20 weeks and remained partially closed for 21 more weeks, affecting an estimated 63 million teachers (UNESCO, 2020, 2022). Survey data showed that teachers faced higher levels of stress and burnout during this time, as more than half of 15,000 teachers surveyed across 11 countries in 2020–2021 felt fatigue most of the time, and needed assistance to support their well-being (UNESCO and IEA, 2022). Even so, in a survey of 93 countries around the globe, only 58 per cent planned to offer psychosocial support to teachers to support their well-being for the 2021/2022 school year (UNESCO et al., 2022).

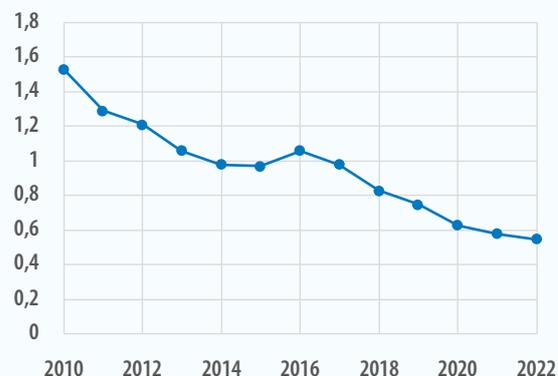
Since schools have fully reopened, even anecdotal evidence suggests that systems are facing teacher shortages and unusually difficult working conditions (Albert et al., 2022; Carroll, 2022). Teacher attrition and burnout have even been trending on social media. As of September 2023, the hashtag #teacherquittok has garnered more than 330 million views on TikTok while #teacherburnout has more than 140 million views (TikTok, 2023a, 2023b).

While the reasons teachers decide to leave the profession stem from many factors, UIS data show primary level attrition has risen since COVID-19 in several contexts. This includes in China, where it increased from

about 5 per cent or lower before COVID-19 to 9 per cent in 2022. Lower secondary attrition in China has also almost doubled from about 3 per cent or less before COVID-19 to more than 6 per cent in 2022.

While teacher shortages have emerged as a global narrative following the pandemic, the trend had already begun well prior to 2020. Reports from the US from before the pandemic warned of growing teacher shortages as new teacher supply could not keep up with attrition (Garcia and Weiss, 2019; Carver-Thomas and Darling-Hammond, 2019; Podolsky et al., 2016). Data show the ratio of hires to job openings has been below 1.0 since 2017 in the US and on a downward trajectory since the end of the Great Recession in 2010 (see Figure 5) (NEA, 2022). In Latin America and the Caribbean, enrolment rates in initial teacher education programmes remained flat from 2015 to 2020 even though teacher shortages persisted in the region during this time (Elacqua et al., 2022).

Figure 5. The ratio of teacher job openings to hires in the U.S.



Source: adapted from NEA, 2022:3

Looking towards the future: attrition rates in a post-COVID-19 world

Globally comparable data has yet to fully emerge to determine the complete effects of COVID-19 on teacher attrition rates. However, some more localized data show that in many locations, attrition rates actually decreased during the pandemic, returning to near pre-pandemic levels or just above since schools reopened (Diliberti and Schwartz, 2023). For example, data from 2020 in New Zealand showed teachers leaving the profession at the lowest rate (7.6 per cent) since 2012. That total jumped to 9.0 per cent in 2021, which was within 1 per cent of the rates for the 6 years leading up to the pandemic (Education Counts, 2023).

According to some indicators, teacher attrition rates could soon trend upward in several higher-income countries, leading to more teacher shortages. Survey data in 2023 from more than 8,000 teachers in England (United Kingdom) found that only 59 per cent expect to still be in the profession in 3 years compared to approximately 75 per cent that felt they would stay in the profession before the pandemic (Allen et al., 2023).

Data from low-income countries about pre- to post-pandemic trends remain especially sparse, both for attrition rates and for related indicators of teacher motivation such as absenteeism (see Box 2). Some estimations from sub-Saharan Africa show that as many as half of private school teachers may have lost some or all of their income due to involuntary attrition

Box 2: Teacher Absenteeism

Teacher absenteeism can be related to teacher attrition, as high rates of absenteeism are often seen as an indication of low motivation (UNESCO et al., 2022). However, research has also found that many causes of teacher absences are beyond the teacher's control, which points to poor or stressful working conditions (Bennell, 2022; Játiva et al., 2022). For example, research from Senegal found rural primary teachers miss on average approximately 10 more days each school year than their urban colleagues due to issues such as difficulty withdrawing monthly salaries or extreme isolation and inadequate housing (Niang, 2017).

High rates of absenteeism have historically been reported from various regions, including sub-Saharan Africa, South and West Asia, and South America (UNESCO et al., 2022). Surveys from before the pandemic in both West and Central Africa as well as East and Southern Africa showed that about 15 per cent of teachers are absent at least once a week (Karamperidou et al., 2020; Játiva et al., 2022). Data from during and after the pandemic is sparse, but about half of countries responding to a global survey on national responses to COVID-19 indicated an increase in teacher absences from 2020 to 2022 (UNESCO et al., 2022).

from school closures during the pandemic (Teacher Task Force, 2021). In a survey of private schools from Uganda, respondents reported a loss of nearly 15 per cent of their teaching staff upon reopening after the pandemic (Kahunde et al., 2022). While little hard data have

emerged, if poor employment opportunities continue due to economic downturns from the pandemic, voluntary teacher attrition in public schools will likely remain low (Bennell, 2023).

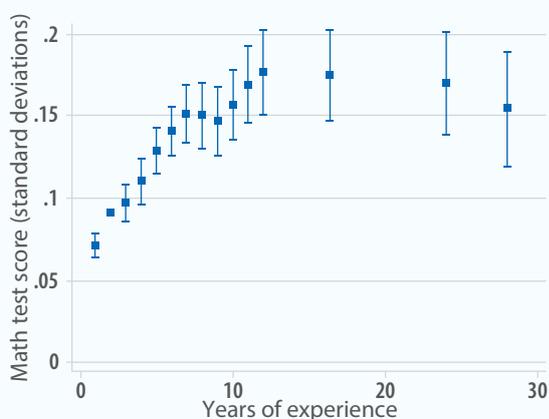
High attrition rates can cause issues for students, other teachers and schools

Teacher attrition, especially early in a career, can prevent educators from reaching their full potential and effectiveness. Research has found that teachers improve as they gain more experience, with a literature review of 18 longitudinal studies in the United States showing that experience is positively correlated with effectiveness (See Figure 6) (Podolsky et al., 2019; Ladd and Sorensen, 2015). Teachers make the biggest gains in effectiveness early in their careers but continue to improve even past their first decade in the classroom (Podolsky et al., 2019).

classroom behaviour. One study showed that teachers with more than 20 years' experience can reduce the number of students with high rates of absenteeism (more than 17 days) by 12 to 18 per cent (Kini and Podolsky, 2016).

Students are not the only ones affected; teacher attrition can also have direct negative impacts on other teachers through issues such as staff shortages and increased class sizes (Teacher Task Force, 2021). A study in Rwanda found that high rates of turnover led to 21 per cent of teachers teaching in subjects for which they had no training (Zeitlin, 2020).

Figure 6. Effects on math scores by teacher experience at lower secondary level in US, 2006-2011



Source: Ladd and Sorensen, 2015: 36.

Research has also found that more experienced teachers can have impacts on students beyond test scores, such as improvements on student absences and

Schools and education systems can feel pressure from high levels of teacher attrition, as well. Training and recruiting new teachers are expensive and time-consuming endeavours, straining already taxed systems (OECD, 2020). One estimate in the US put costs at replacing a single teacher at \$20,000 US or more for urban districts (Carver-Thomas and Darling-Hammond, 2019). Brain drain is another issue straining some systems, with teachers leaving a country or system for more favourable pay or working conditions in another. For example, a report from 2015 found nearly 18,000 South African teaching professionals had left to work in other countries (Mlambo and Adetiba, 2020). Meanwhile, there are about 10 per cent fewer primary teachers in Lebanon since the economic downturn with many reportedly taking employment in neighbouring Gulf countries (Ramadan, T, 2022). Likewise in Guyana, the number of teachers leaving due to retirement or moving abroad increased 4 times from 2011 to 2021 (Bristol et al., 2023).

Several factors drive teachers away from the profession

Low salaries can lessen the prestige and attractiveness of the teaching profession, and prevent teachers in low-income countries from being able to afford basic necessities. Higher wages and benefits in

other careers can therefore pull teachers away from teaching (Mulkeen et al., 2017; UNESCO and TTF, 2022). In the North-West Province of South Africa, research determined that high rates of attrition stemmed from

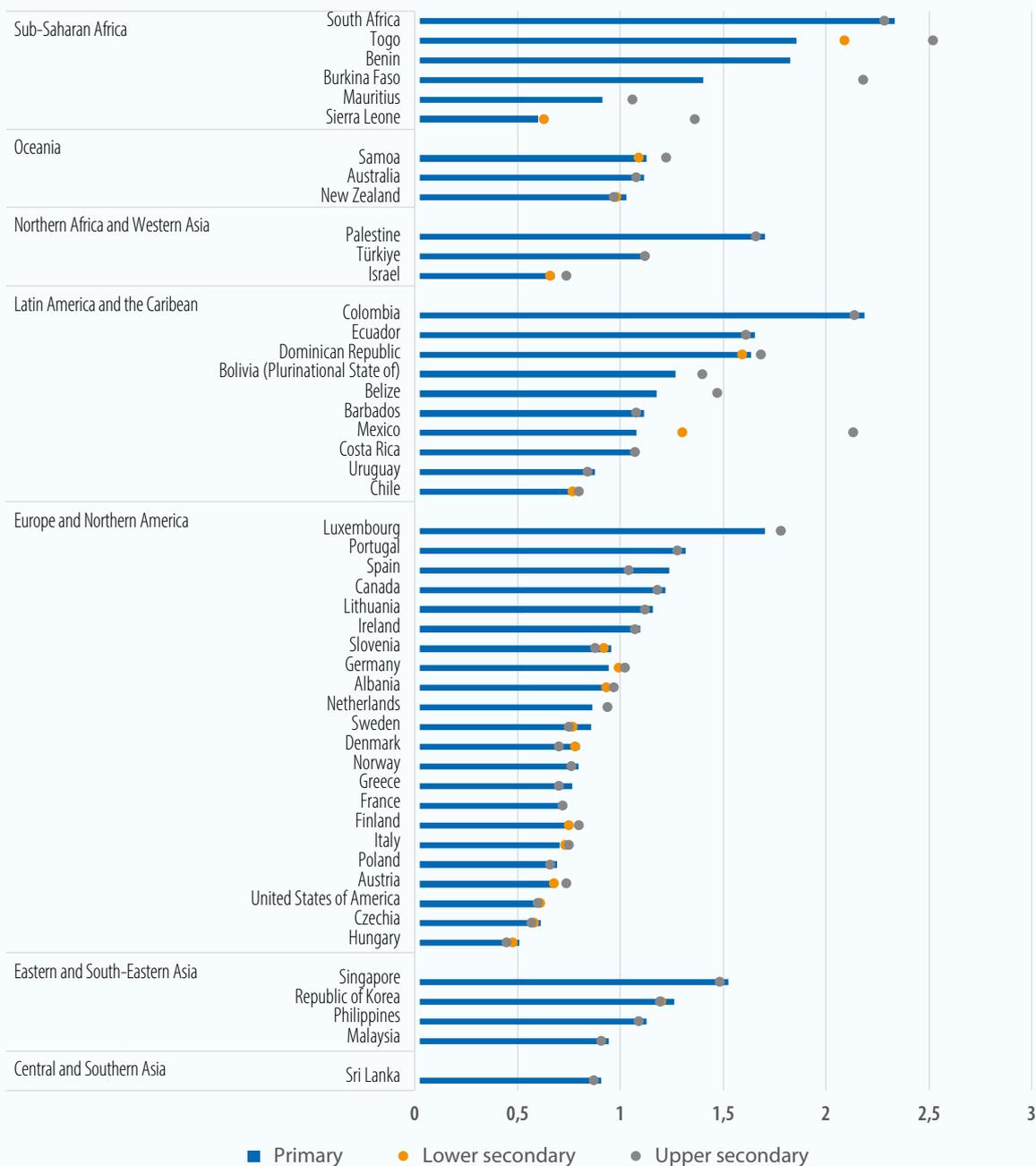
teachers' dissatisfaction with the government's handling of a pension fund, with more than 78 per cent of recently resigned teachers citing low salary and benefits as their reason for departure (Mpundu et al., 2023).

At the global level, data show about 50 per cent of countries pay primary teachers more than other professions with similar levels of qualifications (Figure 7). In Europe and Northern America, this decreases to just

3 in 10 countries. Teacher salaries are least competitive in the US and Czechia, where primary teachers earn less than 0.60 times of those in other professions requiring a similar level of qualifications. Salaries are even less competitive in Hungary, where primary teachers earn just under half (0.48 times) of those in other professions.

In comparison, the salaries of primary education teachers are frequently higher relative to other

Figure 7: Average teacher salary in primary education relative to other professions requiring a comparable level of qualification, both sexes, 2021



Source: UIS, 2023a, Indicator 4.c.5.

professions in sub-Saharan Africa. Primary teachers are paid 2.18, 2.28 and 2.52 times those in other professions requiring the same level of qualifications in Burkina Faso, Benin and South Africa. However, research also shows that this does not necessarily translate into large salaries; for example, in 20 countries in sub-Saharan Africa teachers earn, on average, less than PPP \$7,500 per annum, which means that their pay is largely inadequate to meet basic family needs (Bennell, 2023).

In high-income countries, salaries for lower and upper secondary teachers are typically similar to those of primary teachers (see Figure 7) (UIS, 2023a) and this is true for several countries across different regions. In contrast, secondary teacher salaries are more competitive than primary teacher salaries in a few countries, including in Togo, where primary, lower secondary and upper secondary teachers earn 1.81, 2.09 and 2.52 times the salaries of other professionals requiring similar levels of qualifications. Secondary salaries are also more competitive in Mexico in Latin America where ratios are 1.0, 2.3 and 2.13 times the salaries of other professional with similar levels of qualifications.

A myriad of other issues, from a lack of teaching supplies to poor leadership to overburdensome administrative responsibilities, can place strain on working conditions, and result in pushing teachers away (Podolsky et al., 2016).

Data from Australia indicate that a teacher very satisfied with their working relationships is about 70 per cent less likely to leave their position than one who is very dissatisfied (Cui and Richardson, 2016). High rates of stress for any reason can push teachers out of the profession. The 2018 TALIS report showed that teachers who experience 'a lot' of stress at work are more than twice as likely to want to leave teaching in the next five years (OECD, 2020).

Teacher attrition and the subsequent shortages in the workforce depend heavily on the material and symbolic conditions of teaching, ranging from the status of their employment, contracts and remuneration to the trust, appreciation, and sense of fulfilment they receive, and the autonomy they are granted. If we want to reverse the teacher shortage, we need to address its multidimensionality using a broad perspective, including short, medium and long terms strategies.

References

- Albert, E., T. Weider, A-F. Hivert, O. Bonnel, & V. Morin. 2022. Teacher Shortages: A Common Problem Throughout Europe's Schools. *Le Monde*, 1 September. https://www.lemonde.fr/en/international/article/2022/09/01/teacher-shortages-a-common-problem-throughout-europe-s-schools_5995460_4.html (Accessed 30 August 2023).
- Allen, B., I. Ford, & T. Hannay. 2023. Teacher Recruitment and Retention in 2023: Teacher Views on Coping with Shortages, Job Attachment and Flexible Working. <https://www.gatsby.org.uk/uploads/education/teacher-recruitment-and-retention-in-2023-tt-schools-final.pdf> (Accessed 30 August 2023).
- Arora, A. 2021. In a first, India's fertility rate falls below replacement level. What it means. *India Times*, 26 November. <https://www.indiatoday.in/india/story/india-fertility-rate-declines-replacement-level-meaning-nfhs-survey-1880894-2021-11-25> (Accessed 30 August 2023).
- Amnesty International. 2021. Amnesty International Report 2020/21: The state of the world's human rights. <https://www.amnesty.org/en/documents/pol10/3202/2021/en/> (Accessed 30 August 2023).
- Bennell, P. Dissatisfied but nowhere to go: teacher attrition in the context of mass unemployment in Sub-Saharan Africa, *Globalisation, Societies and Education*, <https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F14767724.2023.2233481> (Accessed 30 August 2023).
- Bora, J. K., N. Saikia, E.B. Kebede, & W. Lutz. 2022. Revisiting the causes of fertility decline in Bangladesh: the relative importance of female education and family planning programs. *Asian Population Studies*.

- Bristol, L., C.J. Leacock, A. Veira, V. Knight, P. Alleyne, J. C. Robinson, & S.J. Warrican. 2023. Teacher migration and retention in the Caribbean: Processes and challenges. Commissioned paper by the International Task Force on Teachers for Education 2030.
- Carroll, L. 2022. Crisis Building for Years: Half of Teachers Plan to Leave Profession as Shortages Bite. The Sydney Morning Herald, 3 August. <https://www.smh.com.au/national/nsw/crisis-building-for-years-half-of-teachers-plan-to-leave-profession-as-shortages-bite-20220802-p5b6pw.html> (Accessed 28 August 2023.)
- Carver-Thomas, D., & L. Darling-Hammond. 2019. The trouble with teacher turnover: how teacher attrition affects students and schools. Education Policy Analysis Archives, Vol. 27, No. 36. <http://dx.doi.org/10.14507/epaa.27.3699>
- Chetty, R., J.N. Friedman, & J.E. Rockoff. 2014. Measuring the impacts of teachers II: teacher value-added and student outcomes in adulthood. American Economic Review, Vol. 104, No. 9, pp. 2633–2679.
- Cui, B., & A. Richardson. 2016. Factors influencing Australian teachers' intent to leave the teaching profession. Conference: Fourteenth Australasian Data Mining Conference At: Canberra, Australia. https://www.researchgate.net/publication/311735299_Factors_influencing_Australian_teachers%27_intent_to_leave_the_teaching_profession (Accessed 30 September 2023).
- DESA. 2022. World Population Prospects 2022. New York: DESA. <https://population.un.org/wpp/>.
- Diliberti, M.K., & H.L. Schwartz. 2023. Cover: educator turnover has markedly increased, but districts have taken actions to boost teacher ranks: selected findings from the sixth american school district panel survey. Rand Corporation. https://www.rand.org/pubs/research_reports/RRA956-14.html (Accessed 30 September 2023).
- Dupriez, V., B. Delvaux & S. Lothaire. 2016. Teacher shortage and attrition: why do they leave? British Educational Research Journal Vol. 42, No. 1, February 2016, pp. 21–39.
- Eurostat. 2022. Primary education statistics. Eurostat. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Primary_education_statistics#Sex_and_age_of_teachers (Accessed 30 August 2023).
- Education Counts. 2023. Teacher turnover. <http://www.educationcounts.govt.nz/statistics/teacher-turnover> (Accessed 30 September 2023).
- Elacqua, G., A. Jaimovich G. Pérez-Nuñez, D. Hincapié, C. Gómez, M. J. Sánchez, G. Escalona & J. Walker. 2022. Who Studies Pedagogy? Trends in the Profile of Future Teachers in Latin America & the Caribbean. Technical Note N° December 2022. Washington D.C.: Inter-American Development Bank.
- Falk, D., E. Varni, J. Finder Johna. & P. Frisoli. 2019. Landscape Review: Teacher Well-being in Low Resource, Crisis, and Conflict-affected Settings. Washington D.C.: INEE/ USAID/ ECCN.
- GCPEA. 2022. Education Under Attack. New York: UNICEF.
- GCPEA. 2023. Attacks on Education and Military Use of Education Facilities in Ukraine in 2022. New York: UNICEF.
- Garcia, E. and Weiss, E. 2019. The Teacher Shortage is Real, Growing, and Worse than We Thought. Economic Policy Institute. <https://www.epi.org/publication/the-teacher-shortage-is-real-large-and-growing-and-worse-than-we-thought-the-first-report-in-the-perfect-storm-in-the-teacher-labor-market-series/> (Accessed 30 August 2023).
- Hanuschek, E.A., and S.G. Rivkin. 2012. The distribution of teacher quality and implications for policy. Annual Review of Economics. 4, pp. 131-157.

- Kini, T. and Podolsky, A. 2016. Does Teaching Experience Increase Teacher Effectiveness? Learning Policy Institute. <http://mrbartonmaths.com/resourcesnew/8.%20Research/Improving%20Teaching/Teaching%20Experience.pdf> (Accessed 30 August 2023).
- Teacher Task Force [TTF]. 2021. Closing the Gap—Ensuring There Are Enough Qualified and Supported Teachers in Sub-Saharan Africa. https://teachertaskforce.org/sites/default/files/2021-09/Closing%20the%20gap%20-%20Ensuring%20there%20are%20enough%20qualified%20and%20supported%20teachers_TTF%20advocacy%20brief%20July%202021_v2.pdf (Accessed 29 August 2023).
- Játiva, X., D. Karamperidou, M. Mills, S. Vindrola, H. Wedajo, A. Dsouza & J. Bergmann. 2022. Time to Teach: Teacher Attendance and Time on Task in West and Central Africa. Florence: UNICEF Office of Research – Innocenti.
- Kahunde, R. A. Ogwang, M. D. Makika, C. P. Lakuma, & B. Sserunjogi. 2022. School reopening in Uganda after the COVID-19 lockdowns: preparedness, attrition, challenges and prospects for recovery. The Uganda Business Climate Index, Special Issue 4, 2022. <https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/17379/School%20reopening%20in%20Uganda%20after%20the%20COVID-19%20lockdowns.%20preparedness%20attrition%20challenges%20and%20prospects%20for%20recovery.pdf?sequence=1> (Accessed 30 August 2023).
- Karamperidou, D., M. Brossard, S. Peirolo & D. Richardson. 2020. Time to teach. Teacher attendance and time on task in Eastern and Southern Africa. Florence: UNICEF Office of Research – Innocenti.
- Ladd, H. F., & Sorensen, L. C. 2015. Returns to Teacher Experience: Student Achievement and Motivation in Middle School. National Center for Analysis of Longitudinal Data in Education Research. https://caldercenter.org/sites/default/files/WP%20112%20Update_0.pdf (Accessed 30 August 2023).
- Le Monde. 2023. Enseignants : une enquête du syndicat SNES-FSU confirme la pénurie de professeurs dans le secondaire ; 11 septembre 2023. https://www.lemonde.fr/societe/article/2023/09/11/enseignants-une-enquete-du-syndicat-snes-fsu-confirme-la-penurie-de-professeurs-dans-le-secondaire_6188845_3224.html (Accessed 30 August 2023).
- Mlambo, V.H. 2020. The brain drain of teachers in South Africa: identifying the dynamics of its push factors. *Journal of Social Sciences and Humanities*, Vol. 17, No.1 (2020), 152-164.
- Mpundu, M., T.E.B. Assan, & M. Mokoena. 2023. An analysis of high teacher turnover and attrition in the north-west province of South Africa. *E-Journal of Humanities, Arts and Social Sciences*, Issue: Vol.4, No.4 April 2023, Article 3 pp.404-414 <https://noyam.org/ehass20234413/> (Accessed 30 August 2023).
- Mulkeen, A., W. Rateree, & I. Voss-Lengnik. 2017. Teachers and teacher policy in primary and secondary education. Discussion paper education. Berlin/ Paris: GIZ/ Teacher Task Force.
- Murray, C. 2023. #TeacherQuitTok: the TikTok hashtag teachers use to talk burnout, low pay and why they quit. *Forbes*, Feb 22, 2023. <https://www.forbes.com/sites/conormurray/2023/02/22/teacherquittok-the-tiktok-hashtag-teachers-use-to-talk-burnout-low-pay-and-why-they-quit/?sh=45e545396c88#:~:text=Teachers%20are%20using%20TikTok%20hashtags,poor%20working%20conditions%20and%20burnout> (Accessed 30 August 2023).
- National Education Association (NEA). 2022. Elevating the Education Professions: Solving Educator Shortages by Making Public Education an Attractive and Competitive Career Path. <https://www.nea.org/sites/default/files/2022-10/29302-solving-educator-shortage-report-final-oct-11-2022.pdf> (Accessed 30 August 2023).

- Niang, F. 2017. Accountability, instructional time loss and the impact on quality education: a Senegalese primary education case study. Paris: UNESCO.
- Osadcha, P. 2022. 22,000 teachers left Ukraine abroad due to war. *Ukrainska Pravda.Zhyttia*, 17 August 2022. <https://www.pravda.com.ua/eng/news/2022/08/17/7363604/> (Accessed 30 September).
- OECD. 2020. TALIS 2018 Results (Volume II). <https://www.oecd.org/education/talis-2018-results-volume-ii-19cf08df-en.htm> (Accessed 30 August 2023).
- ----. 2021. Education at a Glance 2021. <https://www.oecd-ilibrary.org/sites/bcc79d57-en/index.html?itemId=/content/component/bcc79d57-en> (Accessed 30 August 2023).
- ----. 2023. SIGI 2023 Global Report: Gender Equality in Times of Crisis. https://www.oecd-ilibrary.org/development/sigi-2023-global-report_4607b7c7-en (Accessed 30 August 2023).
- Pearce, F. 2021. India defuses its population bomb: fertility falls to two children per woman. *Science*, Vol. 374, No. 6574. <https://www.science.org/content/article/india-defuses-its-population-bomb-fertility-falls-two-children-woman>.
- Podolsky, A., T. Kini, J. Bishop, & L. Darling-Hammond. 2016. Solving the Teacher Shortage: How to Attract and Retain Excellent Educators. Palo Alto, CA: Learning Policy Institute.
- Podolsky, A., T. Kini, & L. Darling-Hammond. 2019. Does teaching experience increase teacher effectiveness? A review of US research. *Journal of Professional Capital and Community*, Vol. 4 No. 4, pp. 286-308. <https://doi.org/10.1108/JPC-12-2018-0032> (Accessed 30 August 2023).
- Ramadan, T. 2022. Demoralised and broke, Lebanon's teachers flee to the Gulf. *Context*, 19 July 2022. <https://www.context.news/socioeconomic-inclusion/demoralised-and-broke-lebanons-teachers-flee-to-the-gulf>. (Accessed 30 September 2023).
- The Guardian. 2022. 44% of teachers in England plan to quit within five years. *The Guardian*, 11 April. <https://www.theguardian.com/education/2022/apr/11/teachers-england-plan-to-quit-workloads-stress-trust> (Accessed 28 August 2023).
- UNESCO Institute for Statistics. 2016. The world needs almost 69 million new teachers to reach the 2030 education goals. Montreal: UNESCO-UIS.
- ----. 2019. SDG 4 Data Digest: How to Produce and Use the Global and Thematic Education Indicators. Montreal: UIS. http://uis.unesco.org/sites/default/files/documents/sdg4-data-digest-2019-en_0.pdf.
- ----. 2023a. UIS SDG Database. Montreal: UIS. <http://data.uis.unesco.org/index.aspx?queryid=3798> (Accessed 30 August 2023).
- ----. 2023b. Teacher Attrition Rate by Education Level. UIS Glossary. Montreal: UIS. <http://uis.unesco.org/en/glossary-term/teacher-attrition-rate-education-level> (Accessed 30 August 2023).
- ----. 2023c. Teaching requirement policies globally and their implications for monitoring SDG4. Factsheet 63, September 2023. Montreal: UIS.
- UNESCO and TTF. 2022. Transforming Education from Within: Current Trends in the Status and Development of Teachers; World Teacher's Day 2022. Paris: UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000383002> (Accessed 28 August 2023.)

- UNESCO, UNICEF, The World Bank, & OECD. 2021. What's Next? Lessons on Education Recovery: Findings from a Survey of Ministries of Education Amid the COVID-19 Pandemic. https://read.oecd-ilibrary.org/education/what-s-next-lessons-on-education-recovery_697bc36e-en#page2 (Accessed 30 August 2023).
- UNESCO. 2018. Global Education Monitoring Report, 2019: Migration, Displacement and Education: Building Bridges, Not Walls. Paris: UNESCO.
- ----. 2019. Global Education Monitoring Report 2019: Gender Report: Building Bridges for Gender Equality. Paris: UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000368753> (Accessed 30 August 2023).
- ----. . 2020. COVID-19: A Global Crisis for Teaching and Learning. <https://unesdoc.unesco.org/ark:/48223/pf0000373233> (Accessed 29 August 2023).
- ----. 2022. Global Education Monitoring Report 2022: Gender Report, Deepening the Debate on Those Left Behind. <https://unesdoc.unesco.org/ark:/48223/pf0000381329>.
- ----. 2023. Global Education Monitoring Report 2023: Technology in Education: A Tool on Whose Terms? Paris: UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000385723>
- UNESCO and the International Association for the Evaluation of Educational Achievement [IEA]. 2022. The impact of the COVID-19 Pandemic on Education: International Evidence from the Responses to Educational Disruption Survey (REDS). <https://unesdoc.unesco.org/ark:/48223/pf0000380398>
- UNICEF. 2022. Where are We on Education Recovery? New York: UNICEF. <https://www.unicef.org/media/117626/file/Where%20are%20we%20in%20Education%20Recovery?.pdf> (Accessed 30 August 2023).
- United Kingdom Department for Education (DfE). 2023. School Workforce in England: Reporting Year 2022. London: DfE. <https://explore-education-statistics.service.gov.uk/find-statistics/school-workforce-in-england#dataBlock-f47ed575-f6eb-4bd0-926a-02830e272452-charts> (Accessed 1 September 2023).
- Zeitlin, A. 2020. Teacher turnover in Rwanda. *Journal of African Economies*, Volume 30, Issue 1, January 2021, Pages 81–102. <https://academic.oup.com/jae/article-abstract/30/1/81/6044445?redirectedFrom=fulltext>.



unesco

United Nations
Educational, Scientific
and Cultural Organization



International
Task Force on Teachers
for Education 2030

The teachers we need for the education we want

The global imperative to reverse the teacher shortage

World Teachers' Day 2023

World Teachers' Day 2023 focuses on the need to reverse global teacher shortages, including how to improve the profession's appeal. This fact sheet aims to highlight new global and regional data on the number of teachers needed to meet the Sustainable Development Goals. It also explores the issue of attrition as an important factor in projecting future demand, its role in exacerbating teacher shortages and highlights the contributing factors. This analysis in turn can enable countries to develop improved policies that ensure the dignity and value of teaching as well as support and sustain qualified teacher workforces.

Stay in touch



teacherstaskforce@unesco.org



www.unesco.org/en/education/teachers
www.teachertaskforce.org/

Follow @UNESCO on social media



Sustainable
Development
Goals