

Gender parity index of the gross enrolment ratios in primary, secondary and tertiary education



Key points

- At the global level, girls and boys are equally likely to be enrolled in primary education, although fewer girls than boys participate in primary education in Oceania (excluding Australia and New Zealand) and Western Asia, and to a minor extent in sub-Saharan Africa; in Southern Asia more girls than boys participate in primary education.
- There has been substantial progress towards gender parity in regions with the widest gender disparities in favour of boys in 1990. Southern Asia, in particular, has recorded a significant increase in GPI (from 0.75 to 1.07).
- The gender gap in secondary education has closed in most regions over the period 1990–2018, although girls are still less likely than boys to enrol in secondary school in sub-Saharan Africa, Western Asia and Oceania (excluding Australia and New Zealand).
- Gender disparities at the secondary level of education are wider than those at the primary level.
- Gender disparities in tertiary education have shifted from a male to a female advantage across the world and in most regions over the period 1990–2018.

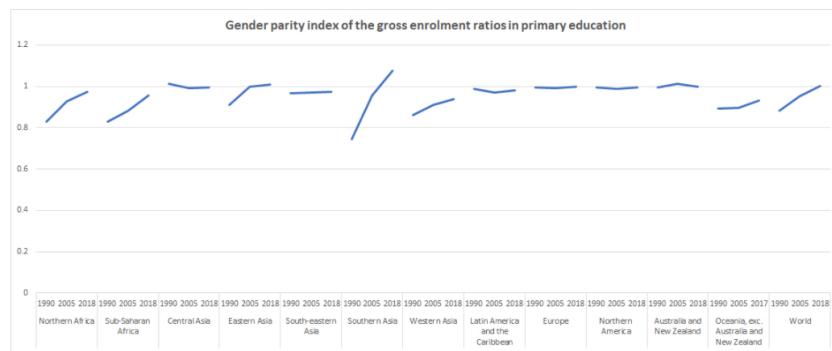
Gender parity index of gross enrolment ratios in primary education

Gender parity in primary education has been reached globally, although regional disparities persist

The global GPI of gross enrolment ratios (GER) in primary education was 1.00 in 2018, implying that, at the global level, girls and boys were equally likely to participate in primary education. This global average masks disparities among regions, however (see figure I).

As of 2018: (a) in Northern America and Europe, Australia and New Zealand, Northern Africa, Central Asia, Eastern Asia, South-Eastern Asia and Latin America and the Caribbean the GPI for each region was within the range of parity; (b) in sub-Saharan Africa (where the GPI was 0.96), Oceania (excluding Australia and New Zealand) (0.93) and Western Asia (0.94), the GPI value was lower than the range of parity; and (c) in Southern Asia the GPI fell outside the range of parity (1.07), meaning that girls were more likely than boys to participate in primary education.

Figure I: Gender parity index of gross enrolment ratios in primary education globally and by region: 1990, 2005 and 2018



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed April 2020) (<http://data UIS.unesco.org/>).

Note: Gender parity is considered to have been attained when the GPI lies between 0.97 and 1.03.

Substantial progress towards gender parity occurred in those regions where boys had once vastly outnumbered girls in primary education

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Since 1990, there has been a significant shift towards greater gender parity in primary education (see figure I). The global GPI of primary gross enrolment ratios rose from 0.88 in 1990 to 1.00 in 2018. GPI values improved substantially, particularly in Northern Africa (from 0.83 to 0.97), sub-Saharan Africa (from 0.83 to 0.96) and Southern Asia (from 0.75 to 1.07), all regions with the widest disparities in GPI in 1990. Remarkable gains were also registered in Eastern Asia over the period since 1990, with its regional GPI reaching a value of 1.00 in 2005, and parity has remained steady until the present time. Australia and New Zealand and countries in Northern America and Europe, Latin America and the Caribbean and Central Asia and South-Eastern Asia maintained gender parity in primary education throughout the period 1990–2018.

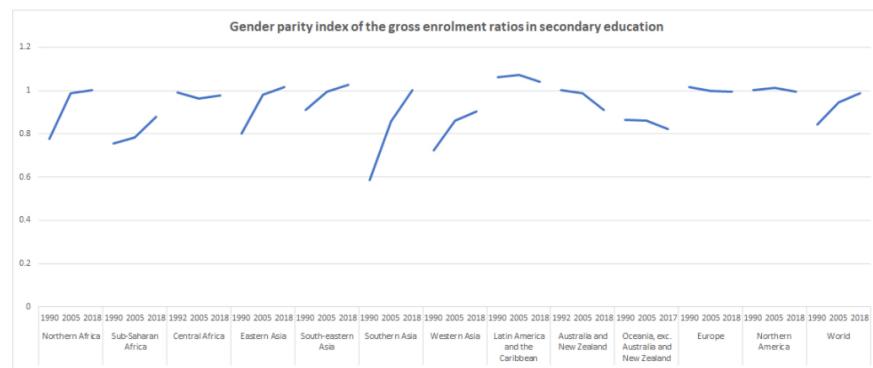
Gender parity index of the gross enrolment ratios in secondary education

The gender gap in secondary education has closed in most regions

The gender gap in the global gross enrolment ratios for girls and boys in **secondary education** has narrowed steadily during the period 1990–2018. The GPI based on gross enrolment ratios in secondary education rose from a value of 0.84 in 1990 to 0.99 in 2018, confirming that the gender gap at the secondary level of education has closed at the global level (see figure II).

Despite the gains made over the past three decades, girls are still less likely than boys to enrol in secondary school in sub-Saharan Africa (where GPI was 0.88 in 2018), Western Asia (0.90) and Oceania (excluding Australia and New Zealand) (0.82), all regions with low overall enrolment ratios for both girls and boys. In Southern Asia, where the GPI was low in 1990 (0.59), the gender gap has been closed at the fastest rate over the period 1990–2018 (the GPI in 2018 was 1.00). In regions with higher overall secondary enrolment ratios, such as Latin America and the Caribbean (where the GPI was 1.04 in 2018), gender-based disparities favour girls. Northern America and Europe and Central Asia are the only regions that have achieved and maintained equal access to secondary education for both girls and boys throughout the period 1990–2018.

Figure II: Gender parity index of gross enrolment ratios in secondary education globally and by region: 1990, 2005 and 2018



Source: UNESCO, UNESCO Institute for Statistics database (accessed April 2020) (<http://data.uis.unesco.org/>).

Note: Gender parity is considered to have been attained when the GPI lies between 0.97 and 1.03.

Gender disparities at the secondary level are wider than those at the primary level

Although gender disparities in access to secondary education have been reduced in all regions, they remain more prevalent and wider than those at the primary level (see figures I and II). In sub-Saharan Africa, the GPI at the primary level was 0.96 in 2018, whereas the GPI was 0.88 at the secondary level. Similarly, in Western Asia, the primary level GPI was 0.94 versus the secondary level GPI of 0.90. In those countries where girls are severely disadvantaged, gender differences at the secondary level are partly a reflection of cumulative gender disparities at the primary level as well as disparities during the transition to the secondary level.¹

Gender parity index of the gross enrolment ratios in tertiary education

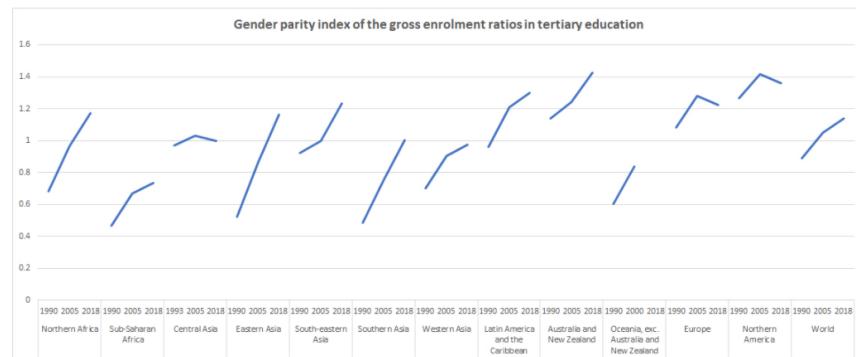
Gender disparities in tertiary education disproportionately favour women

During the period 1990–2018, gender disparities in **tertiary education** shifted from a male to female advantage both in the world and in most regions (see figure III). In 1990, men's participation in tertiary level education was higher than that of women, as reflected in a worldwide GPI of 0.89 (in sub-Saharan Africa the GPI was 0.47; in Southern Asia, 0.49; in Eastern Asia, 0.52; in Oceania (excluding Australia and New Zealand), 0.60; in Northern Africa, 0.68; and in Western Asia 0.70).

Overall, because the global participation of women has increased at a faster rate than that of men, the tertiary enrolment ratios of men and women reached parity in the late 1990s and remained at parity until the early 2000s. The global participation of women in tertiary education has since exceeded that of men, shifting gender disparity from a male to female advantage. In 2018, the GPI of the global tertiary enrolment of women and men stood at 1.14, reflecting a gender disparity clearly in favour of women.

In most regions of the world, women outnumber men in tertiary education. In 2018, the GPI surpassed the parity range by a good measure in Northern America and Europe (GPI of 1.28), Australia and New Zealand (1.42), Northern Africa (1.17), Latin America and the Caribbean (1.30), Eastern Asia (1.16) and South-Eastern Asia (1.23). Nevertheless, a considerable disparity in favour of men persists in sub-Saharan Africa (0.74) and Oceania (excluding Australia and New Zealand) (0.84). Overall, there are almost as many women as men enrolled in tertiary education in Central Asia, Southern Asia and Western Asia, but the regional averages conceal a low participation rate among women in several countries within those regions.

Figure III: Gender parity index of gross enrolment ratios in tertiary education globally and by region: 1990, 2005 and 2018



Source: UNESCO, UNESCO Institute for Statistics database (accessed April 2020) (<http://data.uis.unesco.org/>).

Note: Gender parity is considered to have been attained when the GPI lies between 0.97 and 1.03.

About the data

Definitions

- **Gender Parity Index (GPI):** Measure of the progress towards gender parity in education participation and/or learning opportunities available for girls in relation to those available to boys, and represents the ratio of the value of females to that of males, for a given indicator. A GPI value equal to one indicates parity. In general, a value less than one indicates disparity in favour of men/boys, whereas a value greater than one indicates disparity in favour of women/girls. Gender parity is considered to have been attained when the GPI lies between 0.97 and 1.03.

Coverage

(a) Girls and boys in primary education; (b) girls and boys in secondary education; (c) women and men in tertiary education.

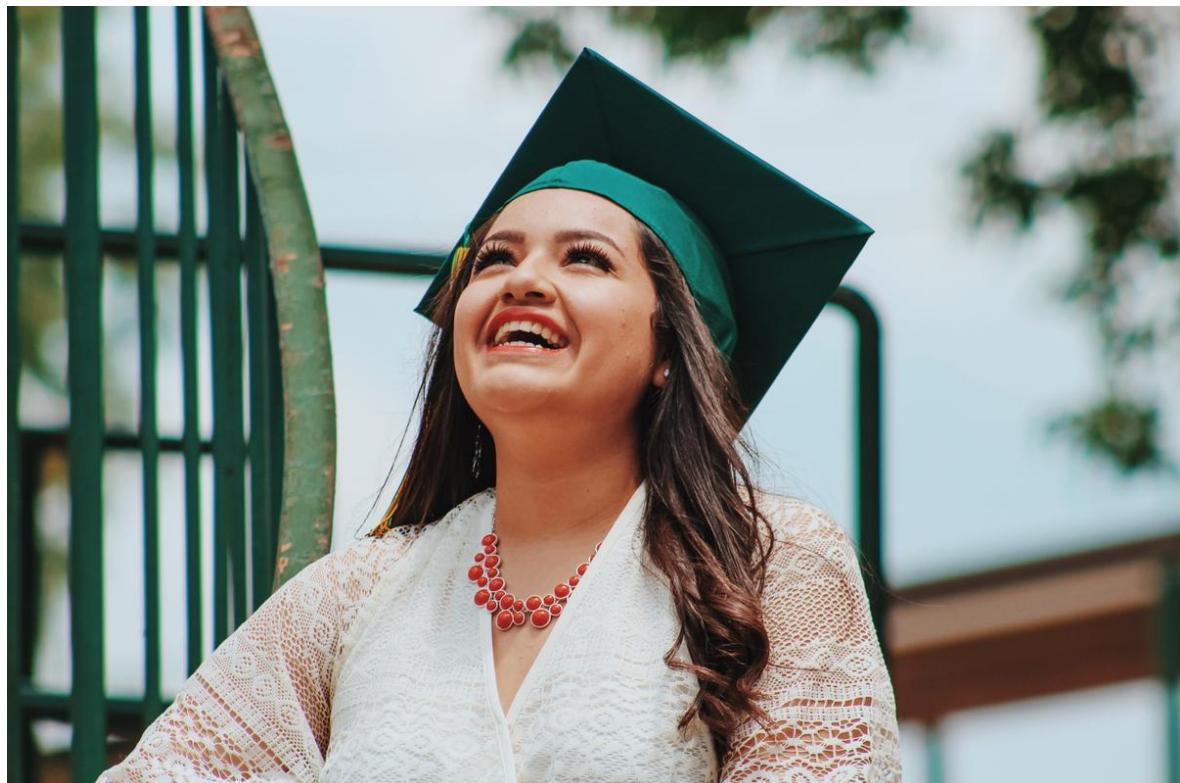
Availability

Data for the period 1990–2018² are available for countries in all regions, organized by regional groupings under the Sustainable Development Goals (SDGs) indicators framework.³

Footnotes

1. United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Global Education Digest 2005: Comparing Education Statistics Across the World, Montreal, 2005.
2. Data source is the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed in April 2020).
3. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

Mexico: school attendance among youth aged 15–24



Key points

- The participation in formal education of both young women and men aged 15–24 has increased steadily in Mexico since 1996.
- The national gender gap, which historically has been slightly to the disadvantage of young women, narrowed over the period 1996–2019; the gender gap has been reversed, with a slightly higher proportion of young women than young men aged 15–19 attending school.
- Participation of young women and men in formal education differs by state within the United Mexican States. While in many states gender parity has been achieved, in some states, such as Chiapas and Hidalgo, the gender gap in favour of young men persists, in others, such as Jalisco and Chihuahua, the gender gap has reversed, leaving men at a disadvantage.
- The school attendance rate of young women and men is affected by place of residence, with the gap between urban and rural areas showing a difference of more than 15 percentage points.
- Socioeconomic status has an impact on participation in formal education, with more young women and men in higher socioeconomic strata attending school than their counterparts in lower socioeconomic strata.

Background

Education fosters better opportunities for individuals, advances progress in terms of collective well-being and promotes improved overall levels of social development. Educational achievement directly affects the ability of young women and men to find decent work and to improve their living conditions.¹

Current situation

The proportion of young people aged 15–24 in Mexico currently attending school is significantly greater than that recorded for previous generations. "The changes experienced in social, cultural, economic, political and demographic orders have opened new and greater opportunities for young people".² Among young women, in particular, there has been a significant increase in rates of school attendance.

The greater participation of young women aged 15–24 in formal education (which generally corresponds to upper secondary education and higher education),³ is directly related to improved educational options and increased awareness of the opportunities education offers, including access to decent jobs in the labour market.

The Beijing Declaration and Platform for Action,⁴ adopted at the Fourth World Conference on Women in 1995, prompted many countries, including Mexico, to examine the status of women in critical areas including education, health, employment and political participation.⁵ In the educational field, women in Mexico were disadvantaged in different aspects, evidencing higher levels of illiteracy, lower school participation rates and a notable gender gap at higher levels of education. Moreover, significant gender biases were reported in both upper and higher secondary education, with women often restricted to so-called feminine fields of study.

In response, the National Programme for Women 1995–2000 proposed "to guarantee the access and enrolment of women at all levels and modalities of the education system", with priority given to ensuring the equality of educational opportunities at all levels of the school system, as well as reducing inequalities between women and men regarding access to school and educational outcomes.⁶

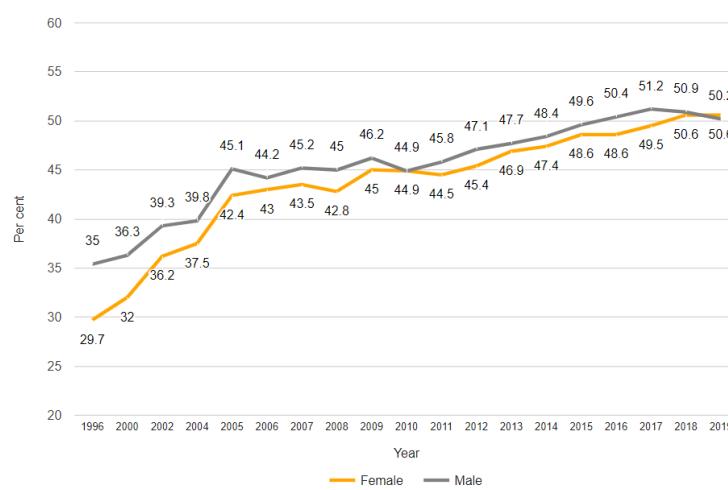
The participation of young women and men in formal education has increased steadily over the period 1996–2019, and the gender gap has narrowed over the same period

The percentages of young women and men in formal education during the period 1996–2019 are presented in figure I. School attendance at ages 15–24 assumes enrolment either in upper secondary education⁷ (ages 15–17), which, since 9 February 2012, has been mandatory in Mexico, or in higher education (ages 18–24).

At the national level, the school attendance rate for the population aged 15–24 has increased over recent decades.⁸ In 1996 only 32.5% of young people in that age range was in school: the attendance rate for young women was 29.7% and for young men it was 35.4%, revealing a gap between women and men of 6 percentage points. By 2002, school attendance had increased by 5 percentage points, to 37.7%, and the gap between women and men had been reduced to 3 percentage points (36.2% for women and 39.3% for men).

In 2005, the school attendance rate for young women and men aged 15–24 was 43.7% and by 2019 it had increased to 50.4%, an increase of 6.7 percentage points over a period of 14 years. In 2019, young women's attendance rate was 50.6% and men's rate was 50.2%, showing a virtual elimination of the gender gap in formal education at the national level.

Figure I: School attendance rate of young women and men aged 15–24: 1996–2019 (Percentage)

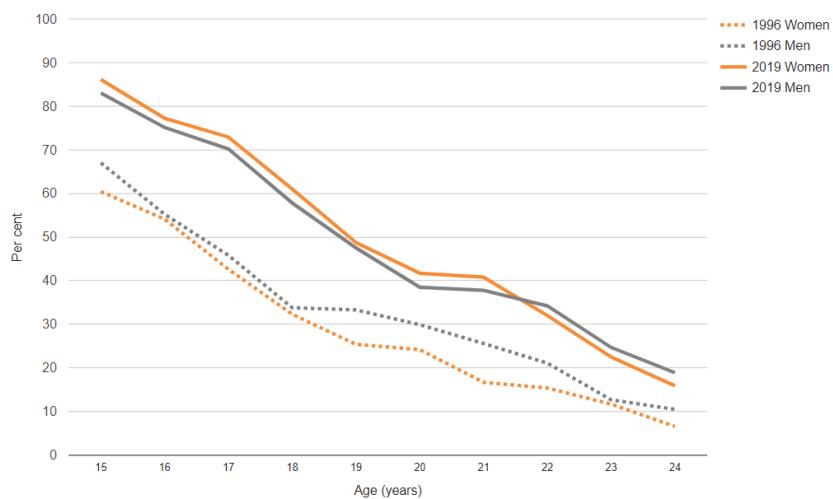


Source: National Institute of Statistics, Geography and Informatics (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1996–2004; INEGI, National Survey of Occupation and Employment (ENOE), 2005–2019.

A steady increase in participation in formal education is observed for both young women and men; the gender gap, which was moderately to the disadvantage of young women, has narrowed over the period 1996–2019

When analysing the school attendance rate by single year of age for 1996 and 2019 (see figure II), it is evident that the school attendance rate for both young women and men increased significantly over the period 1996–2019. In particular, attendance of young women aged 15–19 and at age 21 increased by more than 20 percentage points. Over the same period, the gender gap, which was moderately to the disadvantage of young women in 1996, narrowed, and appears to be reversing among young women and men aged 15–21, with a slightly higher participation rate among young women than men in what would be secondary education. For the group aged 22–24, there is a slightly higher participation rate of young men than women in what would be upper secondary or post-secondary education.

Figure II: School attendance rate among young women and men aged 15—24, by age: 1996 and 2019
(Percentage)



Source: INEGI, National Survey of Household Income and Expenditure (ENIGH) 1996; and INEGI, National Survey of Occupation and Employment (ENO) 2019.

Participation of young women and men in formal education differs by state within the United Mexican States. While in many states gender parity has been achieved, in some, such as Hidalgo and Chiapas, a gender gap in favour of men persists. In other states, such as Jalisco and Chihuahua, the gender gap has reversed, leaving men at a disadvantage

Participation in the formal education of young people aged 15–24 reveals gender gaps when looking at the data by state (see figure III).

Closure of the gender gap in school participation has not been even across all states. The 2019 data presented by the states of Chiapas, Guerrero, Hidalgo, Oaxaca, San Luis Potosi, Tabasco and Veracruz showed a 4 and 5 percentage point difference in school participation to the disadvantage of women. In other states, including Chihuahua, Guanajuato, Jalisco, Puebla, Queretaro and Yucatan, between 4 and 8 percentage points differences in school participation were reported to the disadvantage of young men. Since 2005 some states, including Durango, Nayarit, Sinaloa and Sonora, showed equal or greater levels of school attendance among women.

The southern region of the country still displays the greatest differences in opportunities for and accessibility to formal education for women, in particular in Chiapas, Guerrero and Hidalgo. In the central and northern states of the country, the gap is to the disadvantage of men, with a lower rate of school attendance of up to almost 8 percentage points in states such as Chihuahua and Jalisco, a situation that also causes concern and calls for attention.

Figure III: Gender gaps in school attendance rates among the population aged 15–24 by state: 2019

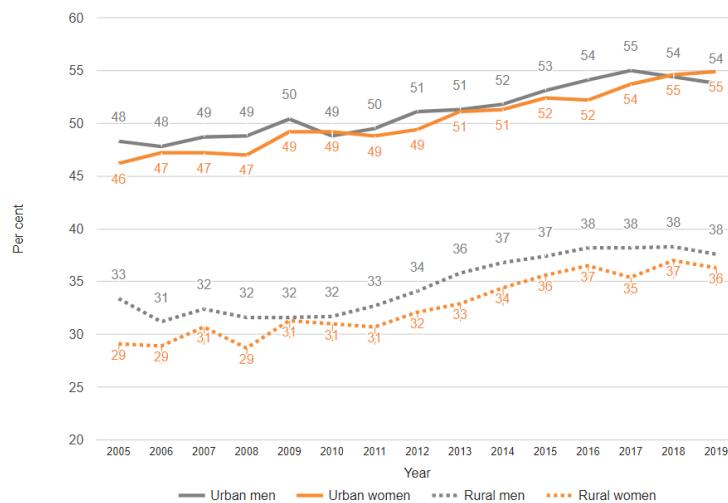
Place of residence affects the participation of young women and men in school, with a gap in attendance of young people in urban and rural areas of more than 15 percentage points

It is well known that educational opportunities differ depending on place of residence. The inequalities between urban and rural areas are significant in terms of participation in education for young women and men, with a consistent difference of more than 15 percentage points in the rate of school attendance reported since 2005 (see figure IV).

In 2005, urban locations reported school attendance among men aged 15–24 at 48%, and at 54% in 2019, while the school attendance for women was 46% in 2005 and 55% in 2019. As of 2019, the gender gap in school participation in urban locations had been virtually closed (registering a gender gap of only one percentage point).

The situation in rural locations was different, with a gender gap in 2005 of four percentage points against women. While that differential remained for a number of years, by 2019 it had been reduced to close to only one percentage point. It is important to highlight the moderate increase in school attendance among rural women, from 29% in 2005 and to 36% in 2019.

Figure IV: School attendance rate of young women and men aged 15—24 by sex and rural/urban residence: 2005—2019 (Percentage)



Source: INEGI, National Survey of Occupation and Employment (ENOE) 2005 and 2019.

Socioeconomic status has impact on participation in formal education, with young women and men in higher socioeconomic strata participating in school at relatively higher attendance rates than their counterparts in lower socioeconomic strata

While there are many factors that prevent the access and enrolment of young women and men in formal education, the economic aspect is one of the most relevant. Socioeconomic status as well as place of residence have a significant effect on school enrolment and participation. In particular, in locations with limited physical access to upper and upper middle level schools, students with access to the Internet and advanced information and communication technologies (ICT) are able to access education by different modalities,⁹ and students at lower socioeconomic strata, without such access, are left at a disadvantage.

Evidence shows that, in 2019, the attendance rate of both young women and men increases with their socioeconomic level, with young women and men aged 15–24 in upper socioeconomic strata attending school at relatively higher rates than their less advantaged counterparts. This applies regardless of urban or rural residence or age group (15–19 or 20–24). Young women and men aged 15–19 in upper socioeconomic strata living in rural areas had higher levels of attendance than their urban counterparts, and the same was observed for young women aged 20–24.

About the data

Definitions

The indicator measures the percentage of youth aged 15–24 attending school at any educational level in the formal education system during the reference period.

Coverage

Young women and men aged 15–24.

Availability

Data are available by age and sex at the national level as well as by state within the United Mexican States, urban/rural residence and socioeconomic status for the period 1996–2019. The National Survey of Occupation and Employment (ENO),¹⁰ the labour force survey carried out by the National Institute of Statistics, Geography and Informatics (INEGI), is the source of data for the period 2005–2019, while data on school attendance from the INEGI National Survey of Household Income and Expenditure (ENIGH)¹¹ has been used to complement the time-series data for the period 1996–2004.

Footnotes

1. INEGI, *Mujeres y hombres en México 2019*, Mexico City, 2019 .
2. Camarena, C., Rosa María, "Los jóvenes y la educación: Situación actual y cambios intergeneracionales", *Papeles de la Población*, vol. 6, No. 26, October-December 2000, Autonomous University of Mexico State .
3. Corresponds to the following levels of the International Standard Classification of Education (ISCED): ISCED level 3 (upper secondary education), ISCED level 5 (short-cycle tertiary education), ISCED level 6 (Bachelor's or equivalent level), ISCED level 7 (Master's or equivalent level), and, in some cases, ISCED level 8 (Doctoral or equivalent level).
4. Report of the Fourth World Conference on Women, Beijing, 4–15 September 1995 (United Nations publication, Sales No. E.96.IV.13), chap. I, resolution 1, annexes I and II .
5. Sandoval, Etelvina and Tarrés, María Luisa, "Mujer y educación en México, 1980—1990", *Revista Latinoamericana de Estudios Educativos* (México), vol. XXVI, No. 3, 1995 .
6. National Programme for Women 1995–2000 (Programa Nacional de la Mujer 1995–2000) (*Diario Oficial de la Federación*: 21/08/1996) .
7. Higher secondary education includes the levels of baccalaureate, professional baccalaureate and its equivalent and professional education that does not require a baccalaureate or its equivalent. It is organized through a common curricular framework at the national level that guarantees the recognition of studies among the options offered (article 44 of the General Education Law, *Diario Oficial de la Federación*, September 2019).
8. Based on information from INEGI, the National Survey of Household Income and Expenditure (ENIGH)and the National Survey of Occupation and Employment (ENO).
9. National Council for the Evaluation of Social Development Policy (Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL)), *Estudio Diagnóstico del Derecho a la Educación 2018*, Mexico City, 2018 .
10. National Institute of Statistics, Geography and Informatics (INEGI), National Survey of Occupation and Employment .
11. INEGI.

Children and adolescents with minimum proficiency in reading and mathematics



Key points

- Girls outperform boys in reading proficiency in every region of the world and across all three levels of education (early and late primary education and at the end of lower secondary education).
- Girls performed better than boys in reading in all but one country (85 out of 86 countries) at the end of lower secondary education. Girls' overperformance in reading skills is more pronounced at the end of lower secondary education than at lower levels of education.
- Large regional differences exist in minimum proficiency in reading skills; extremely low proficiency levels in reading were observed in the majority of countries in sub-Saharan Africa (proficiency level of less than 30% in grades 2 or 3 of primary education).
- Overall gender disparities in proficiency in mathematics is not significant as opposed to gender differences in reading skills; however, boys slightly outperform girls in mathematics at the end of primary education and girls outperform boys at the end of lower secondary education.
- Gender disparity in student learning changes over young adulthood, and the gender gap in reading, at the advantage of girls, is almost completely closed at around age 30.

Background

The main purpose of education is to impart skills to young people so that they can effectively participate in social, economic and political life. Ensuring that children are [in school](#) is not an end in itself. Reading and mathematics are considered to be the most important, most basic, skills as they serve as the foundation for all other skills and are needed to obtain further education and training. People who cannot read, write and do basic arithmetic have fewer opportunities for gainful employment, entrepreneurial activity or civic participation.

Foundation skills are also essential for active citizenship and safe choices about personal health. A lack of basic knowledge in those two subject areas not only threatens an individual's ability to climb out of poverty, it also jeopardizes the economic future of entire nations if they are obliged to compete in a global marketplace with less-than-skilled human resources.¹ Sustainable Development Goal (SDG) 4, indicator 4.1.1, measures the quality of student learning outcomes in two subject areas (mathematics and reading) in early and late primary education and at the end of lower secondary education.

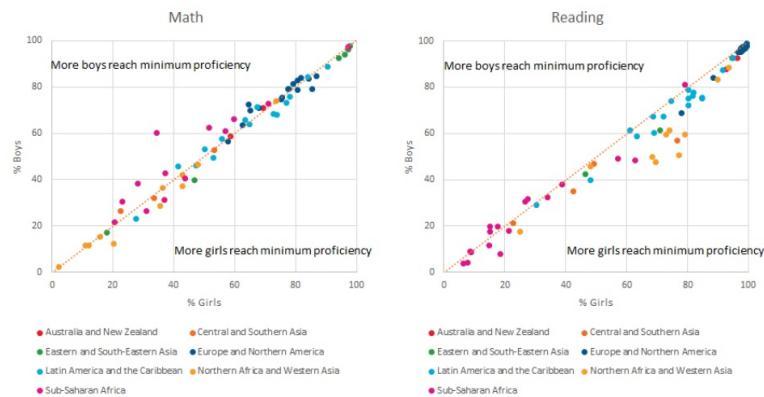
Current situation

Girls outperformed boys in reading skills in the vast majority of countries; this gap is more pronounced at the end of lower secondary than at lower levels of education

Girls' advantage in reading is well documented. Girls outperformed boys in reading proficiency in every region of the world and across all three levels of education—early and late primary education and at the end of lower secondary education (see figures I, II and III). This was the case in 64 out of 73 countries with data at the level of grades 2 or 3 of primary education, and this was also the case in 31 out of 35 countries at the end of primary education. Girls performed better than boys in reading in all but one country (85 out of 86 countries) at the end of lower [secondary education](#). These gaps underscore the importance of a gender-sensitive approach in teaching.

Gender gaps in reading proficiency, which generally favour girls, tend to be more pronounced at the end of lower secondary than at the other two lower levels of education. This is the case in both developing and developed countries.

Figure I: Proportion of girls and boys in grades 2 or 3 of primary education achieving a minimum proficiency level in reading and mathematics by region: 2010–2019 (latest available) (Percentage)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics education database (accessed in February 2020) (http://data UIS.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en).

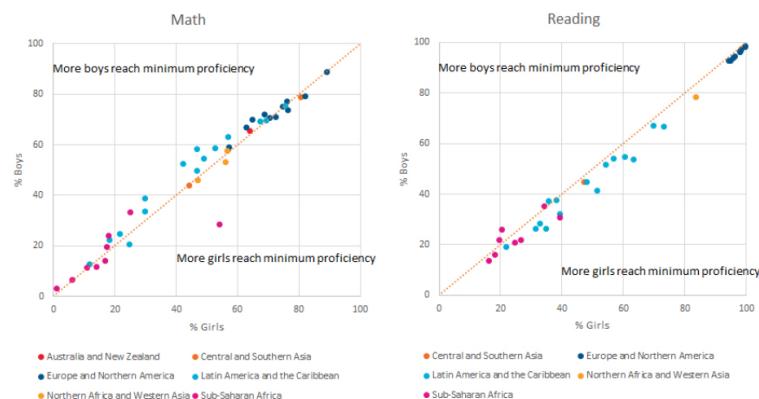
Note: Each point represents data for one country. Data are available for 73 countries for reading and 66 for mathematics. Data correspond to the latest available year in the period 2010–2019. The diagonal line represents the gender parity line. Below the gender parity line, higher proportions of girls than boys achieved minimum proficiency.

Proficiency in reading was extremely low in countries in sub-Saharan Africa

Large regional differences exist in minimum proficiency in reading. Extremely low proficiency levels in reading were observed in the majority of countries in sub-Saharan Africa, where more than 7 out of 10 countries with data show a proficiency level of less than 30% at grades 2 or 3 of primary education. Proficiency in reading for both girls and boys at that level of education was similarly low in many countries in Central and Southern Asia. Despite years of steady growth in enrolment rates, proficiency rates in these regions remain extremely low. In contrast, proficiency in reading for both girls and boys was high (above 90%) in Europe and Northern America and Australia and New Zealand, as well as in some countries in Eastern and South-Eastern Asia. Proficiency in reading was moderate in the majority of the countries in Northern Africa and Western Asia and Latin America and the Caribbean.

The regional patterns of reading skills were similar for the other two levels of education (end of primary education and end of lower secondary education), although proficiency levels were more modest in comparison to those at grades 2 or 3 of primary education.

Figure II: Proportion of girls and boys at the end of primary education achieving a minimum proficiency level in reading and mathematics by region: 2010–2019 (latest available) (Percentage)



Source: UNESCO, UNESCO Institute for Statistics education database (accessed in February 2020) (http://data UIS.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en).

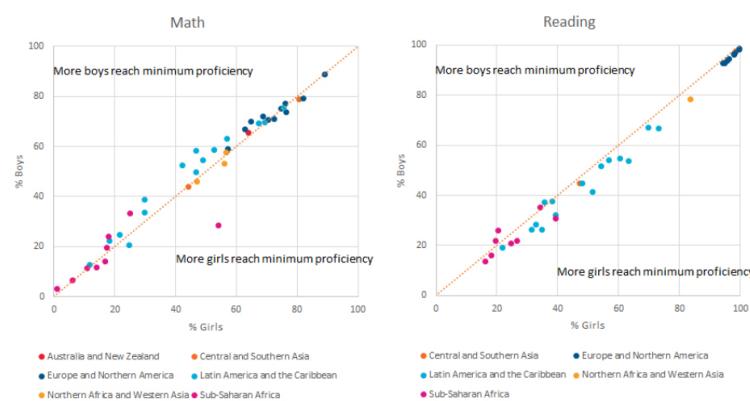
Note: Each point represents data for one country. Data are available for 35 countries for reading and for 41 for mathematics. Data correspond to the latest available year in the period 2010–2019. The diagonal line represents the gender parity line. Below the gender parity line, higher proportions of girls than boys achieved minimum proficiency.

Boys outperform girls in mathematics at the end of primary education, but girls outperform boys at the end of lower secondary education

Proficiency in mathematics presents a mixed picture than reading, though it is also characterized by gender differences. However, in contrast to what was observed for reading skills, with few exceptions, the gender gaps were not significant across educational levels and regions (see figures I, II and III).

Gender disparities pertaining to proficiency in mathematics display diverse patterns across educational levels. At the level of grades 2 or 3 of primary education, boys outperformed girls in 33 out of 66 countries with data, while in 31 countries girls did better. At the end of primary education, 29 out of 41 countries with data showed gender gaps in favour of boys, and in 11 countries, the gender disparity favoured girls. At the end of lower secondary education, only 43 out of 95 countries with data displayed gender disparities favouring boys; in 51 of the remaining countries girls slightly outperformed boys. Girls appear to be narrowing the gap in achievement in mathematics, an area where boys have historically held an advantage.

Figure III: Proportion of young girls and boys at the end of lower secondary education achieving a minimum proficiency level in reading and mathematics by region: 2010–2019 (latest available) (Percentage)



Source: UNESCO, UNESCO Institute for Statistics education database (accessed in February 2020) (http://data UIS.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en).

Note: Each point represents data for one country. Data are available for 86 countries for reading and for 95 for mathematics. Data correspond to the latest available year in the period 2010–2019. The diagonal line represents the gender parity line. Below the gender parity line, higher proportions of girls than boys achieved minimum proficiency.

Learning disparities change over young adulthood

Some studies² show that the gender disparity in student learning changes over young adulthood. Young people's literacy and numeracy skills continue to develop after primary and secondary education, reaching a peak at around age 30. The ways in which skills develop are influenced by the formative education and employment choices and paths young people pursue. In a comparison survey of students at age 15 carried out under the Programme for International Student Assessment, coordinated by the Organization for Economic and Cooperation and Development (OECD), followed by a Programme for the International Assessment of Adult Competencies survey 12 years later, significant changes in disparities were reported: wide literacy gaps between girls and boys narrowed or disappeared in young adulthood. At age 15, girls in OECD countries outperformed boys in reading, but by age 27, the gender gap had almost completely closed.³

About the data

Definitions

- **Proportion of children and adolescents in grades 2 or 3 of primary education, at the end of primary education, and at the end of lower secondary education achieving at least a minimum proficiency level in reading and mathematics.** The indicator is calculated as the percentage of children and young people at the relevant stage of education achieving or exceeding a predefined minimum proficiency level in a given subject. The minimum proficiency level is defined as the benchmark of basic knowledge in a given domain (reading and mathematics) measured through learning assessments. Currently, there are no common standards for a global benchmark. Since each learning assessment sets its own objectives and standards, the performance levels defined in these assessments may not be consistent.

Coverage

Girls and boys: (a) in grades 2 or 3 of primary education; (b) at the end of primary education; and (c) at the end of lower secondary education.

Availability

Data for grades 2 or 3 of primary education are available for 73 countries for reading and 66 for mathematics. Data at the end of primary education are available for 35 countries for reading and for 41 for mathematics. Data at the end of lower secondary education are available for 86 countries for reading and for 95 for mathematics. Data correspond to the latest available year during the period 2010–2019.⁴ Countries are organized according to regional groupings under the Sustainable Development Goals indicators framework.⁵

Footnotes

1. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, Sustainable Development Report 2019, New York, 2019.
2. UNESCO, Global education monitoring report 2018: Gender Review: Meeting our commitments to gender equality in education, Paris, 2018.
3. Ibid.
4. Data source is the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics education database (accessed in February 2020).
5. Regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

Proportion of children aged 7-14 and children in grades 2 and 3 achieving minimum proficiency in reading and mathematics in Zimbabwe



Key points

- A higher proportion of girls than boys demonstrate foundational skills in reading across the two categories: children aged 7–14 and children in grades 2 and 3.
- With regard to foundational numeracy skills, girls aged 7–14 slightly outperform boys at the same ages, while boys marginally outperform girls in grades 2 and 3.
- Regional disparities are apparent in the distribution of proficiency levels among children, with children in the predominantly urban provinces of Bulawayo and Harare showing higher levels of proficiency in both reading and numeracy.
- Functional difficulties have an effect on children's performance; the proportion of children who demonstrated reading and numeracy skills was higher among children without functional difficulties than it was for children who had functional difficulties. While girls' advantage in reading was also visible among children with difficulties, their advantage over boys in numeracy skills was less significant.

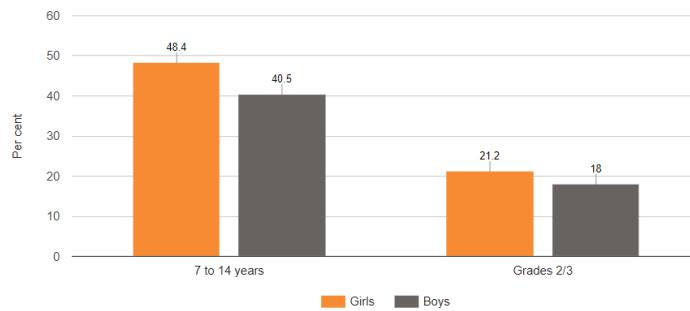
Background

Gender differentials in employment levels, in terms of participation rates and job types, have often been attributed to the education that women and men acquire at secondary and tertiary levels, yet the foundational education received in the early years of life are key determinants of skills obtained later on. In basic economic terms, the education of young children is the most cost-effective way to ensure their success throughout their lifecourse.¹ In Zimbabwe, possession of a pass in English and mathematics in lower secondary schooling is a requirement for enrolment in certain tertiary studies and for employment.

A higher proportion of girls than boys demonstrate foundational skills in reading across the two categories: ages 7–14 and in grades 2 and 3

In 2019, [foundational skills in reading](#) were higher among girls than boys (see figure I) across the two categories, by a measure of 8 percentage points among children aged 7–14 and by 3 percentage points among children in grades 2 and 3.

Figure I: Proportion of girls and boys aged 7–14 and in grades 2 and 3 demonstrating foundational reading skills: 2019

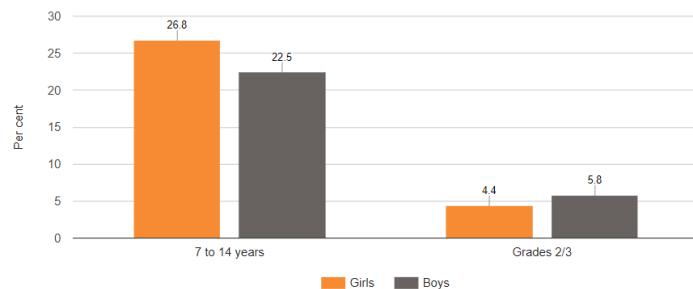


Source: Zimbabwe National Statistics Agency, Zimbabwe Multiple Indicator Cluster Survey 2019, Snapshots of Key Findings, Harare, 2019.

With regard to [foundational numeracy skills](#), girls outperformed boys aged 7–14 (by 4 percentage points), while boys slightly outperformed girls in grades 2 and 3 (by 14 percentage points) (see figure II).

National examinations administered by the Zimbabwe Schools Examinations Council at the end of primary schooling confirm that girls outperformed boys, with a gender parity index (GPI) of pass rates ranging from 1.10 (110 girls to 100 boys) to 1.13 (113 girls to 100 boys), during the period 2014–2018. However, data on learning outcomes (pass rates) at the end of lower secondary schooling show that boys performed better than girls.²

Figure II: Proportion of girls and boys aged 7–14 and in grades 2 and 3 demonstrating foundational numeracy skills: 2019

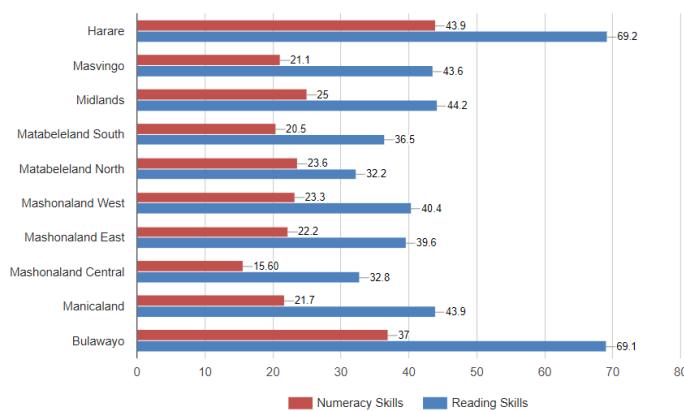


Source: Zimbabwe National Statistics Agency, Zimbabwe Multiple Indicator Cluster Survey 2019, Snapshots of Key Findings, Harare, 2019.

Regional disparities are apparent in the distribution of proficiency levels among children

High levels of proficiency in reading and numeracy have been observed in Bulawayo and Harare, the two predominantly urban provinces in Zimbabwe (see figure III). These rates can be attributed to the broader access to early childhood education in Bulawayo and Harare compared to other, predominantly rural, provinces. In 2019, the net attendance rate in primary schooling was 95% in Bulawayo and 94% in Harare. It is noted that the province with the lowest proportion of children with foundational learning skills, Mashonaland Central, is the province with the lowest literacy rates among women and men aged 15–49.

Figure III: Proportion of girls and boys demonstrating foundational reading and numeracy skills by province: 2019

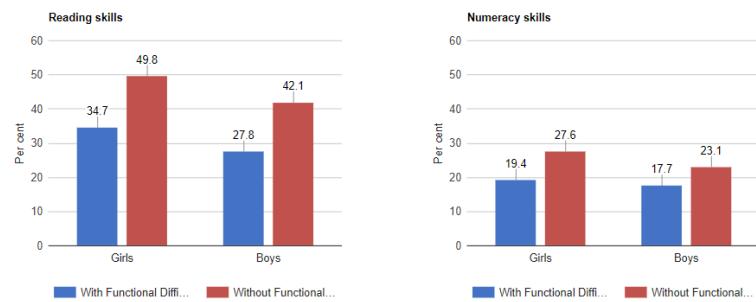


Source: Zimbabwe National Statistics Agency, Zimbabwe Multiple Indicator Cluster Survey 2019, Snapshots of Key Findings, Harare, 2019.

Functional difficulties have an effect on children's performance

without functional difficulties³ than it was for the children who had functional difficulties (see figure IV). In terms of the gender gap, while girls' advantage in reading was also visible among children with difficulties (6.9 percentage points compared to 7.7 percentage points among children without difficulties), their advantage over boys in numeracy skills was less significant (1.7 percentage points among children with difficulties compared to 4.5 percentage points among those without).

Figure IV: Percentage distribution of children aged 7-14 demonstrating foundational learning skills in reading and numeracy by functional difficulties: 2019



Source: Zimbabwe National Statistics Agency, Zimbabwe Multiple Indicator Cluster Survey 2019, Snapshots of Key Findings, Harare, 2019.

About the data

Definitions

The indicator measures foundational reading and numeracy skills among children aged 7–14 and children in grades 2 and 3. The ability to read and understand simple statements is a skill that, when acquired at early ages, shapes learning outcomes in future grades. This also extends to the acquisition of basic numeracy skills, which are crucial for success in the sciences and mathematics. The methodological development of the Foundation Skills Assessment Tool can be accessed in the United Nations Children's Fund (UNICEF) Multiple Indicator Cluster Surveys (MICS) Methodological Papers, No. 5⁴ and No. 9.⁵

Coverage

Children aged 7–14 years and children in grades 2 and 3.

Availability

Data, by national and provincial levels and by functional difficulties, are from the Zimbabwe Multiple Indicator Cluster Survey 2019 carried out by the Zimbabwe National Statistics Agency.⁶

Footnotes

1. Van der Gaag, J. and Tan, J.P, The Benefits of Early Child Development Program: An Economic Analysis, World Bank, Washington, D.C., 1998 and Barnett, W. S. and Masse, L. N., "Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications", *Economics of Education Review* 26, 2007.

2. Government of Zimbabwe, Ministry of Primary and Secondary Education, Harare, 2018 .

3. Functional domains covered in the questionnaire for children ages 5–17 in the Zimbabwe Multiple Indicator Survey 2019 included: seeing, hearing, walking, self-care, communication, learning, remembering, concentrating, accepting change, controlling behaviour, making friends, anxiety and depression.

4. Hiroyuki, H., Cardoso, M. and Ledoux, B., "Collecting Data on Foundational Learning Skills and Parental Involvement in Education", MICS Methodological Papers, No. 5, Data and Analytics Section, Division of Data, Research and Policy, United Nations Children's Fund (UNICEF) New York, 2017 .

5. Gochyyev, P., Mizunoya, S. and Cardoso, M., "Validity and reliability of the MICS foundational learning module", MICS Methodological Papers, No. 9, Data and Analytics Section, Division of Data, Research and Policy, United Nations Children's Fund (UNICEF), New York, 2019 .

6. Zimbabwe National Statistics Agency, Zimbabwe Multiple Indicator Cluster Survey 2019, Snapshots of Key Findings, Harare, 2019.

Italy: gender differences and trends in reading as a leisure activity



Key points

- The gender gap in reading books as a leisure activity among the adult population aged 18 and over has consistently been in favour of women over the past two decades (1998–2019).
- The inclination to read books is affected by an individual's level of education, increasing with each level of educational attainment for both women and men across all age groups.
- Among children and young people aged 6–17, more girls than boys read at least one book in their free time.
- More men than women read newspapers, and gender differences are also observed in the proportions of women and men reading newspapers online and reading digital publications, including electronic books (e-books).

Background

Reading is a significant gauge of overall well-being and social development, and reading for pleasure, in particular, can play a vital role in improving educational outcomes, increasing empathy, improving relationships with others, reducing symptoms of depression and improving well-being throughout life. In contemporary society, the spread of technological means of communication (such as social networks) may mean that there is little time or desire left for reading.

It is important therefore to survey trends in reading as a leisure activity, taking into account the impact of new technologies, including the evolution of dedicated devices, new standards of publication (portable document format (pdf) or electronic publications) and digital (e-book) lending.

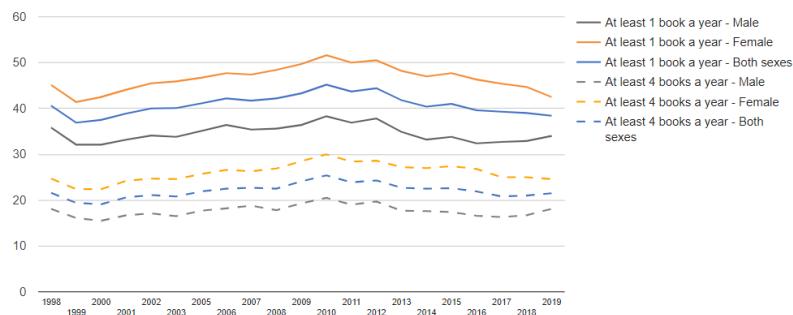
Current situation

In Italy, as in many other countries, there has been a growing disaffection with reading as a pastime over the course of recent decades, although there are evident gender differences in reading patterns and preferences based on the type of media, for example, books, e-books, newspapers or reading on the web.

Gender disparities in reading habits among the adult population aged 18 and over persist when it comes to reading books as a leisure activity

In Italy, in 2019, 38.4% of the adult population aged 18 and over read at least one book a year (see figure I). The gender gap, which, since the end of the 1980s, has shown that women are more inclined than men to read books, was confirmed in the 2019 ISTAT survey, which showed that the proportion of female readers aged 18 and over was 42.5%, almost 9 percentage points higher than men. This gap shows no signs of changing over time (it was 9.3 percentage points in 1998), exceeding 13 percentage points over the period 2009–2016. It is worth noting, however, that the gap is slightly narrower (6.5 percentage points) when considering the reading of four or more books in a year.

Figure I: Women and men aged 18 and over who had read at least one book a year in their leisure time: 1998–2019 (Per 100 persons aged 18 and over with the same characteristics)

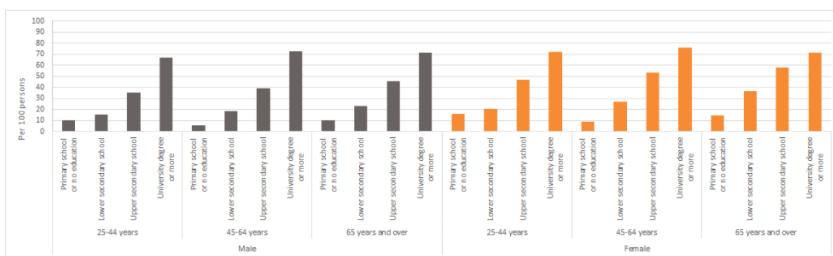


Source: National Statistical Institute (ISTAT), Multipurpose Survey on Households: Aspects of Daily Life.

The tendency to read books grows with increased educational attainment

People with higher levels of educational attainment read more, and the more educated a population the more likely it is that increased time spent in reading will be observed; this holds true for women and men in all age groups. At all levels of education, however, women read more than men (see figure II).

Figure II: Persons aged 25 and older who had read at least one book a year in their leisure time by sex, age group and level of education: 2019 (Per 100 persons aged 25–65 and older with the same characteristics)



Source: ISTAT, Multipurpose Survey on Households: Aspects of Daily Life.

Among children and youth aged 6–17, more girls than boys had read at least one book a year in their free time

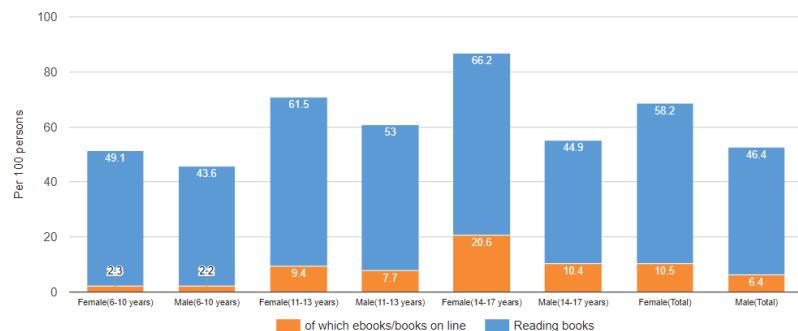
Many studies focusing on [young people](#) agree about the importance of reading, starting from childhood. Reading for pleasure makes an enormous difference to children's educational performance: children who read for enjoyment every day not only perform better in reading tests, they also develop a broader vocabulary, increased general knowledge and a better understanding of other cultures.

In Italy, during 2018–2019, around 3.6 million children and young people aged 6–17 (52.1%) had read at least one book in their free time during the past year: 46.9% had read up to 3 books (weak readers), 40.7% had read 4 to 11 books (average readers); and 12.5% had read 12 or more books (strong readers).

Even among the very young, more girls than boys stated that they had read at least one book in their free time (58.2% of girls versus 46.4% of boys) (see figure III). Furthermore, among girls, the proportion of those who had read e-books or books online was higher (10.5% of girls versus 6.4% of boys). For girls, the highest percentage of readers was recorded between ages 14–17

(66.2%), for boys, between ages 11–13 (53%).

Figure III: Girls and boys and young women and men aged 6–17 who had read at least one book a year in their leisure time by age group: 2018–2019 (Per 100 persons aged 6–17 with the same characteristics)

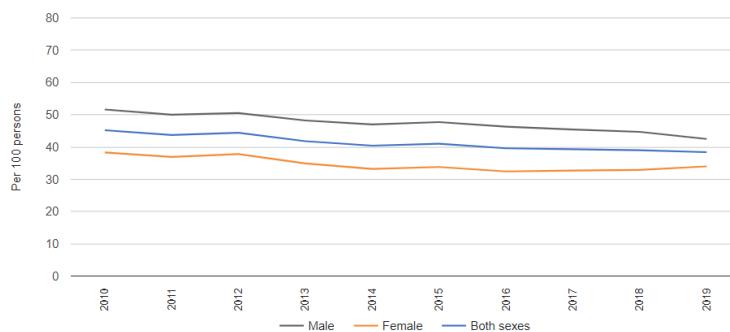


Source: ISTAT, Multipurpose Survey on Households: Aspects of Daily Life.

On average, men read newspapers more than women

Men are more likely to read newspapers than women: in 2019, 44.5% of males versus 33.6% of women read a newspaper at least once a week. However, over the course of the past 20 years, the gender gap has narrowed, from over 17 percentage points in 1998 to around 11 percentage points in 2019.

Figure IV: Women and men aged 18 and over who read newspapers at least once a week: 1998–2019 (Per 100 persons aged 18 and over with the same characteristics)



Source: ISTAT, Multipurpose Survey on Households: Aspects of Daily Life.

Digital reading is characterized by limited gender differences, with the highest rates of reading among young girls

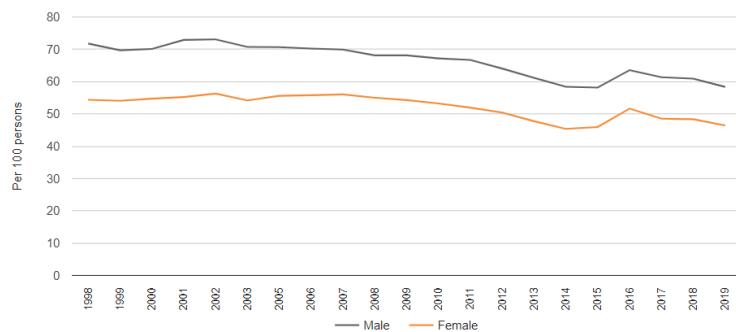
Overall, despite the wide scope of reading opportunities offered by new technologies, a disaffection with reading as a pastime is pervasive in all sectors of the population, and it is not yet clear whether the digital revolution and the availability of e-books might bring about a renewed interest in reading. In 2018, only 8.4% of the population aged 6 and over (20.6% of readers, a total of about 4.8 million people) stated that they had read an e-book and/or a digital book available online. According to available data, girls read more digital books than boys and more than the older female and male population, although reported gender differences are not significant.

There has been a marked decrease in the reading of print edition newspapers in the past 20 years, only partially mitigated by

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the increase in the viewing of newspaper content online. In 1998, 62.7% of the population aged 18 and over read newspapers at least once a week, a share that had dropped to 38.9% in 2019. There has been a modest recovery in readership due to the interest in online products (which was 32.5% in 2019), which has brought total newspaper readership (both paper and digital) to 52.2%, or 46% for women and 58% for men, resulting in a gender gap of 12 percentage points in 2019 (see Figure V).

Figure V: Women and men aged 18 and over who read newspapers or online newspapers at least once a week: 1998–2019 (Per 100 persons aged 18 and over with the same characteristics)



Source: ISTAT, Multipurpose Survey on Households: Aspects of Daily Life.

About the data

Definitions

- **Reading behaviour:** Includes the proportion of the population that reads at least one book a year, and the proportion of the population that reads newspapers at least once a week

Coverage

Population aged 6 and older living in households and resident in Italy

Availability

The main data source for reading behaviours and other related information is the Multipurpose Survey on Households: Aspects of Daily Life produced by the National Statistical Institute (ISTAT) of Italy.¹ The survey collects basic information on individuals and daily household life and provides valuable information on the habits and problems faced by people in Italy in everyday life. The survey, which has been carried out on an annual basis since 1993, provides estimates at the national, regional and municipal levels.

Footnotes

1. National Statistical Institute (ISTAT), Multipurpose Survey on Households: Aspects of Daily Life, 31 March 2020 .

Information and communications technology (ICT) skills



Key points

- Women's ICT skills lag considerably behind men's across all nineICT skills in the majority of countries with data, both developed and developing regions.
- Gender disparities against women are moderate for "basic" ICT skills (such as copying and pasting and sending e-mails with attached files) when compared to those for the more complex "standard" skills (such as downloading and installing software and connecting and installing devices).
- Women in developing regions are more disadvantaged than their counterparts in developed regions when it comes to basic digital skills and some standard skills.
- Gender disparities against women are pronounced in the "advanced" ICT skill of writing computer programs and, with few exceptions, gender inequalities are primarily against women.

Background

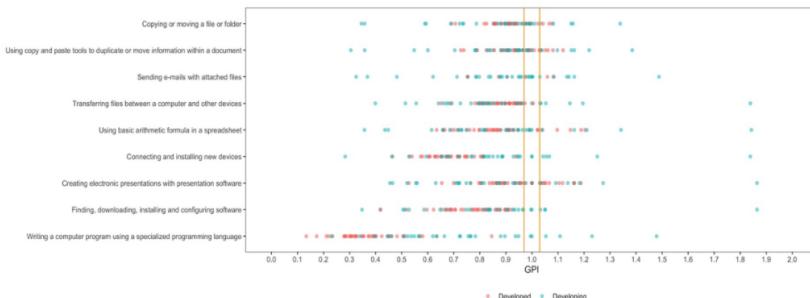
In an increasingly digital world, ICT skills are fundamental, at the individual level, to higher social and economic well-being and, at the national level, to success in a more dynamic and competitive economy.¹ It is widely recognized that a lack of ICT skills act as an impediment to participation in work, school and in society in general — and for women in particular. ICT skills are critical to the attainment of Sustainable Development Goal (SDG) 4, target 4.4, which encourages countries to substantially increase, by 2030, the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

In the majority of countries worldwide, women lag behind men in all ICT skills

Data on the gender parity index (GPI)² in 2018 show that, with few exceptions, women's ICT skills are considerably behind those of men across all nineICT skills in the majority of countries, both developed and developing (see figure I). For each ICT activity, GPI values are smaller than 0.97 in the vast majority of countries, underscoring the fact that overall gender disparities favour men over women.

Gender disparities against women are moderate for "basic" ICT skills (such as copying and pasting and sending e-mails with attached files) in comparison to those for the more complex "standard" skills (such as downloading and installing software and connecting and installing devices). Gender disparities against women are highest for the "advanced" skill of writing computer programs. It should be noted that gender parity has been achieved in Lithuania and Slovakia, where women's ICT skills are equal to those of men across the nineICT skills. In a handful of countries, including Jamaica, more women than men have ICT skills in both basic and standard ICT categories.

Figure I: Gender parity index across 9 ICT skills in developing and developed regions: 2019 (or latest available year)



Source: United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, Global SDG Indicators Database (accessed February 2020) (<https://unstats.un.org/sdgs/indicators/database/>).

Note: Data refer to 2019 or latest available for the period 2014–2019. Each observation point corresponds to the gender parity index (GPI) value for a country with reported data. “Basic” ICT skills consist of: (1) Copying or moving a file or folder; (2) Using copy and paste tools to duplicate or move information within a document; (3) Sending e-mails with attached files (e.g. documents, pictures, videos); and (4) Transferring files between a computer and other devices. “Standard” ICT skills include: (5) Using basic arithmetic formulae in a spreadsheet; (6) Connecting and installing new devices (e.g. a modem, camera, printer); (7) Creating electronic presentations with presentation software (including text, images, sound, video or charts); and, (8) Finding, downloading, installing and configuring software. “Advanced” ICT skills refer to: (9) Writing a computer program using a specialized programming language.

Women in developing regions are more disadvantaged in basic digital skills

The lack of data on ICT skills in developing regions limits detailed regional comparisons. Nevertheless, available data (see figure I) suggest that women in developing regions are more disadvantaged than their counterparts in developed regions when it comes to basic digital skills and some of the standard skills. Available data on advanced skills (writing computer programs) provide an unclear picture, as some developing countries that reported lower levels of basic skills also reported higher levels of standard and advanced skills.

Research suggests that inequalities in ICT skills at the country level reflect other inequalities, including in education, wealth and gender, and that inequalities in digital skills might lead to increased disparity between developing and developed countries³ and between socioeconomic and sociocultural groups.⁴ A lack of digital skills is widely understood to be a significant barrier to participation in work and school, and in society in general, as well as in home-based activities and in private life.

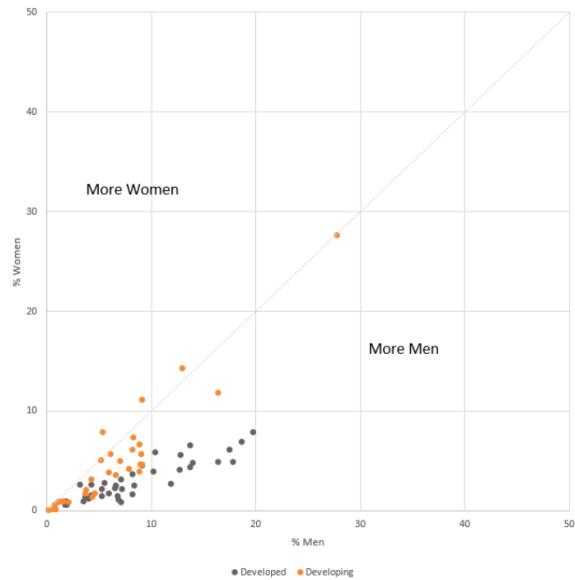
Significant gender gaps in advanced ICT skills

Writing a computer program is the only advanced ICT skill measured in connection with the monitoring of SDG target 4.4. Considerable gender gaps in advanced ICT skills, based on the proportion of women and men who can write a computer program, are noticeable in the 70 countries for which data were available for 2019 or the latest available year during the period 2014–2019 (see figure II).

With few exceptions, gender inequalities are primarily against women, and the gender gap is large in several countries in developed regions. For every 100 men who can write a computer program, there are fewer than 33 women with that ability in a number of developed countries, including: Austria, Belgium, France, Germany, Ireland, Japan, the Netherlands, Poland and Sweden. Only two countries (Brunei Darussalam and Cuba) out of the 70 with available data show gender parity in this advanced ICT skill. However, more women than men in Bahrain, Cambodia, Kuwait and Oman can write computer programs.

In the advanced ICT skill of writing computer programs, developed countries are ahead of developing countries by only a small margin. This is partly owing to the fact that, in both developing and developed countries, the proportion of the population with skills at the highest level is very low (less than 15%, with few exceptions). This is in contrast to the situation with basic and standard skills, where developed countries have substantial advantage.

Figure II: Proportion of the female and male population aged 15 and older who can write a computer program by region: 2019 (or latest available year) (Percentage)



Source: UNDESA, Statistics Division, Global SDG Indicators Database (accessed February 2020) (<https://unstats.un.org/sdgs/indicators/database/>).

Note: Data refer to 2019 or latest available for the period 2014–2019.

Sources

- International Telecommunication Union (ITU), Manual for Measuring ICT Access and Use by Households and Individuals, 2014 Edition, Geneva, 2014
- ITU, Measuring the Information Society Report (vols. 1 and 2), Geneva, 2014
- Statistical Institute of Jamaica, JAMAICA Voluntary National Review Report on the Implementation of the 2030 Agenda for Sustainable Development, Kingston, 2018

About the data

Definitions

- **The proportion of adults with information and communications technology (ICT) skills** is defined as the percentage of adults (aged 15 and above) who have undertaken certain computer-related activities in a specified time period
- **Computer-related activities** to measure ICT skills include:
 1. Copying or moving a file or folder.
 2. Using copy and paste tools to duplicate or move information within a document.
 3. Sending e-mails with attached files (for example, documents, pictures, videos).
 4. Transferring files between a computer and other devices.
 5. Using basic arithmetic formulae in a spreadsheet.
 6. Connecting and installing new devices (for example, a modem, camera, printer).
 7. Creating electronic presentations with presentation software (including text, images, sound, videos or charts).
 8. Finding, downloading, installing and configuring software.
 9. Writing a computer program using a specialized programming language.

ICT skills are often grouped into three categories: "basic", "standard" and "advanced" skills. "Basic" skills comprise the first four computer-based activities (1 to 4), while "standard" skills consist of the next four activities (5 to 8). "Advanced" skills refer to the last activity (9), writing a computer program using a specialized programming language.

Coverage

Female and male population aged 15 and older.

Availability

Data are available for 70 countries for 2019 or latest available data for the period 2014–2019.⁵

Footnotes

1. International Telecommunication Union (ITU), Measuring the Information Society Report 2018, (vols. 1 and 2), Geneva, 2018.
2. The gender parity index (GPI) is calculated by dividing the percentage of women with ICT skills by the percentage of men with the same skills. Gender parity is considered to have been attained when the GPI value lies between 0.97 and 1.03. A GPI value of less than 0.97 indicates disparity in favour of men, whereas a value greater than 1.03 indicates disparity in favour of women.
3. Cruz Jesus, F., Vicente, M.R., Bacao, F. and Oliveira, T., "The education-related digital divide: An analysis for the EU-28", Computers in Human Behavior, vol. 56, March 2016.
4. Scheerder, A., Van Deursen, J. A. M. and Van Dijk, J. A. G. M., "Determinants of Internet Skills, Uses and Outcomes: A Systematic Review of the Second- and Third-Level Digital Divide", Telematics and Informatics, vol. 34, Issue 8, December 2017.
5. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, Global SDG Indicators Database (accessed in February 2020).

Enrolment in technical and vocational programmes



Key points

- In 2018, the global participation rate in technical and vocational programmes was 4.4% for girls and 5.0% for boys.
- The average enrolment of girls and boys in technical and vocational programmes varies greatly across regions.
- More boys than girls enrol in technical and vocational programmes in most regions of the world, with the exception of Eastern Asia, Northern America and Latin America and the Caribbean.
- Gender disparities show an underrepresentation of girls in technical and vocational programmes in 110 of 141 countries (78%) with data.
- Despite persistent gender disparities, girls' enrolment in technical and vocational programmes nearly doubled over the past three decades.

Background

Technical and vocational education and training programmes develop skills and competencies valued by employers and/or are useful for self-employment. Such programmes equip young women and men with skills and capabilities that can broaden their opportunities in life and prepare them for the transition from school to work.

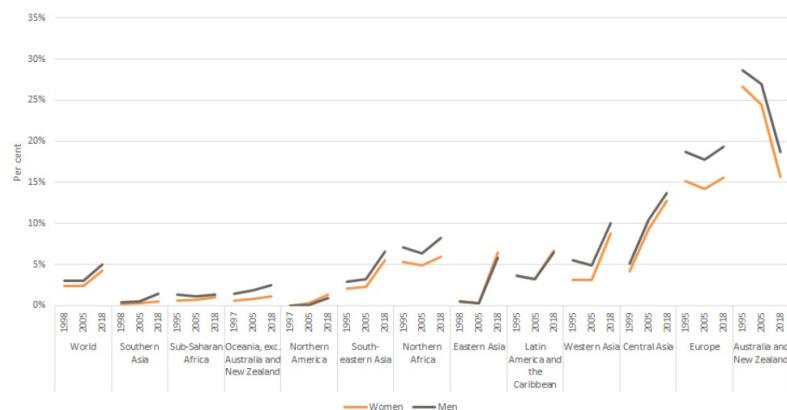
Technical and vocational programmes encompass a wide range of subject matters, from teacher training programmes to commercial studies, including various technical fields in industry and engineering. The participation rate of young people aged 15–24 in technical and vocational programmes is monitored under SDG target 4.3: "By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university".

Current situation

Enrolment of girls and boys in technical and vocational programmes varies greatly across regions

In 2018, the global participation rate in technical and vocational programmes was 4.4% for girls and 5.0% for boys (see figure I). Data show that the average participation of girls and boys in technical and vocational programmes varies greatly across regions: rates were lower than the global average in sub-Saharan Africa, Southern Asia, Northern America and Oceania (excluding Australia and New Zealand); rates were higher than global average, but lower than 10%, in Northern Africa, Eastern Asia, South-Eastern Asia and Latin America and the Caribbean; and rates were high (between 10% and 20%) in Central Asia, Europe and Australia/New Zealand.

Figure I: Percentage of the population aged 15–24 in technical and vocational education at secondary, post-secondary or tertiary levels of education by sex and region: 1995–2018



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Data for the Sustainable Development Goals (accessed May 2020) (<http://uis.unesco.org/>).

Note: Data sorted by female value for 2018.

More boys than girls participate in technical and vocational programmes in most regions of the world

More boys participate in technical and vocational programmes in all regions worldwide except Eastern Asia, Northern America and Latin America and the Caribbean. Girls were severely underrepresented in: Northern Africa (36 girls for every 100 boys), Southern Asia (46 girls for every 100 boys) and Oceania (excluding Australia and New Zealand) (72 girls for every 100 boys).

Of the 141 countries for which data were available for the period 2010–2018 (see figure II), in 110 countries (78%) there was an underrepresentation of girls. Significantly fewer girls than boys (less than 75 girls for every 100 boys) were enrolled in technical and vocational programmes in about half of the 110 countries. Girls were significantly underrepresented in technical and vocational programmes, accounting for less than 50 girls for every 100 boys, in several countries in Southern Asia (Afghanistan, Bangladesh, Iran (Islamic Republic of) and Pakistan) and sub-Saharan Africa (Angola, Benin, Cameroon, the Central African Republic, Eswatini, Ghana, Madagascar, Mauritania, Mauritius, Mozambique and the United Republic of Tanzania).

Gender parity was attained in only 10 countries with data, half of which were in Latin America and the Caribbean (Chile, El Salvador, Mexico, Paraguay and Venezuela (Bolivarian Republic of)). In contrast, more girls were enrolled than boys in 21 countries with data. Several countries and one territory in Latin America and the Caribbean were represented in the latter group: technical and vocational programmes, including Brazil, the British Virgin Islands, Colombia, Costa Rica, the Dominican Republic, Guatemala, Honduras, Nicaragua and Peru.

The boundaries and names shown and the designations used on this and other maps throughout this publication do not imply official endorsement or acceptance by the United Nations.

Enrolment of girls in technical and vocational programmes nearly doubled over the past three decades

Between 1990 and 2018, notable progress was made in participation in technical and vocational programmes by young people aged 15–24. Over that period, the global participation rate in technical and vocational programmes rose from 2.4% to 4.4% for girls and from 3.0% to 5.0% for boys (see figure I). In terms of progress of girls, countries in sub-Saharan Africa, Southern Asia and Oceania (excluding Australia and New Zealand) saw minuscule growth (less than half of one percentage point) over the same period. Northern Africa, Europe and Northern America displayed modest growth (between one and one and a half percentage points). Girls' participation increased by three percentage points or more, however, in Central Asia (8.5 percentage points), Eastern Asia (6.0 percentage points), South-Eastern Asia (3.3 percentage points), Western Asia (5.8 percentage points) and Latin America and the Caribbean (3.0 percentage points). Participation substantially declined for both girls and boys in Australia and New Zealand, the only region to see a decline over the period 1990–2018.

Understanding the relationship between gender and technical and vocational programmes

Investigating overall enrolment rates alone is not sufficient to obtain a comprehensive understanding of the relationship between gender and participation in technical and vocational programmes, it is also necessary to assess the enrolment of girls and boys by different fields of study in order to have a fuller understanding of gender disparities in participation in such programmes, including in understanding the extent to which the traditional differentiation between "masculine" and "feminine" subjects remains.

About the data

Definitions

- **Participation rate in technical and vocational programmes:** Number of young people aged 15–24 enroled in technical and vocational education at the secondary, post-secondary or tertiary levels of education expressed as a percentage of the population of the same age group. The purpose of the indicator is to show the level of participation of youth in technical and vocational education and training. A high value indicates that a large share of people aged 15–24 are participating in education and training specifically designed to lead to a particular line of work. Technical and vocational education and training can be offered in a variety of settings, including schools, universities and workplace environments. Participation rates do not capture the intensity or quality of the provision nor the outcomes of such education and training.

Coverage

Youth aged 15–24.

Availability

Data are available for 141 countries and for all regional groupings under the Sustainable Development Goals (SDGs) indicators framework¹ (latest available data for the period 2010–2018).²

Footnotes

1. Regional groupings under the Sustainable Development Goals (SDGs).
2. Data from United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Data for the Sustainable Development Goals (accessed May 2020).

Out-of-school children, adolescents and youth



Key points

- The global rates for out-of-school children, adolescents and youth show a substantial downward decline across levels of education corresponding to primary, lower secondary and upper secondary education.
- Global trends show that the world is moving towards greater gender parity in out-of-school rates, although inequalities at the primary school level persist (9% for girls and 7% for boys, resulting in a 2 percentage points gender gap).
- Female and male out-of-school rates for the lower secondary (around 15%) and upper secondary (around 35%) school-age populations are nearly identical at the global level.
- Out-of-school rates for youth of upper secondary school age are far greater than those for children and adolescents of primary and lower secondary school age.
- Despite the overall historically downward trend, global out-of-school rates seem to have stagnated in recent years.
- Although global proportions of boys and girls not in education are roughly equal, global averages mask large gender inequalities among regions. As of 2018, gender parity in the out-of-school rate had not been achieved in any region in the world with girls generally having a higher out-of-school rate than boys in most regions, particularly in primary school.

Background

Out-of-school children, adolescents and youth comprise two groups based on their exposure to education: those who have entered school in the past and dropped out; and those who have not entered school. Children who drop out in early grades are unlikely to acquire even the most basic mastery of reading and writing, numeracy and other skills. Children who never enter school will have no exposure to formal education at all and will bear the attendant lifelong consequences.

Children, adolescents and youth who are not enrolled in school are often those from poor households and from socially marginalized communities, including children with disabilities, and from ethnic-minority communities, rural areas and areas with conflict. These barriers often interact with gender to create even greater disadvantages in learning opportunities. Education is essential to the achievement of the SDGs: it will not be possible to achieve universal completion of primary and secondary education by 2030 (SDG Goal 4) without tackling the problem of out-of-school children, adolescents and youth.

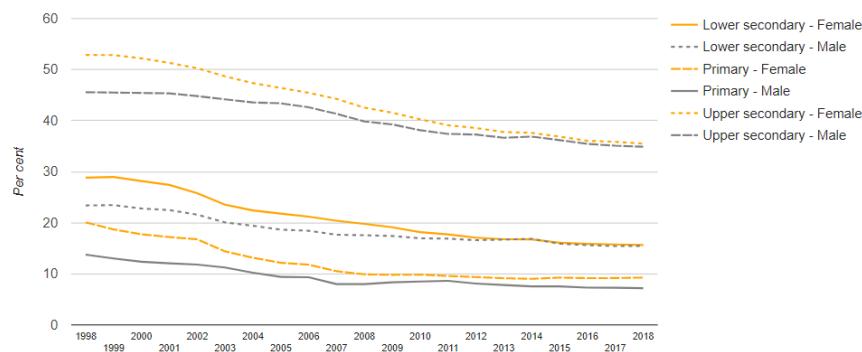
The world is moving towards greater gender parity in out-of-school rates, although some inequalities at the primary level remain

Globally, the rates of out-of-school children, adolescents and youth for all three levels of education, primary, lower secondary and upper secondary, have followed a similar downward trend (see figure I), which has been accompanied by a reduction in gender disparities. While girls and young women have historically been excluded

from education relative to boys, statistics for 2018 show that male and female out-of-school rates for the lower secondary school-age population (around 15%) and the upper secondary school-age population (around 35%) are now nearly identical at the global level.

While the gender gap among children of primary school age has more than halved since 1998, gender disparities remain. Among children of primary school age, the gender gap has widened marginally over recent years due to the continued decline in the male out-of-school rate and a small increase in the female out-of-school rate. In 2018, the global out-of-school rate among girls of primary school age (9.3%) was two percentage points higher than that of boys (7.2%).

Figure 1: Global out-of-school rate by level of education: 2000–2015 (Percentage)



Source: UNESCO Institute for Statistics, database (<http://uis.unesco.org/en/topic/out-school-children-and-youth>) (accessed February 2020)

Out-of-school rates for youth of upper secondary school age are larger than those for children and adolescents of primary and lower secondary school age

Data show that out-of-school rates for youth, both girls and boys, of upper secondary school age are far greater than those for children and adolescents of primary and lower secondary school age. Upper secondary school-age youth are more than four times as likely to be out of school as children of primary school age and more than twice as likely to be out of school as adolescents of lower secondary school age.

The high out-of-school rates for older cohorts can be explained by poverty and a variety of other reasons: many youth may never have had the opportunity to go to school when they were younger; upper secondary education is often not compulsory; and upper secondary school-age youth may choose employment over continued education.¹

Despite the downward trend, out-of-school rates have stagnated in recent years

It is important to note that despite the overall downward trend, out-of-school rates appear to have stagnated in recent years.

The primary out-of-school rate has decreased only slightly since around 2008, reaching 8% in 2018, and the

lower secondary out-of-school rate has been at 16% since around 2012.

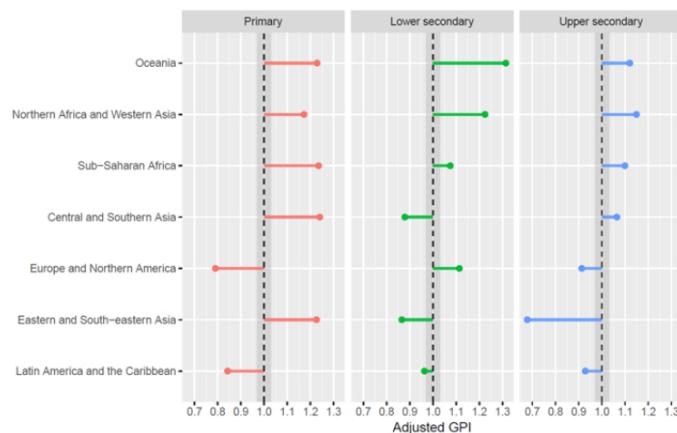
The upper secondary out-of-school rate, which was initially at much higher levels than the primary and lower secondary out-of-school rates, and which had been falling steadily since 2000, has stagnated at around 35% since 2013.

Global averages mask large gender inequalities among regions

Although the shares of boys and girls not in education (for each of the three levels of education) are roughly equal at the global level, this is not necessarily the case among regions. In fact, as of 2018, gender parity in the out-of-school rate had not been achieved in any region in the world (see figure II).

In the majority of regions, females generally have a higher out-of-school rate than males. In Oceania (excluding Australia and New Zealand), Northern Africa and Western Asia and sub-Saharan Africa, gender inequality affecting girls, indicated by a GPI greater than 1, is evident at every level of education. In Europe and Northern America, Eastern and South-Eastern Asia and Latin America and the Caribbean, boys are more likely than girls to be out of school. In the case of Eastern and South-Eastern Asia, these disparities are most pronounced at the upper secondary level, when boys tend to drop out at a significant rate. In most regions, inequalities tend to be higher at the primary level relative to lower and upper secondary education.

Figure II: Adjusted gender parity index (GPI) of out-of-school rate by region and level of education: 2018



Source: UNESCO Institute for Statistics, database (<http://uis.unesco.org/en/topic/out-school-children-and-youth>) (accessed February 2020).

Note: Gender parity index is the female out-of-school rate divided by the male out-of-school rate. The gender parity index (GPI) of the out-of-school rate is the ratio of the female to male rates. A GPI value between 0.97 and 1.03 is usually interpreted to indicate gender parity. The adjusted gender parity index is the GPI adjusted to be symmetrical around 1 and limited to range between 0 and 2. The shaded grey area between 0.97 and 1.03 shows where parity has been achieved. Parity indices above 1 show a disparity affecting against girls, and parity indices below 1 show disparity affecting boys

As countries strive to achieve universal primary and secondary education by 2030, they face different challenges and require different policies, depending on their circumstances.

Interventions that have been used successfully to reach the disadvantaged and the marginalized, especially girls, include: the abolition of school fees; increased education budgets; social cash transfers, especially to support poor families, making it easier for them to send their children to school; increasing attention to ethnic and linguistic minorities; overcoming conflicts that keep children out of school because of hostilities; and improving the quality of education.

Sources

- United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics and Global Education Monitoring Report, "Leaving No One Behind: How Far on the Way to Universal Primary and Secondary Education?", Policy Paper 27/Fact Sheet No. 37, July 2016.
- UNESCO, UNESCO Institute for Statistics and Global Education Monitoring Report, "Progress in getting all children to school stalls but some countries show the way forward", Policy Paper 14/Fact Sheet 28, June 2014.

About the data

Definitions

- **Out-of-school rates:** Measure of the proportion of children, adolescents and youth who are not enrolled in or attending school, specifically: (a) the primary out-of-school rate is the proportion of children of official primary school age who are not enrolled in (or not attending) pre-primary, primary, secondary or post-secondary education, expressed as a percentage of the population of official primary school age; (b) the lower secondary out-of-school rate is the proportion of adolescents of lower secondary age not enrolled in (or not attending) pre-primary, primary, secondary or tertiary education; and (c) the upper secondary out-of-school rate is defined as the proportion of youth of upper secondary age who are not enrolled in (or not attending) pre-primary, primary, secondary or tertiary education.

Coverage

Female and male children, adolescents and youth in the official age group for: (a) primary, (b) lower secondary, and (c) upper secondary education.

Availability

Data are available for 120 countries at the primary education level and for 153 countries at the lower secondary and upper secondary education levels: countries are from all regional groupings under the Sustainable Development Goals (SDGs)² (latest available for the period 2000–2018).³

Footnotes

1. United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics and Global Education Monitoring Report, "Leaving No One Behind: How Far on the Way to Universal Primary and Secondary Education?", Policy Paper 27/Fact Sheet No. 37, July 2016.
2. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, Regional groupings under the Sustainable Development Goals (SDGs).
3. Data from the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Out-of-School Children and Youth ([database](#)) (accessed February 2020).

School completion at primary and secondary levels of education



Key points

- Gender disparities in school completion rates show different patterns, depending on the level of education and income group.
- Among low-income countries, disparities in school completion, to the disadvantage of girls, are more common at higher levels of education; the converse is true among upper-income, middle-income and high-income countries.
- In upper-income, middle-income and high-income countries, boys are more likely than girls to drop out of school at the upper secondary levels of education as a result of a variety of factors, including poverty, which compels some to choose employment over continued education.
- Among poorer countries, particularly those in sub-Saharan Africa, lower levels of school completion among girls than boys tend to be more common among children from poor households than those from wealthier households, particularly at higher levels of education.

Background

The school completion rate indicates how many persons in a given age group have completed primary, lower secondary or upper secondary education. It indicates how many children and adolescents enter school on time and progress through the education system without excessive delays.

A completion rate at or near 100% indicates that all or most children and adolescents have completed a level of education by the time they are 3–5 years older than the official age of entry into the last grade of that level of education.

A low completion rate indicates low or delayed entry into a given level of education, high drop-out, high repetition, late completion or a combination of those elements.

Difficulty in timely progression through primary and secondary grades occurs for a variety of reasons, mostly related to the educational system and social and economic factors. Gender also plays a significant role in school progression and completion in most countries.

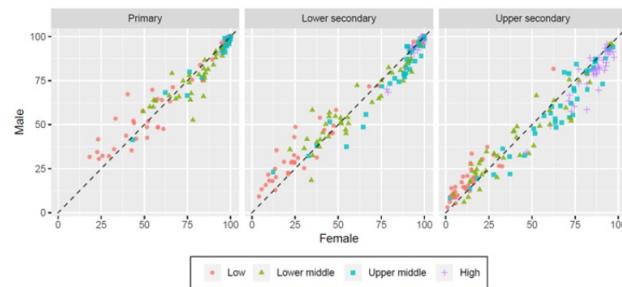
Gender disparities differ across income groups and levels of education

Gender differences in completion rates show different patterns, depending on the level of education and country income group (see figure I).

Among low-income countries (and to a lesser extent lower-income and middle-income countries), the school completion rate for boys is generally higher than for girls at higher levels of education. This is indicated by the proportion of countries above the parity line, together with the vertical distance between the observation and the parity line.

The converse is true among upper-income, middle-income and high-income countries: male and female completion rates are very similar at the primary level, but diverge increasingly, to the disadvantage of boys, at secondary levels of education. In upper-income, middle-income and high-income countries, boys are more likely than girls to drop out of school at the upper secondary levels of education due to a variety of factors, including poverty, which compels some to choose employment over continuing their education.

Figure I: Completion rates by sex, level of education and country income group: 2018 (or latest year available) (Percentage)



Source: UNESCO Institute for Statistics database (<http://uis.unesco.org/>) (accessed February 2020).

Note: Observations below the parity line show disparity in performance to the disadvantage of boys, and observations above the parity line show disparity in performance to the disadvantage of girls. Each country is categorized according to the following broad income groups: low, lower-middle, upper-middle and high.

Gender disparities tend to be greater among poor households than among rich households

Poverty interacts with gender in determining school completion rates. In most countries, disparities between girls and boys from poor households tend to be greater than those from wealthier households, particularly at higher levels of education.

The interaction between poverty and gender can work for or against girls, depending on the circumstances in a given country. As highlighted in the 2019 report of the United Nations Educational, Scientific and Cultural Organization (UNESCO) on gender equality, among poorer countries, particularly those in sub-Saharan Africa, gender disparities in school performance to the disadvantage of girls tend to be of greater magnitude among girls from poor households than among those from wealthy ones.¹

This is due, in part, to strong social expectations that girls from poor households will marry early. For example, among poor households in Nigeria, on average, only 80 girls complete primary education for every 100 boys, and only 20 girls for every 100 boys at the upper secondary level, whereas there is gender parity among boys and girls from wealthy households.

Among relatively richer countries, gender disparities in performance tend to be to the disadvantage of boys, and, to a greater extent, boys from poor households, possibly because of the greater pressures on poor male students to enter the labour market.² In Thailand (an upper-middle income country), for example, roughly 140 girls for every 100 boys from poor households complete upper secondary education, while there is gender parity among the rich.

Sustained efforts are needed to improve girls' and boys' education

Despite substantial progress in improving school completion rates, more needs to be done to ensure universal primary and secondary education. Sustained efforts are needed to improve educational outcomes for both girls and boys. As stressed by UNESCO in its reports on education for all, policies and programmes need to aim at changing social attitudes, making schools more accessible, monitoring trends in child labour and providing financial support for poor adolescents and youth to continue their education. Social protection programmes, such as cash transfers, family or child allowances, could be considered to reduce direct and opportunity costs for vulnerable children and keep them from having to leave school to work.

Sources

- United Nations Educational, Scientific and Cultural Organization, (UNESCO), Gender Report: Building bridges for gender equality, Global Education Monitoring Report, Paris, 2019

Sources

- United Nations Educational, Scientific and Cultural Organization, (UNESCO), Gender Report: Building bridges for gender equality, Global Education Monitoring Report, Paris, 2019
- Bruns, B., Evans, D. and Luque, J., Achieving World-Class Education in Brazil: The Next Agenda, World Bank, Washington, D.C., 2012
- Evans, D., Kremer, M. and Ngatia, M., "The Impact of Distributing School Uniforms on Children's Education in Kenya", World Bank eLibrary, Washington, D.C., 2009

About the data

Definitions

- **School completion rate:** Percentage of a cohort of children or young people aged 3–5 years above the intended age for the last grade of each level of education who have completed that grade.³ The intended age for the last grade of each level of education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade. For example, if the official age of entry into primary education is 6 years, and if primary education has 6 grades, the intended age for the last grade of primary education is 11 years old: in this case, 14–16 years ($11 + 3 = 14$ and $11 + 5 = 16$) would be the reference age group for the calculation of the primary completion rate.

Coverage

Girls and boys aged 3–5 years above the intended age for the last grade of: (a) primary; (b) lower secondary; and (c) upper secondary school.

Availability

Data are available for: 86 countries at the primary education level; 117 countries at the lower secondary level; and 120 countries at the upper secondary education level (latest available for the period 2013–2018).

Footnotes

1. UNESCO, Gender Report: Building bridges for gender equality, Global Education Monitoring Report, Paris, 2019.
2. Ibid.
3. Definition and data from the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Glossary . (accessed February 2020)

The impact of birth registration on educational outcomes in Pakistan [ESCAP]



Key points

- Birth registration is associated with positive educational outcomes for all children, but the impact is even greater for girls.
- The gender gap to the disadvantage of girls is higher than 20 percentage points for unregistered children across all three education levels, (a) any education, (b) completed primary education, and (c) secondary education; the gap falls to around 8 percentage points for registered children and is under 3 percentage points for those who have a birth certificate.
- Birth registration is a way to narrow the gender gap in access to education.

Background

As set forth in the Universal Declaration of Human Rights, the foundational document of the United Nations, birth registration is the first step to acquiring a legal identity, which is the key enabler of the “right to recognition everywhere as a person before the law”,¹ a fundamental human right often referred to as the “right to have other rights”.² In many countries, including Pakistan, birth registration provides direct access to a range of essential services, including schooling, banking and obtaining a passport. It is evident that ensuring birth registration constitutes a powerful tool to leverage equality and a pathway to opportunities otherwise unattainable. Its role is even more essential for those at higher risk of exclusion from those opportunities: women and girls, migrants, minorities, stateless and displaced persons or persons with disabilities. Birth registration also facilitates access to social security and is a critical resource for those who lack other forms of protection.

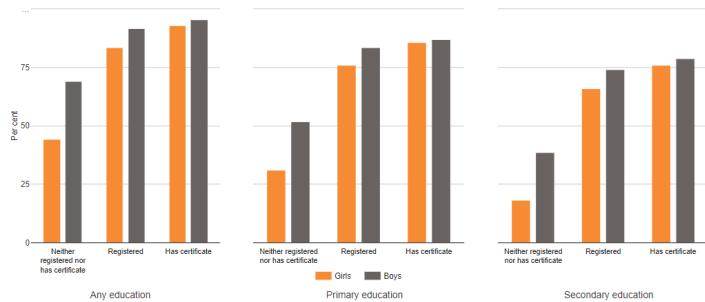
The issue of lack of birth registration is of paramount importance in countries in the Asia-Pacific region, which is home to 65 million still unregistered children under age five³—and particularly in South Asia, where 50 million unregistered children live. This story focuses on the impact of birth registration on education in Pakistan, in particular on oldest children (aged 14–17), in order to better understand how birth registration affects educational outcomes. In Pakistan, as in many low-income and middle-income countries,⁴ girls and boys have an equal chance of being registered: 42.5% of boys and 41.9% of girls are registered under age five.⁵ Looking at the data through a gender lens helps to ensure evidence-informed and gender-oriented social action.

Birth registration is associated with positive educational outcomes for all children, but the impact of registration is even greater for girls

Although a causal relationship cannot be ascertained, educational outcomes in Pakistan are far higher for children who have their births registered than for those who do not, and even more so for those with a birth certificate (see figure). The gender gap in **school completion** at each of the three education levels, (a) any education, (b) completed primary education and (c) completed secondary education, is higher than 20 percentage points for unregistered children. It falls to around 8 percentage points for registered children and is under 3 percentage points for those who have a birth certificate. Although a birth certificate is not required to attend school in Pakistan, some local or provincial school requirements (for example, to produce a birth certificate before registration) probably affect outcomes. What stands out is the specific importance of registration for girls. Boys without registration have far greater access to all levels of education than girls in the same situation; this gap narrows for registered children, both girls and boys.

Even after controlling for other socioeconomic factors such as wealth, type of residence or mothers' highest educational attainment, the positive effect of birth registration remains statistically significant. With all other factors being equal, unregistered boys have better access to education than unregistered girls, but this effect is significantly reduced for those who are registered. While all children benefit from registration, the link is especially strong for girls, effectively reducing, if not eliminating, the gender gap in educational outcomes for those who have been registered.

Figure Percentage of children aged 14-17 by educational level attained, sex and birth registration status: 2017-2018



Source: Data from National Institute of Population Studies, Pakistan, and ICF, Pakistan Demographic and Health Survey 2017-18, Islamabad and Rockville, Maryland, 2019 (<https://dhsprogram.com/pubs/pdf/FR354/FR354.pdf>).

Note: Data do not include the provinces of Azad Jammu and Kashmir and Gilgit-Baltistan, which were excluded because of a different sampling methodology.

Birth registration is a way to narrow the gender gap in access to education

Although some other factors such as girls' mobility⁶ or the "missing girls" effect⁷ could partially explain the gender differences in the link between educational attainment and birth registration, data for Pakistan show the potential of birth registration in ensuring that everyone has an equal opportunity to access essential services, most importantly education. Strengthening and developing existing civil registration systems further could yield significant results, even in the short term, and could contribute to reducing the gender gap in educational outcomes.

Regional cooperation

In 2014, the first ever Ministerial Conference on Civil Registration and Vital Statistics in Asia and the Pacific issued a ministerial declaration entitled "Get everyone in the picture", accompanied by a regional action framework detailing steps and objectives to achieve universal birth registration and facilitating regional collaboration over the course of the Asian and Pacific Civil Registration and Vital Statistics Decade 2015–2024.⁸

About the data

Definitions

Civil registration is the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events pertaining to the population. Birth registration is especially important as the issuance of birth certificates provides individuals with their legal identity and ensures their access to rights and services. The importance of birth registration is reflected in Sustainable Development Goal (SDG) 16, target 16.9, as measured by indicator 16.9.1: "Proportion of children under 5 years of age whose births have been registered with a civil authority, by age". Disaggregation by sex is recommended to ensure that girls are not excluded from registration procedures and to compare the differential impact of birth registration, which can help track progress towards achieving SDG target 4.5, aimed at equal access to education for the most vulnerable and the elimination of gender disparities.

Coverage

Girls and boys aged 14–17.

Availability

Data from the Pakistan Demographic and Health Survey 2017-18⁹ by sex, educational outcome and birth registration status.

Limitations

Demographic and Health Surveys have two major limitations regarding the computation of registration completeness: they include only those living in households, potentially not counting the most disadvantaged; and the registration variable is solely declarative. Registration estimations are therefore likely to be overestimations.

Footnotes

1. United Nations, General Assembly, resolution 217 A, December 1948 .
2. Bali Process Civil Registration Assessment Toolkit, Bangkok, 2018 .
3. United Nations Children's Fund (UNICEF), Birth Registration for Every Child by 2030: Are we on track?, New York, 2019 .
4. Bhatia, A., Krieger, N., Beckfield, J., Barros, A.J.D., and Victoria, C., "Are inequities decreasing? Birth registration for children under five in low-income and middle-income countries, 1999–2016", BMJ Journals: BMJ Global Health, vol. 4, Issue 6 .
5. National Institute of Population Studies, Pakistan, and ICF, Pakistan Demographic and Health Survey 2017-18, Islamabad and Rockville, Maryland, 2019 .
6. Callum, C., Sathar, Z., and Ul Haque, M., « Is Mobility the Missing Link in Improving Girls' Schooling in Pakistan ? », Asian Population Studies, vol. 8, Issue 1, February 2012 .
7. Guilmoto, C. Z., "Sex imbalances at birth: Trends consequences and policy implications", United Nations Population Fund (UNFPA), 2012 .
8. United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP), Ministerial Conference on Civil Registration and Vital Statistics in Asia and the Pacific, Bangkok, November 2014 .
9. National Institute of Population Studies, Pakistan, and ICF, Pakistan Demographic and Health Survey 2017-18, Islamabad and Rockville, Maryland, 2019 .

Students experiencing bullying



Key points

- School-related bullying is a pervasive issue in the majority of countries, affecting both girls and boys, although in different ways.
- Boys are more likely than girls to report having been bullied, both in developing and developed regions.
- Students with an immigrant background are more likely to experience bullying than students with a non-immigrant background.
- Children from households with lower socioeconomic status are more likely to be exposed to bullying than their counterparts from households with higher socioeconomic status.

Background

Bullying is an intentional, aggressive and repeatedly occurring behaviour. It occurs in school, on school grounds, on the way to school and, increasingly, in cyberspace. Bullying is often perpetrated as a result of gender norms and stereotypes. For instance, girls may experience sexist verbal abuse about their weight, appearance and marriage prospects. School is where children cultivate friendships and form peer groups – pivotal steps towards adult socialization.¹ Relentless and inescapable, bullying affects children and youth in terms of their school attendance, well-being and learning abilities, and can also have a significant impact on their emotional and behavioural development. Children who are bullied are often marginalized by their peers and exhibit risk factors, such as loneliness.² Providing a safe and inclusive learning environment is critical for the achievement of Sustainable Development Goal (SDG) target 4. a, which aims to "Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all".

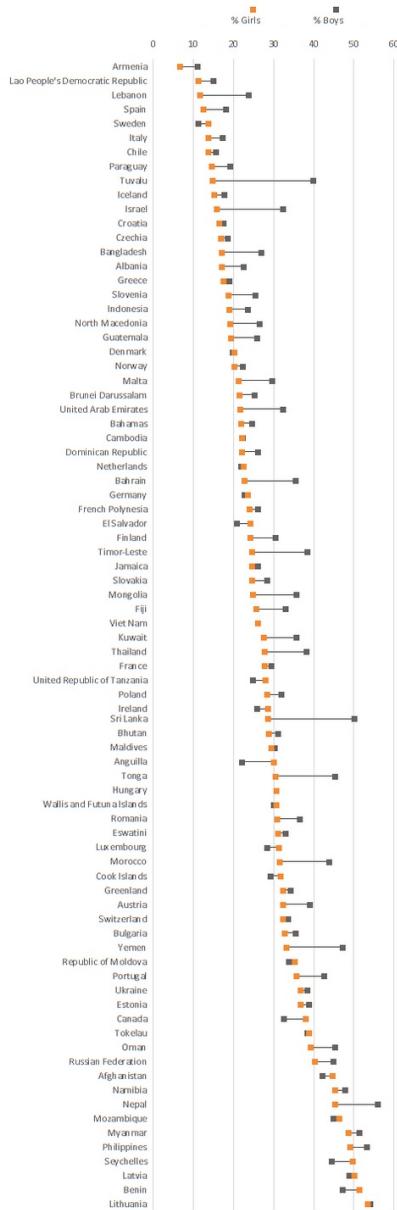
Current situation

Boys are more likely than girls to report having been bullied, both in developing and developed regions

School-related bullying is a pervasive problem in countries worldwide, affecting both girls and boys, but in different ways. Globally, based on data for the period 2013–2017, slightly more than one in four girls (28%) and one in three boys (32%) reported having been bullied at school or in the school environment in the previous 12 months (see figure). In countries in developed (high-income) regions, 27% of girls and 30% of boys reported having been bullied. The corresponding proportions for developing (low-income and middle-income) countries were slightly larger — 29% for girls and 34% for boys.

Analysis of data from 81 countries shows that, between 7% to 54% of girls and 11% to 56% of boys reported having been bullied by other students at least once in the past 12 months. In 41 countries (about half of the countries with data), the average prevalence rate was less than 30% for both girls and boys; in five countries (Latvia, Lithuania, Myanmar, Nepal and the Philippines), the average prevalence rate for both sexes was 50% or more. In most of the 81 countries, boys were more likely than girls to experience bullying.

Figure: Percentages of female and male students in countries and territories worldwide reporting bullying in the last 12 months: 2013—2017 (latest available)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed in May 2020) (<http://uis.unesco.org/>).

Note: Data by sex are available for 81 countries and territories.

Low socioeconomic status can expose students to more bullying

Children from certain population groups, such as ethnic minorities and children with disabilities, are more likely to be singled out for bullying,³ as are children from households with lower socioeconomic status. Analysis of data from 37 countries shows that, in almost all cases, students with low socioeconomic status experienced more bullying than their counterparts with higher socioeconomic status. The difference was substantial in 29 countries, with students with lower socioeconomic status reporting bullying at a higher rate, by 10 percentage points or more, and by 20 percentage points or more in Austria, Canada, Croatia,

Lithuania, Norway and Slovakia.

Students with an immigrant background are more likely to experience bullying

The situation of students with an immigrant background is similar, and worse in some cases, to that of students with low socioeconomic status. According to available data, they are more likely than students with a non-immigrant background to experience bullying. Data from 28 countries, all from developed regions, indicate that students with an immigrant background reported bullying at a higher proportion than their counterparts. This was the case in all but five countries: in 18 countries, the difference was greater than 5 percentage points, and in Bulgaria, Czechia, Estonia, Finland, Ireland and Italy the difference was reported at 10 percentage points or more.

Recent studies suggest that bullying leads to lower levels of educational achievement

Recent studies show that bullying leads to lower levels of educational achievement. In Recife, Brazil, grade 6 students who had been bullied achieved significantly lower scores in mathematics.⁴ In Ghana, where bullied grade 8 students also achieved lower scores in mathematics, the effects were worse for female students, although their situation was mitigated when the teacher was a woman.⁵

Preventing and addressing acts of bullying require that governments develop comprehensive, coordinated responses, including appropriate regulations, policy and leadership initiatives, reporting mechanisms, community and student partnerships, evaluations of incidents and staff and teacher involvement.⁶ Prevention-oriented education programmes that teach students acceptable strategies for interacting with their peers, including skills for understanding interpersonal differences, managing peer pressure and rejecting gender norms have been shown to be effective in preventing acts of bullying.⁷ Teaching communication and decision-making skills will help students, both victims and perpetrators, to address and ultimately eliminate bullying behaviour.

Source

- United Nations Children's Fund (UNICEF), An Everyday Lesson: #ENDviolence in Schools, New York, 2018.

About the data

Definitions

- **Percentage of girls and boys who experienced bullying during a school year (or in the past 12 months):** This indicator provides information based on the self-reporting by students of violence and bullying in schools. A high value indicates that a large number of students are experiencing bullying in or near school, indicating that the school is not a safe environment in which to promote learning. Because the indicator is based on self-reporting of violence and bullying in or near school, it is possible that a proportion of students may be afraid of disclosing such information, resulting in an overestimation of the safety of the school environment.

Coverage

Girls and boys aged 13–17 if the data source for this indicator is the Global school-based student health survey;⁸ or girls and boys aged 11, 13 and 15 if data source is the Health Behaviour in School-aged Children study.⁹

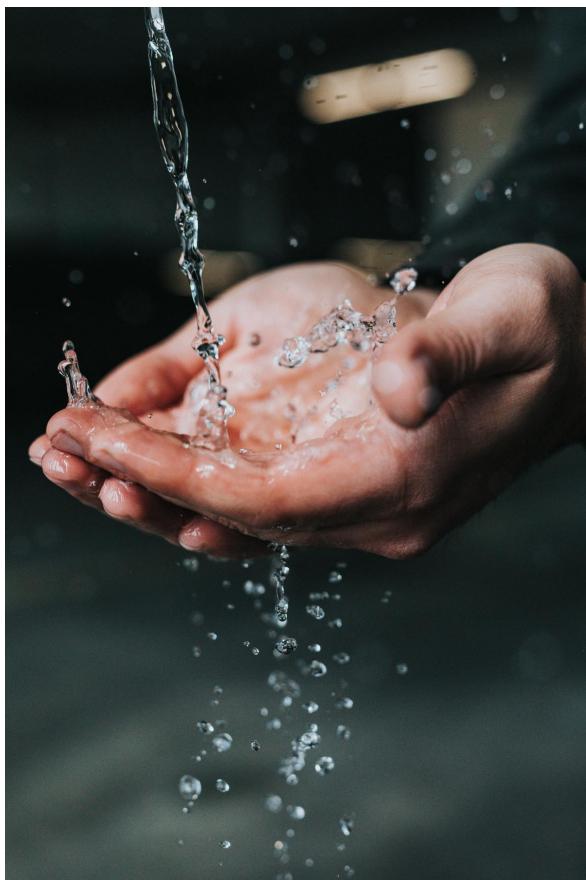
Availability

Data by sex are available for 81 countries for the period 2013–2017 (latest available) from the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics database.¹⁰

Footnotes

1. United Nations Children's Fund (UNICEF), An Everyday Lesson: #ENDviolence in Schools, New York, 2018 .
2. Ibid.
3. United Nations Children's Fund (UNICEF), An Everyday Lesson: #ENDviolence in Schools, New York, 2018 .
4. Oliveira, F.R. et al., "Bullying effect on student's performance", *EconomiA*, vol.19, Issue 1, 2017 .
5. Kibriya, S. et al., "The negative consequences of school bullying on academic performance and mitigation through female teacher participation: evidence from Ghana", *Journal of Applied Economics*, vol. 49, Issue 25, 2017 .
6. United Nations Educational, Scientific and Cultural Organization (UNESCO), School Violence and Bullying: Global Status Report, Paris, 2017 .
7. Ibid.
8. World Health Organization (WHO) and Centers for Disease Control and Prevention, Global school-based student health survey .
9. WHO, Health Behaviour in School-aged Children study .
10. United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute of Statistics database (accessed in May 2020) .

Schools with access to single-sex basic sanitation



Key points

- Primary schools are more affected by the lack of access to single-sex sanitation facilities than schools at other levels of education. Globally, about one in five primary schools lacks single-sex sanitation facilities.
- Levels of access to sanitation facilities vary widely across regions and levels of education.
- In sub-Saharan Africa, which faces the starker challenge in providing schools with access to single-sex toilets, the proportion of primary schools with single-sex sanitation is less than 50% in about half of countries with data.
- Access to single-sex sanitation facilities in schools at the lower and upper secondary levels is better than in schools at the primary level.

Background

Lack of water and sanitation facilities, especially single-sex toilets, can be a barrier to girls' participation in schooling. Inadequate sanitation facilities for girls, particularly *during menstruation*, can have a negative effect on their school attendance. Safe and separate sanitation facilities need to be made available in schools to ensure that girls can study in a dignified, gender-equitable learning environment; this will reduce absenteeism and facilitate their continuing enrolment in education through adolescence. Sustainable Development Goal (SDG) indicator 4.a.1, which monitors the proportion of schools offering basic services, by type of service, addresses access to single-sex basic sanitation facilities to ensure that education facilities are gender sensitive and provide safe, inclusive and effective learning environments for all.

Current situation

Levels of access to sanitation facilities vary across regions and across level of education: primary schools are particularly affected by the lack of access to single-sex sanitation facilities.

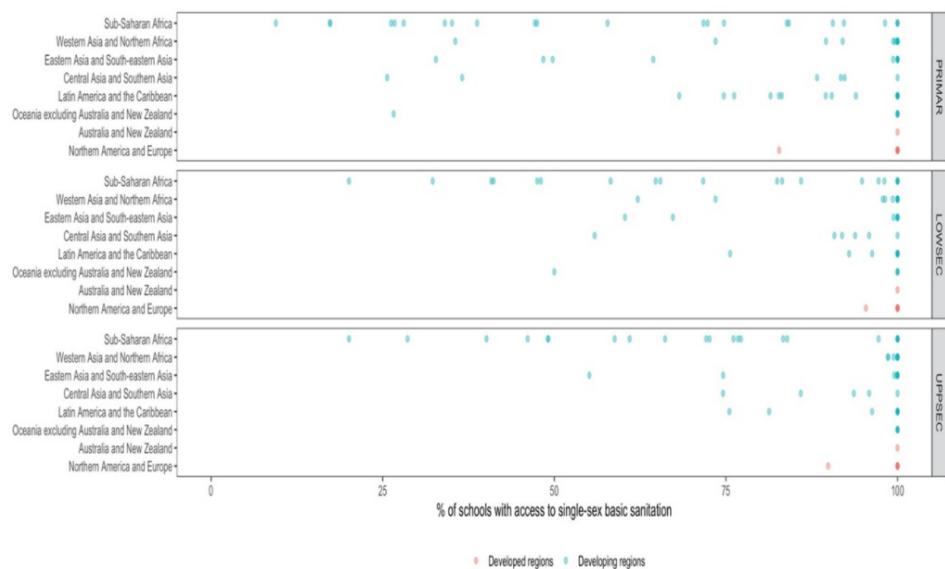
Data for the period 2015–2019 show that globally 22% of primary schools lack single-sex sanitation facilities. Among 103 countries with data, in about 20% access to single-sex sanitation facilities at the primary school level was below 75% (more than half of those countries were in sub-Saharan Africa). Access to single-sex facilities was universal in countries in Northern America and Europe, with the exception of Albania, where access was 83%. Access was also universal in the vast majority of countries in Eastern Asia, Oceania, excluding Australia and New Zealand, and Northern Africa and Western Asia and in about 50% of the countries in Latin America and the Caribbean (see figure). In Afghanistan and Bangladesh (Southern Asia), Cambodia and the Philippines (South-Eastern Asia), the Marshall Islands (Oceania excluding Australia and New Zealand) and Jordan (Western Asia) less than half of primary schools provided single-sex sanitation facilities.

Compared to schools at the primary level, the situation reported in schools at the lower and upper secondary levels was improved. Globally, the percentage of schools that lacked single-sex facilities at the lower (13%) and upper (12%) secondary levels compared favourably to the 22% of primary schools with appropriate facilities. Regional patterns of access to single-sex sanitation facilities at the lower and upper secondary levels are broadly similar to those at the primary level, although overall access is somewhat better at those levels of education (see

figure).

Studies of access to sanitation facilities that analyse the situation at the individual country level show that variations in access by region are wide, and that access is more limited in rural schools. For example, in Nicaragua, 64% of urban schools but only 32% of rural schools had improved basic sanitation services.¹

Figure: Proportion of schools with access to single-sex sanitation facilities by educational level and region, 2015–2019 (latest available)



Source: UNESCO Institute for Statistics database (accessed in May 2020).

Note: Each point represents data for one country: data are available for 103 countries for primary, 89 for lower secondary, and 91 for upper secondary school: data correspond to the latest available year for the period 2015–2019.

A high percentage of schools in sub-Saharan Africa lack adequate facilities

Countries in sub-Saharan Africa face the starker challenge in providing access to single-sex toilets at all levels of education. The situation is extreme at the primary education level, where the proportion of schools with single-sex sanitation was less than 50% in 11 out of 23 countries with data.

Access to single-sex sanitation facilities was somewhat better in schools at the lower and upper secondary levels of education in sub-Saharan Africa: at those levels, the proportion of schools with access was less than 50% in about a third of countries with data. In about half of countries with data, more than 75% of schools had access to single-sex sanitation facilities.

Sources

- United Nations Children's Fund (UNICEF) and World Health Organization (WHO), Drinking Water, Sanitation and Hygiene in Schools: Global Baseline Report 2018, New York, 2018

About the data

Definition

- **Proportion of schools with access to single-sex basic sanitation facilities:** Number of schools at a given level of education (primary, lower secondary and upper secondary education) with access to single-sex basic sanitation facilities expressed as a percentage of all schools at that level of education.
- **Basic sanitation facilities:** Functional improved sanitation facilities² separated for females and males on or near the school premises.

The indicator measures access in schools to key basic services and facilities necessary to ensure a safe and effective learning environment for all students.

Coverage

Schools at the primary, lower secondary and upper secondary education levels.

Availability

Data are available for: 103 countries at the primary education level; 89 at the lower secondary level; and 91 at the upper secondary education level. Data correspond to the latest available year for the period 2015–2019.³ Countries are organized according to regional groupings under the Sustainable Development Goals (SDGs) indicator framework.⁴

Footnotes

1. United Nations Children's Fund (UNICEF) and World Health Organization (WHO), Drinking Water, Sanitation and Hygiene in Schools: Global Baseline Report 2018, New York, 2018 .
2. Improved sanitation facilities include a pit latrine with slab, a ventilated improved pit latrine, a flush toilet, a pour-flush toilet or a composting toilet; unimproved facilities include a pit latrine without a slab, hanging toilets and bucket toilets.
3. Data are from the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed in May 2020).
4. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, regional groupings under the Sustainable Development Goals (SDGs) indicator framework.

Schools providing life skills-based HIV and sexuality education



Key points

- Life skills-based HIV and sexuality education is provided at the three levels of education in schools worldwide: it is provided in all schools at the upper secondary level in 60% of countries with data, at the lower secondary level in 66% of countries and at the primary education level in 62% of countries with data.
- There is no appreciable difference in the provision of life skills-based HIV and sexuality education programmes at the upper secondary school level in public and private schools.
- Programmes are needed outside schools to reach youth the most at risk — young people who are no longer participating in education — as well as to reach youth in places where teaching about sexuality and HIV and AIDS in school is highly sensitive or forbidden.

Background

The provision of life skills-based HIV and sexuality education in schools equips children and young people with the knowledge and information that lead to responsible and healthy sexual behaviour. Comprehensive sexuality education promotes improved sexual and reproductive health-related outcomes, including reduction in HIV infection and teenage pregnancy rates, thus expanding educational opportunities for young women.¹ This kind of education also helps students to develop critical thinking, communication and decision-making skills, empowering them to take responsibility and control their actions and to become healthy, responsible, productive citizens. Successful programmes adopt interactive, responsive and participatory methods that challenge young people to find new ways of relating to one another. Such programmes should have a planned and sequenced curriculum across primary and secondary schools, incrementally adjusted to the age, stage and situation of the learner.²

Current situation

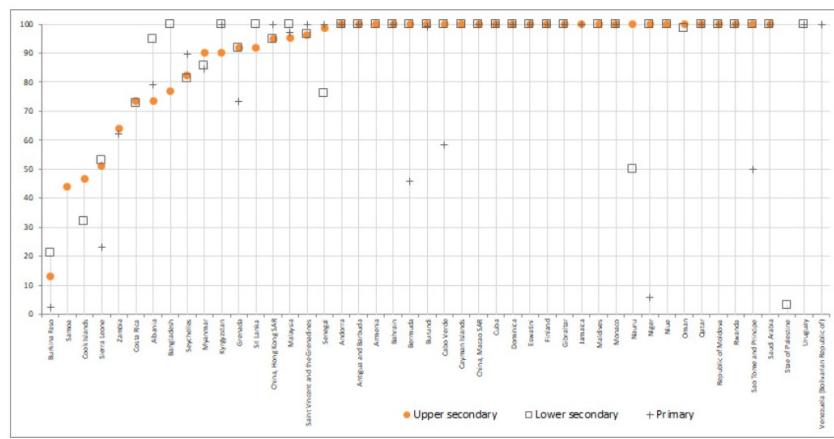
Availability of life skills-based HIV and sexuality education

At the upper secondary level, 60% of countries with data (26 out of 43 countries and territories) provided life skills-based HIV and sexuality education at all schools, both public and private during the period 2015–2019 (see figure). These countries and territories represent different regional groupings: sub-Saharan Africa (Burundi, Cabo Verde, Eswatini, Niger, Rwanda and Sao Tome and Principe); Europe and Northern America (Andorra, Bermuda, Finland, Gibraltar, Monaco and the Republic of Moldova); the Caribbean (Antigua and Barbuda, Cayman Islands, Cuba, Dominica and Jamaica); and Western Asia (Bahrain, Oman, Qatar and Saudi Arabia).

At the lower secondary level, out of 42 countries with data, two out of three provided life skills-based HIV and sexuality education at all schools (see figure).

Data availability on the provision of life skills-based HIV and sexuality education at the primary education level is limited, reflecting the fact that relatively few countries provide such programmes at that level, as opposed to the lower and upper secondary levels. Data available for 34 countries show that in 21 countries (62%) all schools provided age-appropriate sexuality education programmes at the primary education level.

Figure: Percentage of schools providing life skills-based HIV and sexuality education, by country, territory and education level: 2013–2019 (latest available)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed in May 2020) (<http://uis.unesco.org/>).

Note: Data are available for 34 countries at the primary level; for 42 countries at the lower secondary level; and for 43 countries at the upper secondary level: data are sorted by values for upper secondary level.

Life skills-based HIV and sexuality education is provided in both public and private schools

While more data are available for public schools than for private schools at the upper secondary level, with data available for both in the same country, there is no appreciable difference in the provision of life skills-based HIV and sexuality education. In 22 countries among the 36 with data for both public and private schools, all schools, regardless of whether they were private or public, taught life skills-based HIV and sexuality education.

Programmes providing life skills education are also needed outside schools to reach youth no longer in school

School-based programmes do not reach youth most at risk: those no longer in school. Furthermore, programmes outside school may be the only means of imparting knowledge and life skills education to young people in places where teaching about sexuality and HIV and AIDS in school is highly sensitive or forbidden. Life skills education outside school is likely to be most effective when it complements other services targeting young people. Voluntary and anonymous participation offered by youth drop-in centres can enhance the reach and effectiveness of such programmes.

Moreover, whether life skills-based HIV and sexuality education is offered inside or outside a formal educational setting, it needs to reflect the fact that girls and boys have different needs and vulnerabilities. Single gender groups, with a teacher or facilitator of the same gender, can foster more open communication on sensitive issues. For example, as part of the "Sister 2 Sister" initiative in Malawi, "big sisters" (older young women) share their knowledge and life-skills experiences with young women aged 15–19. Overall, the programme has led to increased knowledge in the areas of sexuality, HIV, condom use, multiple and concurrent partners, age-disparate relationships and health-seeking behaviours, and there is evidence that such knowledge is sustained over time.³

About the data

Definitions

- **Percentage of schools that provide life skills-based HIV and sexuality education** : Number of schools at a given level of education (primary, lower secondary and upper secondary education) providing such skills and education expressed as a percentage of all schools at that level of education. The indicator measures key life skills necessary to ensure a safe and effective learning environment for all students.

Coverage

Schools at the primary, lower secondary and upper secondary education levels.

Availability

Data are available for 34 countries at the primary level, 42 countries at the lower secondary level and 43 countries at the upper secondary levels.⁴ Countries are organized by regional groupings under the Sustainable Development Goals (SDGs) indicator framework.⁵

Footnotes

1. UNESCO, Global education monitoring report 2019 – Gender report: Building bridges for gender equality, Paris, 2019 .
2. Ibid.
3. Bakaroudis, M., "Sister 2 Sister Initiative: Life Skills PLUS Extracurricular Peer Educator Training Package for Young Women 15–19 Years Old in Malawi", Lilongwe, 2011 (debrief presentation of consultancy mission and summary of proof of concept validation study, (unpublished.)
4. Data are from United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed in May 2020).
5. United Nations Department of Economic and Social Affairs (UNDESA), Statistical Division, regional groupings under the Sustainable Development Goals (SDGs) indicator framework .

Gross enrolment ratio in tertiary education



Key points

- Globally, tertiary education has expanded substantially over the past three decades for both women and men: from 13% to 41% for women and from 14% to 36% for men.
- Progress in tertiary education shows large regional disparities; progress has been fastest in Eastern Asia and Australia and New Zealand and slowest in sub-Saharan Africa; Central Asia was the only region in the world to experience stagnation.
- Gender disparities in tertiary education have shifted in favour of females worldwide, and in most regions, over the past three decades.
- As of 2018, gender disparities continued to favour men in sub-Saharan Africa, the region hosting the majority of countries reporting a rate of female enrolment in tertiary education at below 10%.

Background

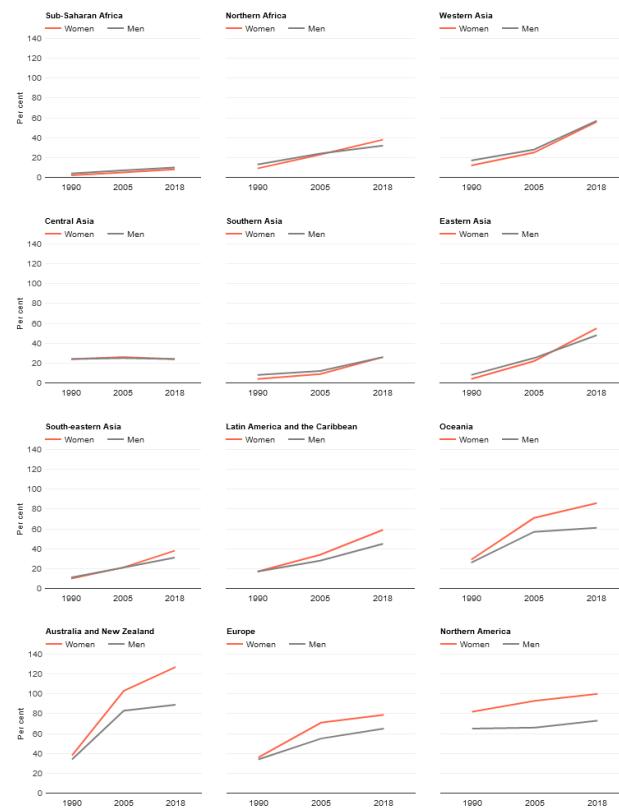
Tertiary education builds on secondary education and imparts knowledge and skills as well as qualifications in specialized fields. It also brings extensive social and private benefits. At the individual level, the outcomes for people pursuing and completing a tertiary education are linked to better employment opportunities and higher levels of earning. At the societal level, tertiary education graduates contribute to human capital, which is essential for economic development, productivity growth, innovation and the healthy functioning of government and civil society.¹

Current situation

Enrolment in tertiary education throughout the world has expanded substantially over the past three decades both for women and men; there has been a three-fold increase in the participation of women in tertiary education, and the participation has doubled for men.

Participation in tertiary education expanded significantly during the period 1990–2018. As measured by the tertiary gross enrolment ratio (GER), participation rose from 13% to 41% for women and from 14% to 36% for men (see figure I). The substantial progress achieved reflects the steady expansion of education systems across the world, as well as the increasing demand for a highly skilled labour force.

Figure I: Tertiary gross enrolment ratios by region and sex: 1990, 2005 and 2018
(Percentage)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (<http://uis.unesco.org/>) (accessed April 2020).

Note: Regions are listed in ascending order of the tertiary gross enrolment ratio (GER) for women in 2018.

Participation in tertiary education shows large regional disparities

Progress has been fastest in Eastern Asia and Australia and New Zealand and slowest in sub-Saharan Africa; Central Asia was the only region in the world to experience stagnation.

Enrolment in tertiary education, as measured by gross enrolment ratios, shows large regional disparities. Ratios are high for both women and men in regions where participation has historically been at high levels: Northern America, Europe, Australia and New Zealand, Latin America and the Caribbean, Eastern Asia and Western Asia are the global leaders in terms of enrolment in tertiary education.

During the period 1990–2018, enrolment in tertiary education in Northern America expanded from 65% to 73% for men and from 82% to 100% for women. In Europe, over the same time period, men's enrolment expanded from 34% to 65% and women's enrolment from 36% to 79%. In Latin America and the Caribbean, gross enrolment ratios more than doubled for men and more than tripled for women. In terms of progress since 1990, in countries in Eastern Asia there was a six-fold increase in enrolment in tertiary education for men and a thirteen-fold gain for women: growth in tertiary enrolment in this region has been particularly remarkable since 2000. Similarly, in Western Asia enrolment ratios nearly tripled for men and increased almost five times for women.

Despite this significant expansion of enrolment in tertiary education in a number of regions, it has remained low in others. In sub-Saharan Africa, participation rose only slightly, from 4% to 10% for men and from 2% to 8% for women over the period 1990–2018. Similarly, in countries in Southern Asia, gross enrolment ratios for 2018 were lower than global averages (26% for both

men and women). Countries in Northern Africa and South-Eastern Asia also recorded enrolment in tertiary education below the global averages for both women and men. Over the period 1990–2018, Central Asia, where gross enrolment ratios have remained in the mid 20% range, for both women and men, was the only region in the world to experience stagnation in participation in tertiary education.

Gender disparities at the tertiary level favour women over men in most regions

Gender disparities in tertiary education shifted from a male to a female advantage throughout the world, and in most regions, during the period 1990–2018 (see figure I). In 1990, men's participation was slightly higher than that of women's (at 14% for men and 13% for women). Since then, the enrolment of women has been increasing worldwide at a faster rate than that for men, and by the late 1990s the enrolment ratios of men and women reached parity, remaining equal until the early 2000s. The global participation of women has since exceeded that of men, shifting gender disparity from a male to a female advantage. By 2018, the gross enrolment ratios for women and men stood at 41% and 36%, respectively, reflecting a gender disparity in favour of women.

Women in sub-Saharan Africa and Western Asia remain at a disadvantage

While women are more represented than men in tertiary education in most regions of the world, the situation is the opposite in sub-Saharan Africa (where the gross enrolment ratio in 2018 was 8% for women and 10% for men). National level data show that the majority of countries with female enrolment ratios of less than 10% are located in sub-Saharan Africa (see figure II), and a few in Western Asia (Afghanistan, Turkmenistan, Uzbekistan and Yemen). While enrolment in tertiary education has historically been low in these regions for both women and men, gender disparities continue to favour men in most countries in sub-Saharan Africa and Western Asia.

Methodological challenges: measuring participation in tertiary education

Unlike primary and secondary education, where the target age groups consist of the official school-age populations, the notion of a target population is not easily applied to tertiary education as there are usually no official ages for attendance. Most tertiary education systems offer a wide range of programmes and pathways, allowing students to achieve a degree in two years or to complete an advanced research degree in seven or eight years. In the light of this variation, the gross enrolment ratio for tertiary education is calculated based on a standard age range of five years, which begins at the end of secondary education.

The ratio is computed as the total enrolment in tertiary education, regardless of age, expressed as a percentage of the target population made up of the five-year age group following graduation from secondary school. While the gross enrolment ratio in tertiary education is useful for computing the volume of participation in tertiary programmes, it is important to note that there are limitations when comparing the actual population coverage across countries owing to: differences in the duration of tertiary education programmes; the enrolment of large numbers of women and men outside the target age group; and high drop-out rates and frequent re-enrolments.

Source

- United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Global Education Digest 2009: Comparing Education Statistics Across the World, Montreal, 2009.

About the data

Definitions

- **Gross enrolment ratio (GER) in tertiary education:** Number of students enrolled in tertiary education, regardless of age, expressed as a percentage of the population in the five-year age group starting from the official secondary school graduation age. There are limitations when comparing the actual population coverage across countries due to: the diversity in the duration of tertiary programmes; the enrolment of large numbers of women and men outside the target age group; and high drop-out rates and frequent re-enrolments.

Coverage

Women and men in tertiary education.

Availability

Data are available for all regional groupings under the Sustainable Development Goals (SDG)² and for 189 countries for the period 1990–2018 (latest available).³

Footnotes

1. United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, Global Education Digest 2009: Comparing Education Statistics Across the World, Montreal, 2004. (2009)
2. Regional groupings under the Sustainable Development Goals (SDGs).
3. Data source: United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics database. (accessed April 2020).

Female graduates in science, technology, engineering and mathematics at the tertiary level of education



Key points

- Females graduating at the tertiary level are vastly underrepresented in the three fields of STEM in both developed and developing regions, constituting slightly more than one-third (35%) of the world's STEM graduates.
- There is a severe gender disparity in graduates in STEM education in all parts of the world, and mostly to the disadvantage of women. Northern Africa and Western Asia is the one region where women are better represented among STEM graduates.
- Women make up the majority of graduates in fields related to education, health, arts and humanities and social sciences; men make up the majority of graduates in fields related to information technologies and engineering.
- Due to significant gains in enrolment in recent decades, gender parity has been achieved among students graduating in natural sciences, mathematics and statistics.

Background

Science, technology, engineering and mathematics (STEM) are key drivers of economic growth. They are also key to the achievement of the SDGs and to tackling the environmental, social and economic concerns facing the world today. Furthermore, they are critical to efforts to address the impact of climate change, increase food security, improve health care, manage limited freshwater resources and protect biodiversity.¹ If women are to play important roles in crafting solutions to improve lives and generate inclusive growth that benefits all, they need to be adequately represented in the next generation of STEM professionals.

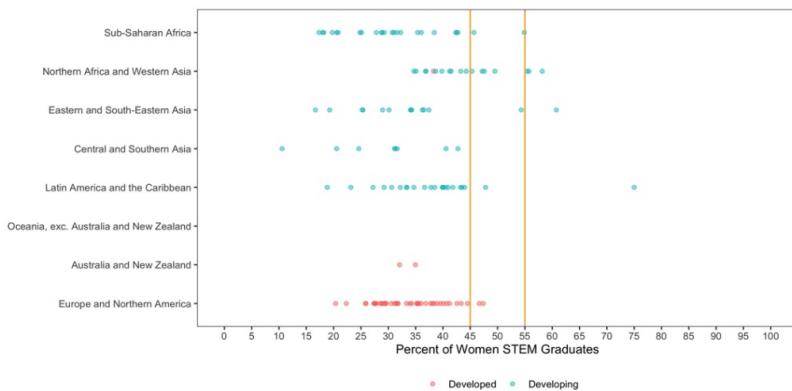
Female graduates in STEM at the tertiary level are vastly underrepresented in both developed and developing regions

Gender differences in STEM graduates at the tertiary level are evident in both developed and developing regions of the world. According to data available on the share of female STEM graduates for 131 countries for the period 2010–2019 (see figure I), slightly more than one-third (35%) of the world's STEM graduates were women (unweighted average); women represented less than 30% of STEM graduates in 37 countries; and only 11 countries achieved gender parity in the proportion of STEM graduates (defined as a share of between 45% and 55% of either sex). In four countries, however, significantly more women than men graduated in STEM.

In 45 countries with data, almost all in Europe and Northern America, the proportion of women among STEM graduates at the tertiary level was less than 45%, with the exception of Albania and North Macedonia, which, with 47% of female graduates in STEM education, achieved gender parity.

The situation was similar among 86 countries with data in developing regions. In nearly 9 out of 10 developing countries, the proportion of women graduates in STEM at the tertiary level was less than 45%, although in three countries and one territory (Algeria, Myanmar, Oman and Sint Maartin) women were more likely than men to graduate in fields related to STEM. Women's share was within the range of parity in five countries in Northern Africa and Western Asia (Morocco, Qatar, the Sudan, the Syrian Arab Republic and Tunisia) and in four other countries (Benin, Brunei Darussalam, the Gambia and Peru).

Figure I: Share of female STEM graduates at the tertiary level of education by region: 2010–2019 (latest available) (Percentage)



Source: UNESCO Institute for Statistics, Database for the Sustainable Development Goals (accessed April 2020) (<http://uis.unesco.org/>).

All regions of the world display severe gender disparities in STEM, mostly to the disadvantage of women

In half of the countries with data in sub-Saharan Africa (24 countries), women accounted for less than 30% of STEM graduates at the tertiary level. Benin and the Gambia were the only countries in the region to report gender parity. No country (out of eight with data) in Central and Southern Asia reported gender parity, and in three of those countries women represented less than 30% of STEM graduates. Half of the countries in Eastern and South-Eastern Asia displayed moderate male predominance (with a 30% to 45% share of female graduates in STEM education).

In the Latin America and the Caribbean region, the proportions of women among STEM graduates covered a significant range, from 19% in Chile to 75% in Sint Maarten, and in 7 out of 10 countries in the region there was a moderate male predominance (30% to 45% female). Out of 23 countries with data, only one country, Peru, has achieved gender parity among STEM graduates.

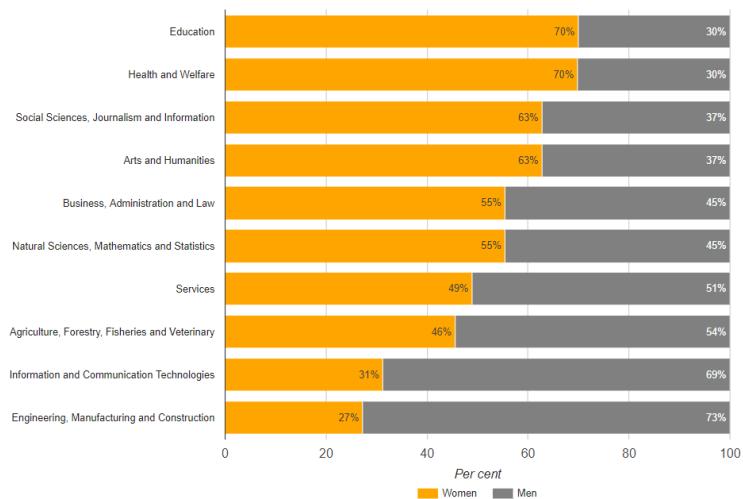
Women were more prominently represented among STEM graduates in Northern Africa and Western Asia, where their share among STEM graduates ranged from 35% in Turkey to 58% in Algeria. Women were also more likely than men to graduate in fields related to STEM in Oman and Tunisia.

Women make up the majority of graduates in fields related to education, health, the arts and humanities and social sciences; men make up the majority of graduates in fields related to information technologies and engineering

Significant gender differences emerge among the fields of study pursued by women and men in tertiary education. Female graduates comprise the vast majority of graduates (over 60%) in education, health and welfare, social sciences, journalism and information, and arts and humanities (see figure II), and are particularly prominent in education and health and welfare (70% of graduates). Moreover, gender parity (female share in the range of 45% to 55%) has been achieved among students graduating in natural sciences, mathematics and statistics, as a result of significant gains in enrolment in tertiary education in recent decades.

In contrast, male graduates are the vast majority in two of the three STEM-related fields: information and communication technologies; and engineering, manufacturing and construction. Men were more than twice as likely to graduate in information technologies, and almost three times as likely to graduate in engineering, manufacturing and construction. This pattern is consistent, with women constituting only slightly more than one-third of the world's STEM graduates, indicating that, despite enjoying better access to tertiary education than ever before, women continue to face challenges in participating in STEM-related fields of study (see figure II).

Figure II: Proportion of female and male tertiary graduates by field of study (global average): 2010–2019 (latest available) (Percentage)



Source: Source: UNESCO Institute for Statistics, Database for the Sustainable Development Goals (accessed April 2020) (<http://uis.unesco.org/>).

Sources

- UNESCO, Cracking the code: girls' and women's education in science, technology, engineering and mathematics (STEM), Paris, 2017.
- United Nations Educational, Scientific and Cultural Organization (UNESCO), Measuring Gender Equality in Science and Engineering: the SAGA Toolkit, SAGA Working Paper 2, Paris, 2017.

Related stories and further reading

- [Women's gross enrolment ratio in tertiary education](#).
- [Women in research and development](#)

About the data

Definitions

The acronym STEM, which stands for science, technology, engineering and mathematics, is a term used to group together these three fields of knowledge and study and to refer to the formal education and qualifications individuals acquire through their training in those fields.² Among the 11 broad fields of study specified in the International Standard Classification of Education (ISCED),³ STEM education encompasses: "Natural sciences and mathematics"; "Information and communication technology"; and "Engineering, manufacturing and construction". To be qualified in STEM, individuals must have an academic degree at the tertiary level of education, that is, between level 5 and level 8, as classified under ISCED,⁴ in one of these three fields.

- **Proportion of tertiary graduates by field of study:** Number of graduates expressed as a percentage of the total number of graduates in the given field of study.
- **Female share of STEM graduates at the tertiary education level:** Number of female graduates in the fields of science, technology, engineering and mathematics expressed as a percentage of the total number of graduates in these fields of education.

Coverage

Female and male graduates of STEM programmes at the tertiary level of education.

Availability

Data are available for 131 countries, corresponding to the period 2010–2019 (the latest available year),⁵ and by regional groupings under the Sustainable Development Goals (SDGs) indicators framework.⁶

Footnotes

1. UNESCO, Cracking the code: girls' and women's education in science, technology, engineering and mathematics (STEM), Paris, 2017.
2. United Nations Educational, Scientific and Cultural Organization (UNESCO), Measuring Gender Equality in Science and Engineering: the SAGA Toolkit, SAGA Working Paper 2, Paris, 2017.
3. UNESCO, International Standard Classification of Education: Fields of Education and Training 2013 (ISCED-F 2013), Paris, 2014.
4. International Standard Classification of Education (ISCED): levels of education at the tertiary level consist of: level 5: short-cycle tertiary education; level 6: Bachelor's degree or equivalent level; level 7: Master's degree or equivalent level; and level 8: Doctoral degree or equivalent level.
5. UNESCO, UNESCO Institute for Statistics Database for the Sustainable Development Goals (accessed April 2020).
6. Regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

Canada: female graduates in science, technology, engineering and mathematics (STEM) at the tertiary level of education



Key points

- Women's representation in STEM-related studies largely remained stable or increased between initial enrolment and graduation during the period 2010–2016.
- The proportion of women differs considerably among STEM fields, with women making up the majority of graduates in biological sciences, but only 20% in engineering and 18% in computer and information sciences.
- Young women with a STEM undergraduate degree are less likely to find work in information and communications technology (ICT) than young men with the same degree.
- While women in STEM studies are less likely than men to find work in the field of ICT, they are equally likely to find work in science and engineering occupations.
 - Gender gaps in earnings are larger in the field of computer and information science than in any other field among women and men aged 25–34. Non-immigrant women with a bachelor's degree in this field earn 76% of what non-immigrant men do.

Background

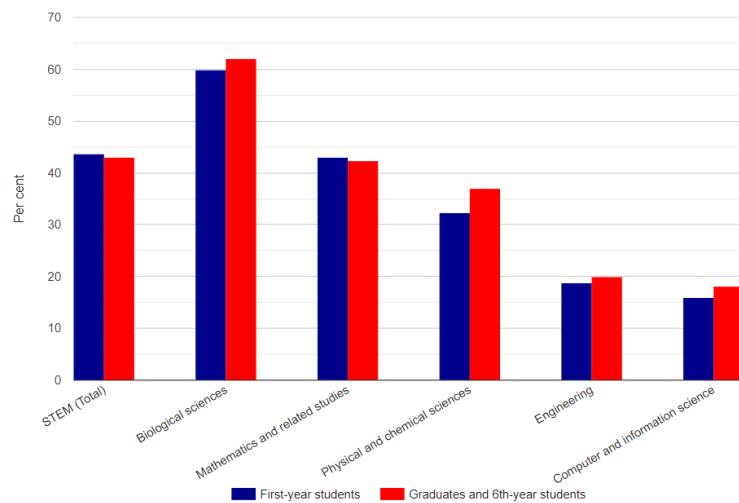
While women make up the majority of university students in Canada and in most developed countries, they comprise a minority in STEM fields, particularly in the fields of engineering and computer and information sciences.¹ This may limit women's economic equality since jobs in the field of science and technology, especially in engineering and computer science, are among the highest-paying and fastest-growing occupations.²

Women's representation in **STEM fields of study** and occupations can be affected by dynamics at several major points in their education and in their careers. The present paper explores changes in young women's representation in STEM education from initial enrolment in tertiary education through to graduation and transition into the workforce.

Women's representation in STEM studies remained largely stable or increased between initial enrolment and graduation over the period 2010–2016

Within a cohort of undergraduate students who began their studies in 2010, women's representation in STEM studies remained largely stable or increased between initial enrolment and graduation (see figure I).³ However, the share of women differed considerably between STEM fields, with women making up the majority of graduates in biological sciences, but only 20% in engineering and 18% in computer and information sciences: these data are of interest in terms of gender because the majority of STEM-related jobs are in engineering and computer and information sciences.⁴

Figure I: Proportion of women in selected undergraduate STEM fields of study at initial enrolment (first-year) and at graduation or sixth year of study 2010 cohort, persons who initially enrolled at age 19 or younger: 2010–2016



Source: Statistics Canada, Postsecondary Student Information System, longitudinal data, 2010–2011 to 2015–2016 (<https://www.statcan.gc.ca/eng/surveymain/5017>).

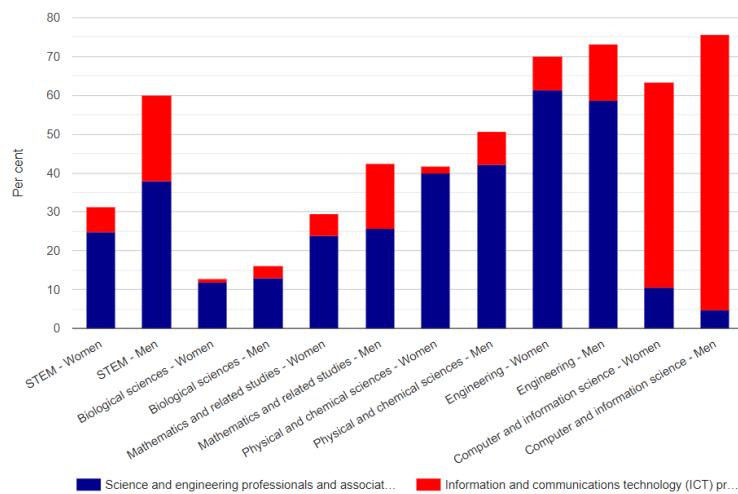
Young women with STEM undergraduate degrees are less likely to find work in ICT than young men with the same degree

Young women who graduate with degrees in STEM are less likely to find work in science and technology-based occupations than young men (see figure II). This disparity exists for two reasons. Firstly, the fields of study where women's representation is highest (see figure I), such as biological sciences, are the least likely to lead to a job in the field of science or technology, whereas the fields where their representation is lowest, engineering and computer and information sciences, are the most likely to lead to such a job.

While women in STEM studies are less likely to find work in ICT jobs than men, they are equally likely to find work in science and engineering occupations

Secondly, women in each STEM field of study are less likely to find work in ICT jobs than men (see figure II). The difference is particularly large for women who study mathematics or computer and information science, but it exists for woman graduates from each STEM field. In contrast, within each STEM field of study, women are about as likely as men to find work in science and engineering occupations.

Figure II: Percentage of women and men working in science and technology-based occupations, by selected fields of study, among employed bachelor's degree holders aged 25—34: 2016 (Percentage)



Source: Statistics Canada, 2016 Census (<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm>).

Note: The population comprises persons aged 25—34 with a bachelor's degree completed in Canada as their highest level of education (excluding law and pharmacy degrees), who had an occupation (excluding non-permanent residents).

Gender gaps in earnings are largest in the field of computer and information science than any other field of study among women and men aged 25–34

Computer and information science also has one of the largest gender gaps in earnings of any field among women and men aged 25–34. Non-immigrant women with a bachelor's degree in this field make 76% of what non-immigrant men make, and immigrant women make 66% of what immigrant men make. For comparison, in fields like health care, biological sciences, law and engineering, non-immigrant women make at least 86% of what non-immigrant men do, and immigrant women make at least 79% of what immigrant men do. Women's lower wages and lower likelihood of finding a job relevant to their fields of study may give them less incentive than men to choose to study computer and information science when beginning their tertiary education.

There are two key barriers to women's equal representation in STEM in Canada: (a) lower enrolment rates in engineering and computer and information science degrees; and (b) women with STEM degrees having a lower rate of job matches and lower wages than men, specifically connected to gender disparities in the ICT sector.

About the data

This narrative examines the share of women studying science, engineering and mathematics (STEM) among first-year enrollees in undergraduate programmes in 2010 and among members of the same group who had graduated from those programmes or were still enrolled in their studies six years later.

Coverage

Students in Canada who began a full-time undergraduate degree in STEM in 2010 at age 19 or younger.

Availability

Longitudinal data from the Statistics Canada Postsecondary Student Information System⁵ are available from the period 2010–2011 onwards.

From 2010 onwards, Canada has a complete administrative database of enrolments and graduations from public colleges and universities, allowing the tracking of students' pathways through tertiary education. Administrative data on enrolments and graduations, which are available from 1992 onwards, cannot be used to track student pathways at the national level prior to 2010.

Footnotes

1. Organization for Economic Cooperation and Development (OECD), "How have women's participation and fields of study choice in higher education evolved over time?", Education Indicators in Focus, No. 74, OECD Publishing, Paris, March 2020 .
2. Statistics Canada, 2016 Census; and Statistics Canada, Labour Force Survey 1990—2018 .
3. The group of graduates also contains those who had not yet graduated from their STEM programmes as of their sixth year of studies. This is not likely to have a major impact on the data as drop-outs from postsecondary are uncommon in the later years of a degree. On average, women completed their STEM programmes in fewer years than men and were less likely than men to take six years or more to complete them.
4. Statistics Canada, 2016 Census : nearly three-quarters (72%) of people in science and technology occupations work in engineering and engineering technology or computer and information systems (NOC minor groups 213, 214, 217, 223, 224 and 228) (table 98-400-X2016271).
5. Statistics Canada, Postsecondary Student Information System .

Use of the Internet and mobile phone ownership among women and men [ITU]



Key points

- Worldwide, the most visible digital divide is the one between women and men, with 58.3% of men and 48.4% of women using the Internet in 2019.
- In regions with a high Internet use penetration, including developed regions and countries in Latin America and the Caribbean, there was only a small difference in Internet usage between women and men (at or below 2%).
- In relative terms, the gender gap among Internet users has grown wider in developing regions, increasing from 15.8% in 2013 to 22.8% in 2019. The largest gap was observed in Central and Southern Asia (51.3%).
- Globally, women are less likely than men to own a mobile phone, with men's ownership being 6.8 percentage points higher than women's, on average.

Background

Globally, digital technologies are transforming ways of living in an unprecedented fashion. Today, the Internet, the most prominent of these digital technologies, is one of the most important tools, if not the most important, in the world. The use of the Internet has a major impact on the economy, helping to raise productivity, enable trade and e-commerce and enhance research and innovation through a more efficient and effective diffusion of ideas.

The social impact of Internet use is equally significant, providing access to a wealth of information, including through social media platforms, and facilitating global communication. The outbreak of the Coronavirus-19 (COVID-19) pandemic has made connectivity even more important, with the shifting of work, education, communication and leisure to online forums for those fortunate enough to have access to the Internet.

Current situation

Use of these technologies is uneven: in 2019, 3.6 billion people, almost half of the world population, did not have access to the Internet.¹ There is a clear digital divide between developed regions, where 86.6% of the population is using the Internet, and developing regions, which have an overall share of 47% in Internet usage. In the least developed countries, only 19.1% of the population is using the Internet.

The most visible digital divide is the one between women and men

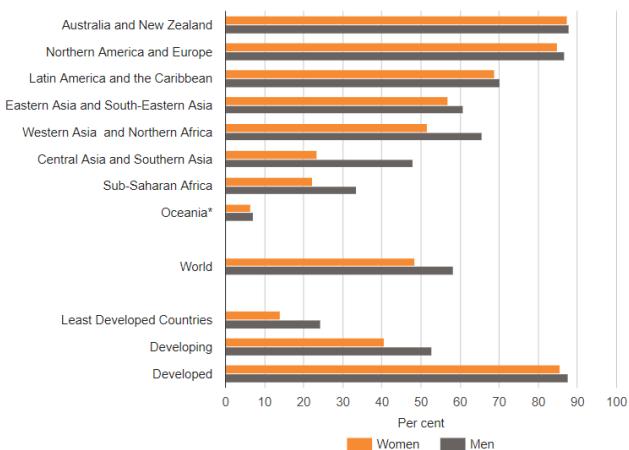
Beyond development status, there are additional digital divides, such as by level of education, skills and geographical location (including urban versus rural), but the most visible is the digital divide by sex. In many places, women have less access to technology and hence use it less than men.

In 2019, 58.3% of men were using the Internet, against only 48.4% of women (see figure I), resulting in a difference of 10 percentage points. In developed countries, there was a small gender gap, with 87.6% of men and 85.6% of women were using the Internet. In developing countries, there was a significant difference between men using the Internet (52.8%) and women (40.7%). Furthermore, the difference in levels of access to the Internet between men (24.4%) and women (13.9%) in the least developed countries was significant.

A similar picture emerges from a regional perspective. In regions with a high Internet use penetration, including Australia and New Zealand, Northern America and Europe and Latin America and the Caribbean, there were only small differences in usage between men and women. In other regions, however, the gaps were substantial, with the exception of Oceania (excluding

Australia and New Zealand) where Internet use was low overall.

Figure I: Internet penetration rate worldwide, including by region, least developed countries and developing and developed regions, by sex: 2019 (Percentage)



Note: *excluding Australia and New Zealand

Source: International Telecommunication Union (ITU), ITU modelled estimates (correspondence with ITU on 22 June 2020).

Note: Penetration rates in figure I refer to the number of women/men that use the Internet, as a percentage of the respective total female/male population.

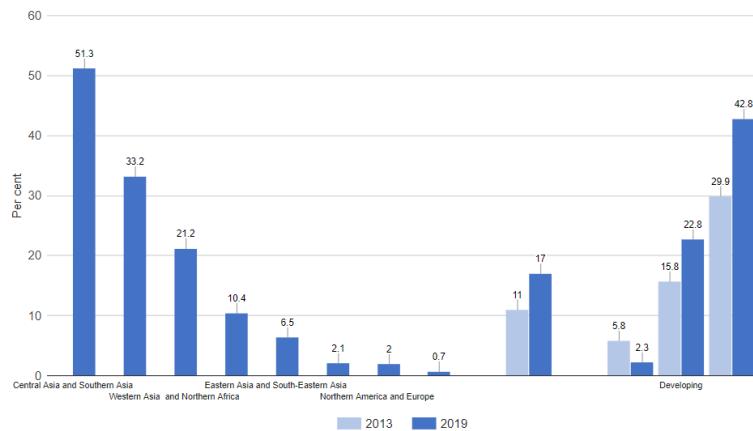
The gender gap among Internet users has grown wider in developing regions

A better way to explore the digital gender divide is to look at the gender gap in relative terms, by dividing the difference in men's and women's Internet use by men's Internet use and multiplying by 100 (see figure II).

The global gender gap among Internet users stood at 17% in 2019, which represented an increase of six percentage points compared with the gap in 2013. The main reason for this increase is a large uptake in use of the Internet by men in developing regions, not matched by an equally large uptake in use by women. In developed regions, the gender gap is disappearing, dropping from 5.8% in 2013 to 2.3% in 2019. In developing regions, on the other hand, the gender gap was estimated to have increased from 15.8% to 22.8%, and in least developed countries from 29.9% to 42.8%.

Data disaggregated at the regional level, available only for 2019, shows that the digital gender gap was markedly high in Central and Southern Asia (51.3%), and substantial in sub-Saharan Africa (33.2%) and Western Asia and Northern Africa (21.2%). As noted above, the gender gap was small in Australia and New Zealand (0.7%), Northern America and Europe (2%) and Latin America and the Caribbean (2.1%).

Figure II: Global gender gap in Internet usage, including by region, least developed countries and developing and developed regions: 2013 and 2019 (Percentage)



Source: ITU, 2020, ITU modelled estimates (correspondence with ITU on 22 June 2020).

Note: The gender gap represents the difference between the Internet user penetration rates for men and women relative to the Internet user penetration rate for men, expressed as a percentage.

Globally, women are less likely than men to own a mobile phone

Ownership of mobile phones is an important tool for reducing gender inequality, and the effect of mobile phone access for women has been shown to accelerate economic and social development. However, globally a gender gap for this indicator is evident.

Among 84 United Nations Member States and territories with latest available sex-disaggregated data for the period 2016–2018, mobile phone ownership among men, on average, was 6.8 percentage points higher than for women (see figure III). In 24 of those countries, more women than men owned a mobile phone, but the gender gap was small; in Chile, however, women's mobile phone ownership was substantially higher than that of men. In 23 of the 84 countries with latest available sex-disaggregated data, men's ownership was more than 10 percentage points higher than women's ownership, reaching as high as 53 percentage points in the Niger and 42 percentage points in Côte d'Ivoire. In most of the countries that had a large gender gap in mobile phone ownership, there was also a large gender gap in Internet usage.

About the data

Definitions

- **Proportion of women and men using the Internet:** Provides information on the proportion of women and men who used the Internet from any location in the last three months, measuring the digital divide between women and men.²
- **Proportion of women and men who own a mobile telephone:** Provides information on the proportion of women and men owning a mobile cellular phone device with at least one active subscriber identification module (SIM) card for personal use (an active SIM card is one that has been used in the last three months).³

Coverage

Women and men in all age groups.

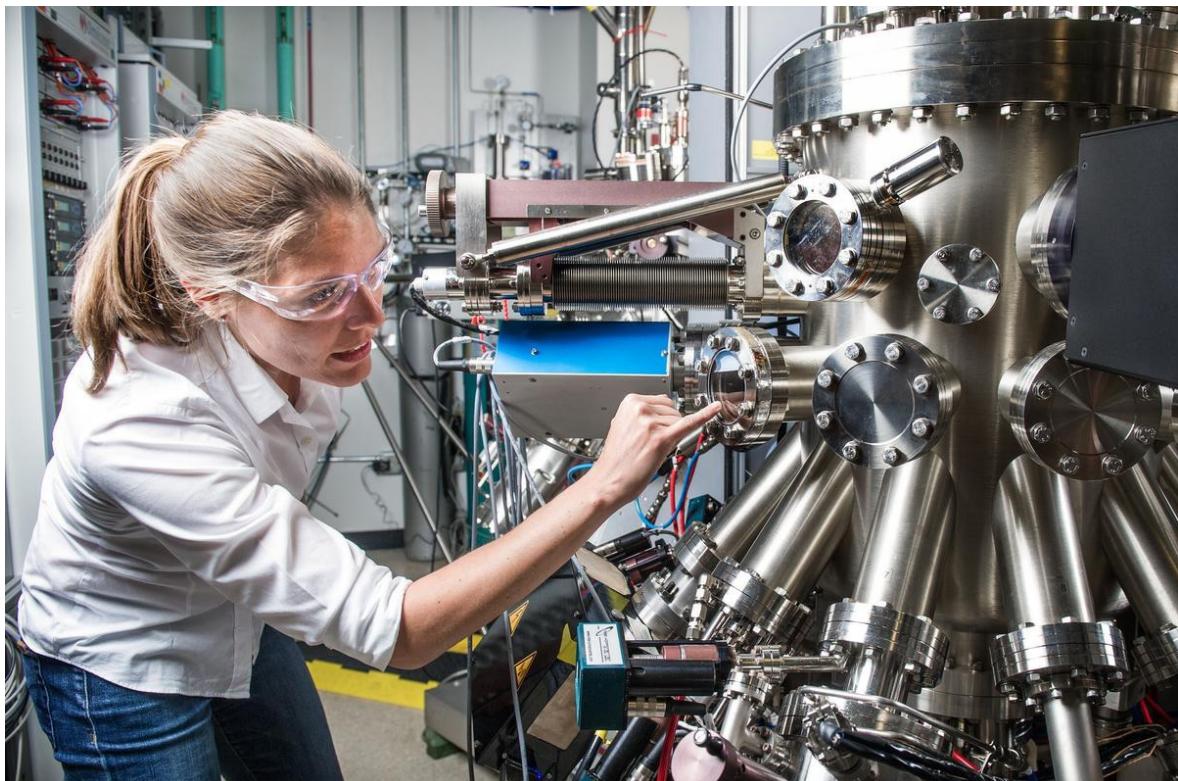
Availability

84 United Nations Member States and territories with latest available sex-disaggregated data for the period 2016 –2018 (mobile ownership) and 110 United Nations Member States and territories with latest available sex-disaggregated data (Internet use). Countries and territories are organized by regional groupings under the Sustainable Development Goals (SDGs) indicators framework.⁴

Footnotes

1. International Telecommunication Union (ITU), Measuring digital development: Facts and figures 2019 (last accessed on 3 September 2020).
2. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, Global SDG Indicators Database, metadata for Sustainable Development Goals indicators 17.8.1 and 5.b.1.
3. Ibid.
4. UNDESA, Statistics Division, Regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

Female researchers active in research and development (R&D)



Key points

- Globally, women researchers constituted only 30% of all researchers.
- The share of women among researchers varies widely across regions, with the highest share of female researchers in countries in the Latin America and the Caribbean region. Only three regions, Latin America and the Caribbean, Northern Africa, and Central Asia, have achieved or almost attained gender parity, that is, a share of between 45% and 55% for either sex.
- Gender parity has been achieved only in about one in four countries (of the 148 countries with available data).
- Female researchers tend to work in the academic and government sectors, while male researchers work mainly in the private sector. In general, women researchers are less likely than men to be engaged in fields of research pertaining to engineering and technologies.

Background

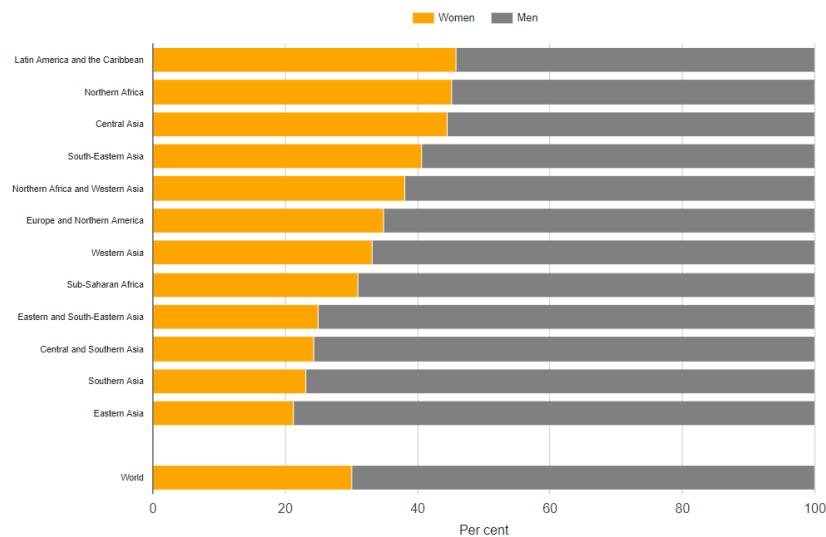
Outcomes from R&D play a pivotal role in transforming societies, economies and the natural environment. In the 2030 Agenda for Sustainable Development,¹ countries pledged to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation" (Sustainable Development Goal (SDG) 9). Target 9.5 of SDG 9 called upon countries to enhance scientific research, upgrade technological capabilities, encourage innovation and substantially increase the number of researchers, as well as public and private spending on R&D. Achieving this target will not be possible without harnessing all talents and addressing gender imbalances in the research workforce.

Women constituted only 30% of all researchers worldwide, with wide disparities among regions

Globally, women accounted for only 30% of total researchers in 2017 (see figure I).

The share of women among researchers displayed wide variation across regions, with countries Latin America and the Caribbean having the highest share of women researchers (46% in 2017). The proportion of women researchers was also relatively high in Northern Africa (45%), Central Asia (45%) and South-Eastern Asia (41%). Around one in three researchers was female in Europe and Northern America (35%), Western Asia (33%) and sub-Saharan Africa (31%), exceeding the world average. In contrast, the share of women researchers was the lowest in Southern Asia (23%) and Eastern Asia (21%).

In the achievement of gender parity, which is defined as a share of between 45% and 55% for either sex, only three regions, Latin America and the Caribbean; Northern Africa; and Central Asia, have thus far reached this goal.

Figure I: Women researchers as a proportion of total researchers by region: 2017 (Percentage)

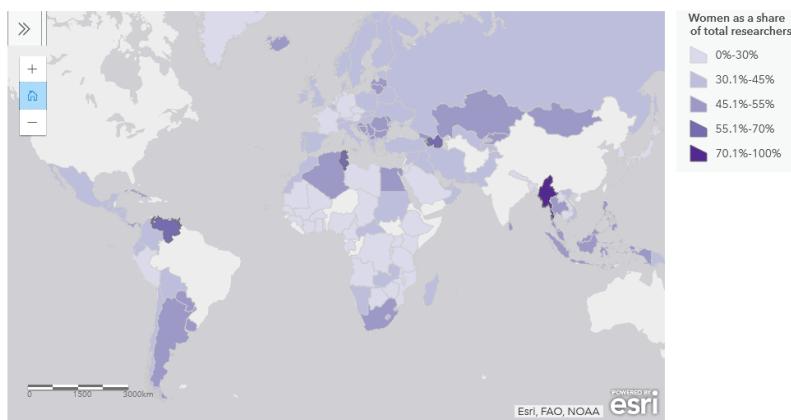
Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (<http://uis.unesco.org>) (accessed February 2020).

Note: Regional averages are based on data for 2017 or the latest available data for the period 2000–2017. The share of women researchers is based on headcounts, that is, the total number of researchers who are mainly or partially engaged in R&D. It is important to note that headcount measures do not take into account part-time employment in the research workforce. As a result, headcount data may mask variations in working hours among researchers. There is insufficient data coverage on the number of researchers broken down by sex for Oceania, Australia and New Zealand, and Northern America to calculate a regional aggregate.

Women researchers remained underrepresented in many countries around the world

To find the degree of progress in the employment of women in R&D, it is necessary to examine the situation at the individual country level. Figure II displays the proportion of women among the total number of researchers by country for 148 countries with available data for the period 1996–2018. Data show the underrepresentation of women researchers in the vast majority of countries.

In 129 of 148 countries, women made up less than a half of researchers. In 47 countries, women's share was less than a third. Nevertheless, significant progress by women researchers was registered in some countries. Women outnumbered men among researchers in the following countries: Argentina, Azerbaijan, Georgia, Kazakhstan, Kuwait, Latvia, Lithuania, Myanmar, New Zealand, North Macedonia, Panama, the Philippines, Serbia, Trinidad and Tobago, Tunisia and Venezuela (Bolivarian Republic of). Gender parity, that is, a share of between 45% and 55% for either sex, has been achieved in only about one in four countries (of the 148 countries with available data).

Figure II: Women as a share of total researchers by country: 2018 or latest year available

Source: UNESCO Institute for Statistics database (<http://uis.unesco.org/>) (accessed February 2020).

Note: Data in the map are based on headcounts, except for the Congo, India and Israel, which are based on full-time equivalents. Data for China are based on the total number of personnel working in the area of R&D rather than the number of researchers. Data for Brazil are based on estimations. Data are for 2018 or the latest year available for the period 1996–2018.

The boundaries and names shown and the designations used on this and other maps throughout this publication do not imply official endorsement or acceptance by the United Nations.

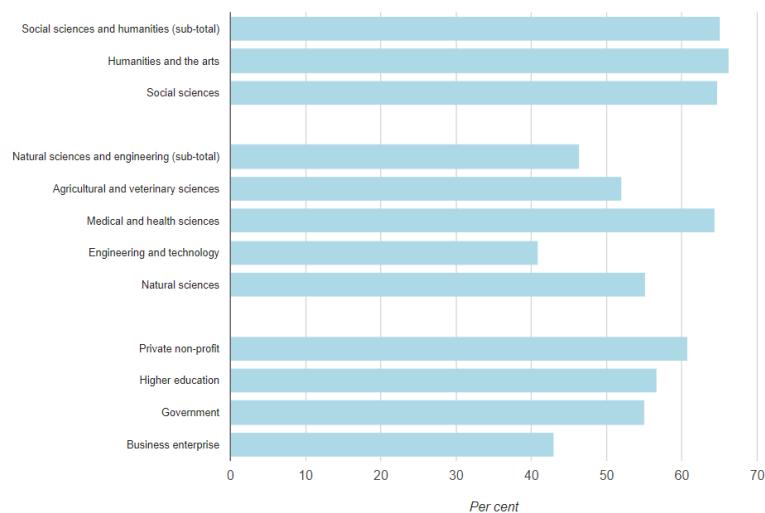
To better understand the underlying trends in women's representation in research, it is useful, *inter alia*, to look into the career paths of researchers, as well as the sectors of the economy and the fields of research in which they work. Data show that, although there has been an increase in the gender balance **among university graduates** and a rising level in women's educational qualifications, female researchers are still underrepresented in countries around the world.

This has been characterized as a "leaky pipeline" phenomenon, whereby an increase in the number of women graduates does not lead to an increase in the proportion of women researchers.² Data also show that worldwide, female researchers work chiefly in the academic and government sectors, while male researchers work mainly in the private sector. This is the case even in countries with high shares of women researchers (see the case of the Philippines, described below). Women are underrepresented across all areas of research, including natural sciences, engineering and technology, medical sciences, agricultural sciences, social sciences and humanities, and their underrepresentation is the most pronounced in the fields of engineering and technology.³

Country in focus: the Philippines

Even in countries with high shares of women researchers, such as the Philippines, more women work in the academic and government sectors than in the private sector, where men dominate. The proportion of women working in R&D pertaining to the natural sciences and engineering is significantly smaller in comparison to their representation in research in the field of social sciences and humanities (see figure III).

Figure III: Share of women researchers in the Philippines by sector and field of research: 2013
(Percentage)



Source: UNESCO Institute for Statistics database (<http://uis.unesco.org/>) (accessed February 2020).

Note: Figure III displays research activities classified into six broad fields of R&D and four major economic sectors. The first four research fields are grouped as natural sciences and engineering and include: natural sciences; engineering and technology; medical and health sciences; and agricultural sciences. The other two are categorized as social sciences and humanities. Data are based on headcounts.

Sources

- Organization for Economic Cooperation and Development (OECD), *Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development*, Paris, 2015
- Jensen, K. S. H., *Women Working in Science, Engineering and Technology, Higher Education and Industry (A Literature Review)*, IRIS (Informatics Research Institute), Salford University, Manchester, 2005.

About the data

Definitions

- **Research and development (R&D):** comprises creative and systematic work undertaken in order to increase the stock of knowledge and devise new applications of available knowledge;⁴ it is aimed at new findings based on original concepts (and their interpretation) or hypotheses.
- **Researchers who work in the area of R&D:** Researchers are engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques, instrumentation, software or operational methods.⁵
- **Proportion of female researchers:** Number of female researchers expressed as a percentage of the total number of researchers (male and female).

Coverage

Researchers in countries worldwide based on headcounts, that is, the total number of researchers who are mainly or partially engaged in R&D.

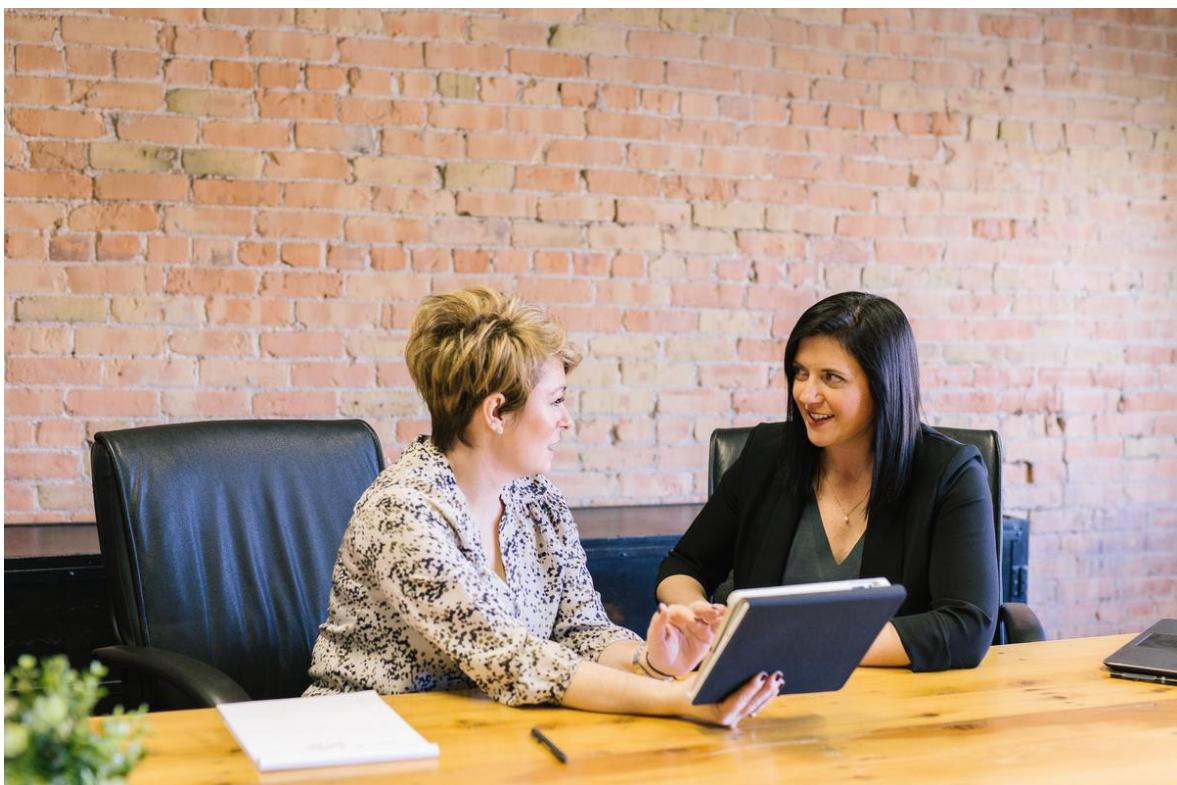
Availability

Regional averages are available for all regional groupings under the Sustainable Development Goals (SDGs)⁶ except Oceania, excluding Australia and New Zealand, Australia and New Zealand and Northern America and for 148 countries (latest available for the period 1996–2018).⁷

Footnotes

1. United Nations, Transforming our World: 2030 Agenda for Sustainable Development, (General Assembly resolution 70/1), adopted in October 2015.
2. Jensen, K. S. H., Women Working in Science, Engineering and Technology, Higher Education and Industry (A Literature Review), IRIS (Informatics Research Institute), Salford University, Manchester, 2005.
3. European Union, She Figures 2015 - Gender in Research and Innovation, Luxembourg, 2016.
4. Organization for Economic Cooperation and Development (OECD), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, Paris, 2015.
5. Ibid.
6. Regional groupings under the Sustainable Development Goals (SDGs).
7. United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database. (accessed February 2020)

Women teachers and professors at tertiary levels of education



Key points

- Globally, more men than women teach at the tertiary level of education; worldwide female teachers constituted only 43% of teachers at the tertiary level in 2018, an increase from 33% in 1990.
- Proportions of female teachers at the tertiary level in regions worldwide show a broad range of variation, with the highest proportion in Central Asia (54%) and the lowest in sub-Saharan Africa (24%).
- As of 2018, gender parity in the composition of the teaching force was reported in 30% of countries with data; the majority of countries with less than 30% of female teachers at the tertiary level were in sub-Saharan Africa.
- The proportion of women teachers at the tertiary level has increased in all regions of the world over the period 1990–2018.
- The proportion of women teachers at the tertiary level (43%) is significantly lower than the share of women at the primary (66%) and secondary levels (slightly over 50%).

Background

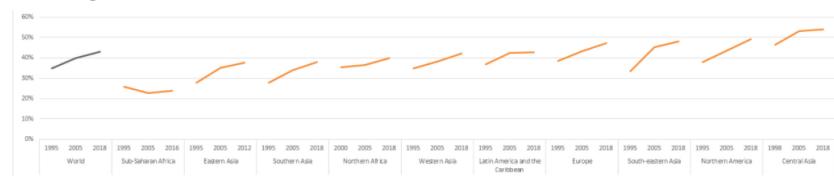
Trained, qualified and well-motivated teachers are essential for an effective learning environment and quality education, and the achievement of Sustainable Development Goal (SDG) 4. Teaching staff have an important role in the creation of a gender-sensitive learning and social environment in which young women and men are treated equally and encouraged to achieve their full potential. Gender balance among teaching staff is critical for promoting gender parity and equality in access to, and achievement in, education and for creating a supportive and non-discriminatory learning environment. There is evidence that gender balance among teaching staff is closely related to the improvement of gender parity in school enrolment.² Policies that promote gender balance in the teaching workforce have been found to have a positive impact on access to education and completion rates, especially for girls and young women.²

Current situation

More men than women teach at the tertiary level

Globally, female teachers constituted 43% of tertiary-level teaching staff in 2018 (see figure I). Across the world, however, the proportions of female teachers at the tertiary level showed a wide range of variation: the highest level in Central Asia (54%) and lowest in sub-Saharan Africa (24%).

Figure I: Proportion of female teachers in tertiary education by region: 1990, 2005 and 2018 (Percentage)



Source: UNESCO Institute for Statistics database(<http://uis.unesco.org/>) (accessed May 2020).

Note: Data for Oceania not available for 2005 and 2018; data sorted by values for 2018.

Data show that the proportion of female teachers at the tertiary level has increased in all regions of the world

The participation of women in teaching at the tertiary level has increased in all regions of the world (see figure I). The global

share of female teachers at the tertiary level increased from 33% to 43% over the period 1990–2018. In many regions, the proportion of female teachers grew by double digits: in South-Eastern Asia by 21 percentage points; in Southern Asia by 15 percentage points, in Northern America by 14 percentage points, and in Eastern Asia by 13 percentage points. The gains were modest (less than 10 percentage points) in sub-Saharan Africa, Northern Africa and Western Asia and Latin America and the Caribbean. During the period 1990–2018, Central Asia was the only region to attain gender parity among teachers at the tertiary level of education.

Most of the countries with less than 30% of female teachers at the tertiary level of education were in sub-Saharan Africa

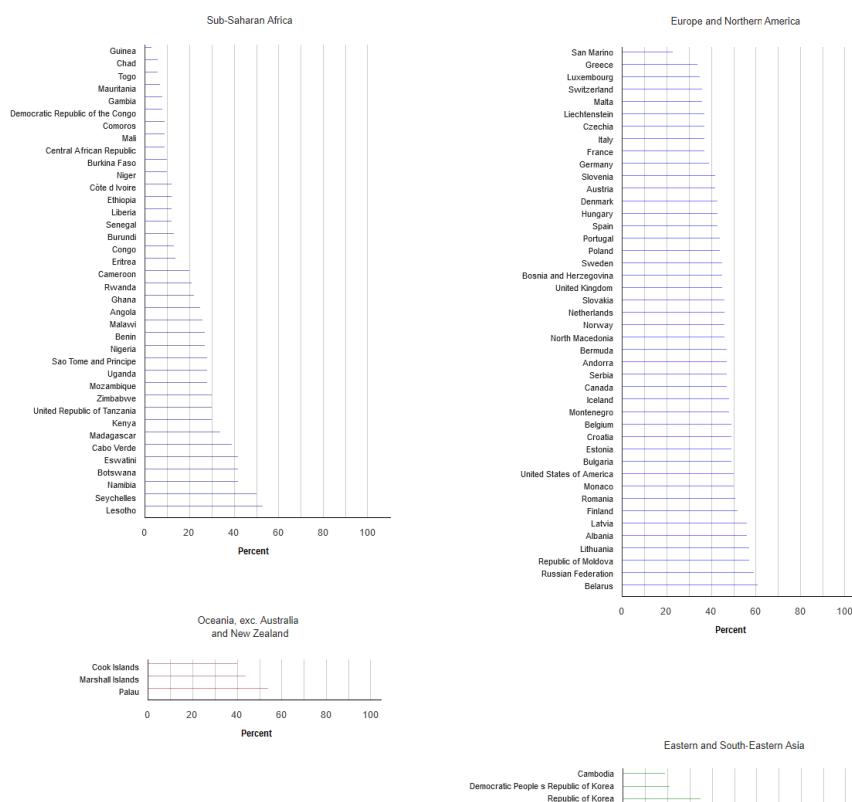
In 46 countries out of 150 (about 30%) reporting data for the period 2010–2019, the proportion of female teachers at the tertiary level was in the range of 45% to 55%, indicating the achievement of gender parity in the teaching force. In 15 countries, more than 55% of teachers at the tertiary level were women, and in Belarus, Kazakhstan, Kyrgyzstan and Myanmar the proportion of female teachers was higher than 60% (see figure II).

In contrast, in 89 countries (60% of countries with data) the share of female teachers at the tertiary level was less than 45%. Low proportions of female teachers at the tertiary level (below 30%) were reported in 36 countries, 28 of which were in sub-Saharan Africa. The other countries with a low representation of female teachers were in Northern Africa and Western Asia (Jordan, Morocco and the State of Palestine), Southern Asia (Afghanistan and Bangladesh) and Eastern and South-Eastern Asia (Cambodia and the Democratic People's Republic of Korea). Data show, moreover, that the proportion of female teachers at the tertiary level tends to be lower in countries with low levels of overall [enrolment in tertiary education](#).

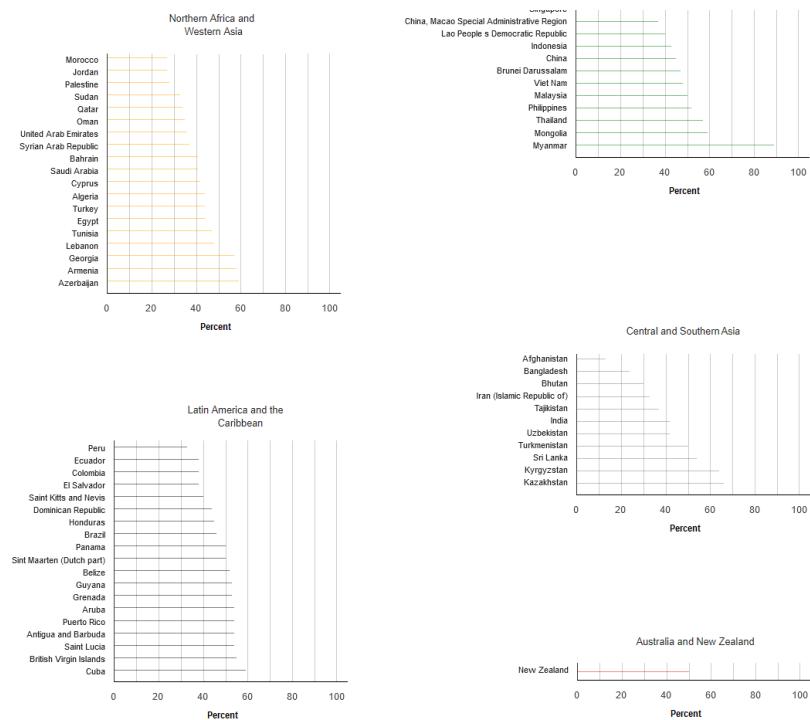
The share of female teachers at the tertiary level is significantly lower than their share at the primary and secondary levels

In most regions of the world, the majority of teachers at the primary level (about 66%) are women, although data reveal variations between countries. Women's share in teaching drops significantly at higher levels of education: female teachers at the secondary level constitute slightly more than half of the teaching staff, and at the tertiary level, worldwide, the majority of teachers are men. Globally, the proportion of female teachers at the tertiary level of education was 43% in 2018.

Figure II: Proportion of female teachers at tertiary level of education by country/territory and region:
2010–2019 (latest available) (Percentage)



World's Women 2020



Source: UNESCO Institute for Statistics database (<http://uis.unesco.org/>) (accessed February 2020).

Note: Data in the map are based on headcounts, except for the Congo, India and Israel, which are based on full-time equivalents. Data for China are based on the total number of personnel working in the area of R&D rather than the number of researchers. Data for Brazil are based on estimations. Data are for 2018 or the latest year available for the period 1996–2018.

About the data

Definitions

- **Teachers:** Persons whose professional activity involves the transmission of knowledge, attitudes and skills stipulated in a formal curriculum programme to students enrolled at a formal educational institution
- **Proportion of females among tertiary teachers or professors:** Number of female teachers at the tertiary level of education, expressed as a percentage of the total number of teachers at that level. The indicator measures the gender composition of the teaching force and helps in assessing the need for opportunities and/or incentives to encourage women to teach at the tertiary level of education. A percentage of female teachers in the range of 45% to 55% indicates gender parity in the composition of the teaching force. A value of greater than 55% reveals more opportunities and/or preference for women in teaching at the tertiary level of education.

Coverage

Teaching staff, including full and/or part-time teachers, at the tertiary level of education.

Availability

Data are available for all regional groupings under the Sustainable Development Goals (SDGs)⁴ (except Oceania, excluding Australia and New Zealand) and for 150 countries for the period 1990–2018 (latest available).⁵

Footnotes

1. Al-Samarrai, S., Rose, P., Tembon, M., and Colclough, C. (ed.), Achieving Schooling for All in Africa: Costs, Commitment and Gender, Ashgate, 2003.
2. UNESCO Institute for Statistics, Global Education Digest 2010, Comparing Education Statistics Across the World, Montreal, 2010.
3. United Nations Department of Economic and Social Affairs (UNDESA), The World's Women 2015: Trends and Statistics, New York, 2015 (United Nations publication, Sales No. E.15.XVII.8).
4. Regional groupings under the Sustainable Development Goals (SDGs).
5. Data source: United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (last accessed May 2020).

Youth and adult literacy rates



Key points

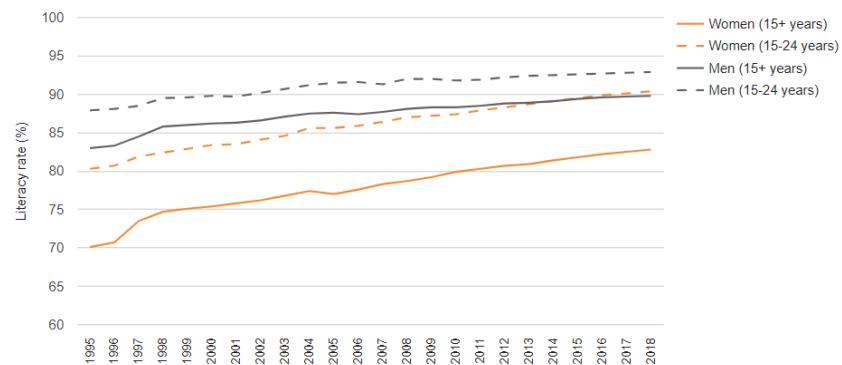
- The benefits of literacy, in particular for women, include greater participation in the labour market, delayed marriage, and improved child and family health and nutrition; these benefits, in turn, reduce poverty and expand life opportunities.
- Global literacy rates for both adults and youth have been rising steadily over the period 1995–2018, and gender gaps have narrowed consistently for both the adult (7 percentage points) and youth populations (2 percentage points) worldwide over the same period.
- Despite this improvement, gender gaps among the adult population aged 15 and older remain significant worldwide, with 9 in 10 adult men being literate in 2018 compared to about 8 in 10 women.
- The largest gender disparities in literacy (9–16 percentage points) for adult populations are concentrated in four regions: sub-Saharan Africa (73% for men versus 59% for women), Northern Africa (79% for men versus 66% for women), Southern Asia (81% for men versus 65% for women) and Western Asia (90% for men versus 81% for women)

Background

Literacy is an indispensable skill, essential for accessing information and knowledge and for independent learning. It is a key driver of sustainable development, which enables greater participation in the labour market and civic life. A lack of literacy skills is strongly correlated with poverty and exclusion from social and economic opportunities. The benefits of literacy, in particular for women, are well documented, including increased participation in the labour market, delayed marriage and improved child and family health and nutrition, all of which reduce poverty and expand life opportunities. In the 2030 Agenda for Sustainable Development¹ literacy is highlighted as a public good, the foundation of basic education, and Sustainable Development Goal 4, target 4.6, specifically calls on countries to ensure that by 2030 "all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy".

Gender disparities in literacy have narrowed over recent decades for both the adult and youth populations

Global literacy rates rose during the period 1995–2018 (see figure I). Over this period, gaps between women and men consistently narrowed in terms of reading and writing skills. At the global level, the gender gap in the youth literacy rates has been steadily closing (from about 8 percentage points in 1995 to about 2 percentage points in 2018), although disparities persist across and within regions. Gender parity in literacy among youth has been attained in the majority of regions, and data show remarkable improvement among adult populations, with a steady reduction in gender gaps from about 13 percentage points in 1995 to 7 percentage points in 2018. Nevertheless, gender gaps among the adult population aged 15 and older worldwide remain significant, with 9 in 10 adult men being literate in 2018 compared to about 8 in 10 women.

Figure I: Literacy rate among adult and youth populations by sex: 1995-2018

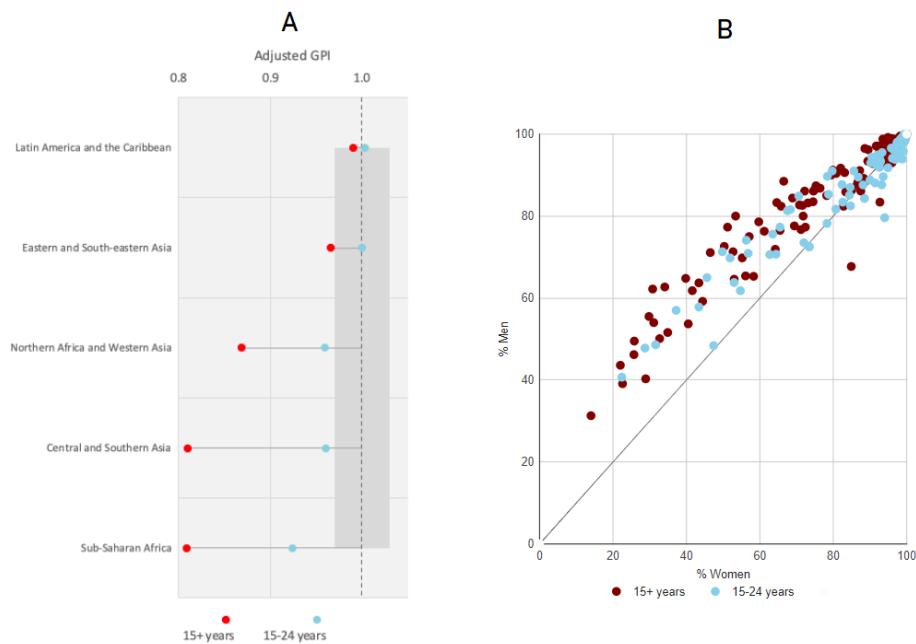
Source: United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics database (<http://uis.unesco.org/>) (accessed in February 2020).

Note: Figures are regional and global aggregates produced by the UNESCO Institute for Statistics: there is no data for Oceania, Northern America and Europe.

Gender disparities in literacy are concentrated in certain regions

Gender inequalities in literacy are most prevalent in four regions, with the widest gender disparities in the literacy rate, particularly for adult populations, observed in sub-Saharan Africa (73% for men versus 59% for women), Northern Africa (79% for men versus 66% for women), Southern Asia (81% for men versus 65% for women) and Western Asia (90% for men versus 81% for women) (see figure II.A). Gender disparities were more pronounced in adult populations than among youth, a point that is further illustrated in terms of the gender parity index (GPI) (see figure II.A) for regions with available data.

Figure II: Adjusted gender parity index (GPI) of literacy rates by region (A); and percentages of literate women and men by country (B): 2018 (or latest year available)



Inequalities in literacy tend to be consistently against females, as illustrated in figure II.B. In some countries gender disparities among the adult population are particularly pronounced. For example, in Chad and Guinea-Bissau, less than 50 adult females are literate for every 100 literate males. Even among the youth population, gender inequalities can be stark in some countries, with less than 60 literate females for every 100 males in Chad and the Central African Republic. Similar, although less extreme, disparities against female youth are also evident in other countries in West Africa, including Guinea, Liberia and Niger, as demonstrated in gender inequalities in school enrolment and learning.

Despite the steady rise in literacy rates over the past few decades, more progress is needed to achieve SDG target 4.6, which aims to ensure that all youth and most adults achieve literacy and numeracy by 2030. This requires scaling up literacy and skills programmes and collaborating with civil society partners, particularly aimed at reaching girls and women and vulnerable groups, and integrating such programmes with skills development for decent work and livelihoods as essential elements of lifelong learning.

About the data

Definitions

- **Literacy:** Ability to read and write with understanding a simple statement related to one's daily life. It involves a continuum of reading and writing skills, and often encompasses "numeracy", the ability to make simple arithmetical calculations.
- **Adult literacy rate:** Percentage of people aged 15 and older who can both read and write with understanding a short simple statement about their everyday lives.
- **Youth literacy rate:** Percentage of people aged 15–24 who can both read and write with understanding a short simple statement on their everyday life.

Coverage

Women and men aged 15 and older (adult population) and youth aged 15–24 in countries worldwide.

Availability

Data are available for 141 countries for youth (15–24 years) literacy rates, and for 142 countries for adult (age 15 and older) literacy rates for the period 2012–2018 (latest available). Regional and global data produced by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics are available for countries in all regional groupings under the Sustainable Development Goals (SDGs) indicator framework except for Northern America and Europe, Australia and New Zealand and Oceania (excluding Australia and New Zealand).

Footnotes

1. United Nations, General Assembly, resolution 70/1, adopted on 25 September 2015 .
2. The gender parity index (GPI) of the literacy rate is the ratio of the female to male literacy rates. A GPI value between 0.97 and 1.03 is usually interpreted to indicate gender parity. The adjusted gender parity index is the GPI adjusted to be symmetrical around 1 and limited to a range between 0 and 2.
3. United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics .
4. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, regional groupings under the Sustainable Development Goals (SDGs) indicator framework .

Educational attainment



Key points

- Regional variations in educational attainment are linked to the general level of socioeconomic development: in developed regions, where universal primary education has been attained, the proportions of women and men with no schooling or whose highest attainment is at the primary level are small while those whose highest level of education is at or above the secondary level are substantial; the reverse holds in developing regions where universal primary education has not been attained.
- Gender differences in educational attainment are most striking among the population with no schooling: differences are particularly large in sub-Saharan Africa (where 44% of women have never attended school, compared to 30% of men) and Southern Asia (where 48% of women have never attended school, compared to 28% of men).
- Primary education is the highest level of educational attainment for slightly above a quarter of the adult population in developing regions (28% for women and 27% for men). Secondary education is the highest educational level attained by most women (41%) and men (48%) both globally and across developed (53% of women and 57% of men) and developing regions (38% of women and 46% of men).
- Globally, nearly one in five adult women (17%) and men (19%) have attained tertiary education: more women (39%) and men (37%) in developed regions have completed tertiary education as compared to their counterparts in developing regions (11% for women and 13% for men).
- Tertiary education is the most common educational attainment in Central Asia, where about 6 in 10 women and men have attended or graduated from post-secondary education.

Background

Educational attainment is a measure of the stock of human capital, that is, the knowledge and the skills available in a given population. A higher level of educational attainment indicates the availability of a relatively high level of skills and knowledge in the labour force. The greater the level of educational attainment, the more likely it is that individuals will have the relevant skills for employment and entrepreneurship, and the greater their earning potential.

In addition to preparing individuals for the labour market, high levels of educational attainment also have a positive impact on broader social development goals, including increased levels of participation and representation in government and of political influence. Persons with higher levels of educational attainment are usually better equipped to make well-informed decisions, for example about their personal and family health or the environment. Raising educational attainment is a key mechanism for empowering women, improving their access to well-paid jobs, increasing their representation in government and enhancing their political influence.

Current situation

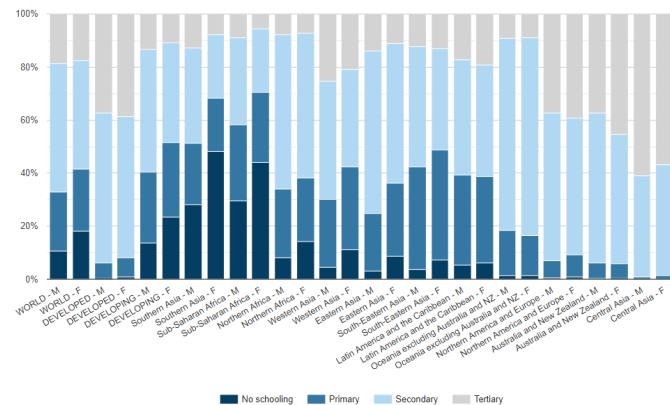
Levels of educational attainment are associated with levels of socioeconomic development

Regional averages¹ of educational attainment among men and women aged 25 and older, calculated according to four education levels:² "no schooling", "primary", "secondary" and "tertiary", show that educational attainment varies substantially across regions (see figure I).

In developed regions, where universal primary education has been attained, the proportions of women and men with no schooling or whose highest attainment is at the primary level are small (less than 10% both for women and men), while those whose highest attainment is at or above the secondary level are substantial (more than 90% for both women and men). Australia and New Zealand and countries in Central Asia and Northern America and Europe display this same pattern. Most countries in Eastern Asia, Latin America and the Caribbean, Northern Africa, Oceania (excluding Australia and New Zealand), South-Eastern Asia and Western Asia also display a similar profile, although the proportion of the population whose highest attainment is at or above the secondary level are moderate (in the range of 50% to 90% for both women and men).

In contrast, in the developing regions of sub-Saharan Africa and Southern Asia, where the goal of universal primary education has not yet been achieved, the proportions of women and men without schooling, or whose highest educational attainment is at the primary level, are significant (over 50% for both women and men), whereas under 50% of women and men have completed either secondary or tertiary level education.

Figure: Distribution of educational attainment of women and men aged 25 and older worldwide and by region: 2005—2018 (latest available) (Percentage)



Source: Computed by the United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, based on data from the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database (accessed in February 2020) (<http://data.uis.unesco.org/>).

Note: Regional averages are weighted by population size of constituent countries. Populations whose education level is unknown have been proportionately distributed over the four main categories of educational attainment ("no schooling", "primary", "secondary" and "tertiary"). Regions, which are the regional groupings under the SDGs indicators framework, are listed in descending order of the percentage of women with no schooling.

Gender disparities against women are most evident among those with no schooling, particularly in sub-Saharan Africa and Southern Asia

Gender differences in the educational attainment of women and men aged 25 and older are most evident among the population with no schooling. Globally, 18% of women compared to 11% of men have no schooling. Some of the largest gaps are found in sub-Saharan Africa, where, on average, 44% of women have never attended school, compared to 30% of men. Gender differences are also large in Southern Asia, where, on average, 48% of women have no schooling, compared to 28% of men.

Primary education is the highest level of educational attainment for slightly above a quarter of the adult population in developing regions of the world

Primary education is the highest level of educational attainment for slightly above a quarter of the adult population in developing regions (27% for women and 28% for men). Primary education is the highest level of attainment for over 30% of women and men in Latin America and the Caribbean and South-Eastern Asia. Corresponding figures for Eastern Asia, Northern Africa, Southern Asia, sub-Saharan Africa and Western Asia are in the range of 20% to 30% for both women and men. In Oceania (excluding Australia and New Zealand), 15% of women and 17% of men have only attained primary level education, whereas in Australia and New Zealand, Central Asia and Northern America and Europe, less than 10% of women and men have only primary education.

Secondary education is the highest educational level attained by most women and men globally, across both developed and developing regions

Secondary education is attained by the majority of adults, both women and men, across both developed and developing regions: worldwide, on average, 41% of women and 48% of men have completed their secondary education; in developed regions, 53% of women and 57% of men have attained that level; and in developing regions, 38% of women and 46% of men have secondary education qualifications.

By region, in Eastern Asia, Northern Africa, Northern America and Europe and Oceania (excluding Australia and New Zealand), secondary education is the highest educational level achieved by the majority of the adult population (50% to 75% of both women and men).

In Central Asia, Latin America and the Caribbean, South-Eastern Asia and Western Asia, secondary education is the highest level achieved by between 33% and 50% of women and men.

About one in four (24%) women in sub-Saharan Africa, on average, have some secondary education, compared to one in three (33%) men. Secondary education is the highest level of attainment for 24% of women and 36% of men in Southern Asia, revealing a gender gap in the range of 1 to 16 percentage points, representing moderate to severe educational disadvantages against women. Large

gender gaps to the disadvantage of women (in the range of 13 to 16 percentage points) are also observed in India, Nepal and Pakistan.

Globally, nearly 20% of adult women and men have attained tertiary level education; and more women and men in developed regions have attained tertiary education compared to their counterparts in developing regions

Globally, an average of nearly one in five adult women (17%) and men (19%) have attained tertiary education. More women (39%) and men (37%) in developed regions have attained tertiary education as compared to their counterparts in developing regions (11% for women and 13% for men). Tertiary level education is the most common educational attainment in Central Asia, where about 6 in 10 women and men have attended or graduated from post-secondary education. Attainment of tertiary level education is relatively high in Australia and New Zealand, Northern America and Europe and Western Asia (20% to 50% for both women and men). In Eastern Asia, Latin America and the Caribbean and South-Eastern Asia, 10% to 20% of women and men are graduates of tertiary education. In Northern Africa, Oceania (excluding Australia and New Zealand), Southern Asia and sub-Saharan Africa, tertiary education is least common, with women constituting a minority of the small proportion of the population (less than 10%) that has attained post-secondary education.

Definitions

About the data

- **Educational attainment:**³ Highest level of education, as classified under the International Standard Classification of Education (ISCED), an individual has successfully completed, which is typically certified by a recognized qualification certificate. Recognized intermediate qualifications are classified at a lower level.
- **Educational attainment of the population aged 25 and older:** Percentage distribution of the population aged 25 and older according to the highest level of education attained or completed with reference to ISCED. The indicator is closely related to the skills and competencies of national populations, and may be seen as a proxy of both the quantitative and qualitative aspects of the stock of human capital. Higher levels of educational attainment in a population are associated with greater personal, household or national wealth and economic growth.

Coverage

Population aged 25 and older.

Availability

Data on educational attainment are available for 153 countries⁴ for the period 2005–2018 (latest available).⁵

Footnotes

1. It should be noted that the regional averages, which were computed weighted by the population sizes of constituent countries, should not be regarded as exact because of the lack of data for some countries. However, they provide a basis for broad comparison of educational attainment across regions. It is also important to bear in mind that comparability of data is limited because of differing definitions pertaining to educational attainment used by countries and because educational systems in different countries do not necessarily impart the same degree of skills and knowledge at each level of education.

2. The educational attainment category of "no schooling" refers to all persons who have attended less than one grade at the primary level; "primary" comprises those who have completed primary education (ISCED 1) or at least one grade of primary education; "secondary" represents those who have attended lower secondary (ISCED 2), upper secondary (ISCED 3) or post-secondary non-tertiary education (ISCED 4); and "tertiary" comprises those who have attended any level of tertiary education (ISCED 5-8).

3. Caution is required when using this indicator for cross-country comparison, since countries do not always classify degrees and qualifications using the same levels as those set out in the International Standard Classification of Education (ISCED), even if they are received at roughly the same age or after a similar number of years of schooling. Also, certain educational programmes and courses of study cannot be easily classified under ISCED. This indicator only measures educational attainment in terms of level of education attained, that is, years of schooling, and does not necessarily reveal the quality of education (learning achievement and other impacts).

4. Countries are organized in [regional groupings](#) under the Sustainable Development Goals (SDGs) indicators framework.

5. Data is from the [United Nations Educational, Scientific and Cultural Organization \(UNESCO\)](#), UNESCO Institute for Statistics database (accessed in February 2020).

Lifelong learning



Key points

- As of 2019, slightly more women (12%) than men (10%) participated in adult education in the member States of the European Union, only slightly higher than the corresponding figures for 2010.
- Adults with already high levels of education participated in adult learning at a higher rate than those with lower educational attainment.
- Gender gaps in participation rates were significant in the group with tertiary education, while at lower levels of educational attainment the gender gap was smaller or insignificant.
- Employed people are more likely to participate in adult education and training than unemployed people or those who are economically inactive.

Background

Adult education is a core component of lifelong learning. The United Nations Education, Scientific and Cultural Organization (UNESCO) defines adult education as education specifically targeting adults to improve their technical or professional qualifications, further develop their abilities or enrich their knowledge, with the purpose of completing a level of formal education, acquiring knowledge, skills and competencies in a new field or refreshing or updating their knowledge in a particular field.¹

Adult learning comprises all forms of education and learning that aim to ensure that adults continue to participate in their societies and the world of work. Adult learning is crucial in maintaining good health, remaining active in the community and staying active in all aspects of society, as well as for improving and developing skills, adapting to technical developments, advancing careers or returning to the labour market.² Adult education programmes are extremely diverse³ and differ in terms of objectives, focus, target groups, content, pedagogy and scale. In more developed countries, adult education tends to be more focused on the enhancement of skills, while in the less developed countries the emphasis is more on literacy programmes and the completion of basic education. Moreover, providers of adult education programmes are also diverse, including governments, non-governmental organizations, local communities and employers.

The indicator on adult participation in learning contributes to the monitoring of progress towards Sustainable Development Goal (SDG) 4, which seeks to ensure that people have access to inclusive and equitable quality education through all stages of life. In addition to promoting formal qualifications, SDG 4 also aims to increase the number of youths and adults with relevant skills for employment, decent jobs and entrepreneurship.

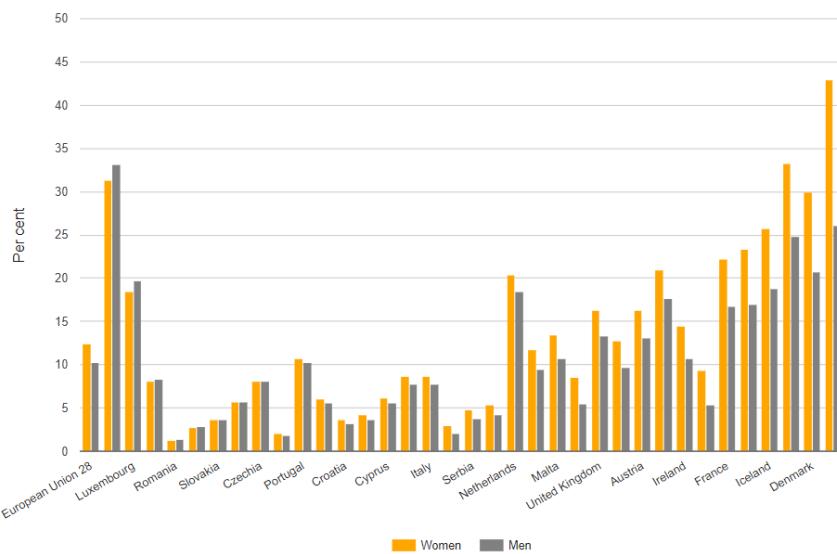
Current situation

Slightly more women than men participate in adult education in member States of the European Union

Data for the 28 countries that took part in the 2019 European Union Labour Force Survey show that the average participation rate in adult education among people aged 25–64, regardless of the respondent's level of education and labour force status, stood at 12% for women and 10% for men in 2019 (see figure I). Those figures

were only slightly higher than the corresponding figures for 2010. Participation in adult education and training varied considerably across countries. Sweden had the highest participation rate (43% of women and 26% of men), while in Romania only about 1% of women and men were engaged in adult education. In most countries, women were more likely to participate in learning activities than men, with the exception of Germany, Luxembourg, North Macedonia, Romania and Switzerland, although the sex differential in participation rates in those countries was small.

Figure I: Rates of participation in adult education and training in member States of the European Union by sex: 2019 (Percentage)

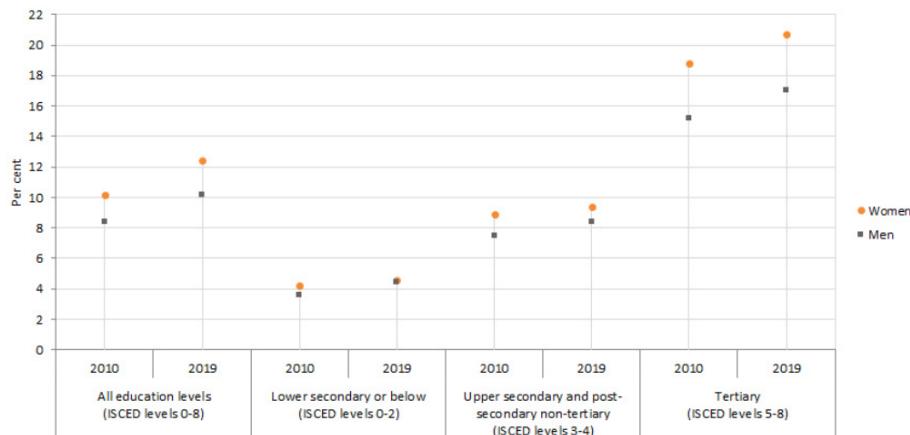


Source: Eurostat database, 2020 (accessed on 5 June 2020) (<http://ec.europa.eu/eurostat/data/database>).

Adults with high levels of education participate in adult learning at a higher rate than those with lower levels of educational attainment: the gender gap is largest at the highest levels of educational attainment

Data on participation in adult education according to educational attainment indicate that adults with already high levels of education participate at a higher rate, while those with lower levels participate at a lower rate (see figure II): 21% of adult women and 17% of adult men who had completed tertiary education participated in lifelong learning in 2019, while among those who had a medium level of qualification as their highest educational attainment (upper secondary or post-secondary non-tertiary) the rate was 9% for women and 8% for men. For those who had attained lower secondary level at most, the participation rate was below 5% for both women and men. There are a number of reasons for this situation, including, in particular, that the demand for training might be higher among individuals with higher levels of education because they already have the skills that facilitate learning and are more likely to be in jobs that demand ongoing training. Regardless of the educational level, in most countries, women's participation rates were higher than those of men. Gaps between women's and men's participation rates were significant among individuals with tertiary education. At lower educational attainment levels, gaps in participation in adult education between women and men were smaller or insignificant.

Figure II: Rates of participation in adult education and training in member States of the European Union by sex and level of educational attainment: 2010 and 2019



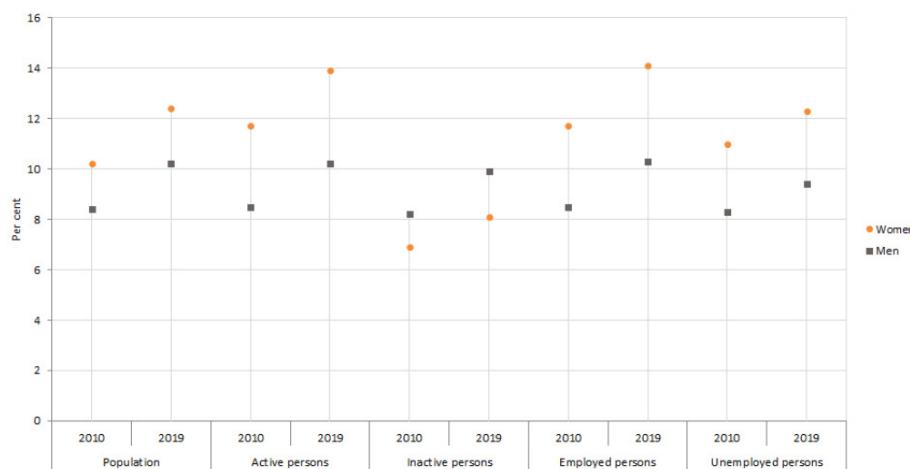
Source: Eurostat database, 2020 (accessed on 5 June 2020) (<http://ec.europa.eu/eurostat/data/database>).

Note: Educational levels are presented as classified in the International Standard Classification of Education (ISCED). The annual European Union Labour Force Survey collects statistics on lifelong learning for the population aged 25–64. The reference period for participation is four weeks prior to the 2019 survey (<https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>).

Employed people are more likely to participate in adult education than those who are unemployed or economically inactive

Data on labour status also show disparities: employed people are more likely to participate in adult education and training than those who are unemployed or economically inactive (see figure III). Participation rates for employed people in 2019 were 14% for women and 10% for men, compared with 12% for women and 9% for men among unemployed people and 8% for women and 10% for men among those who were economically inactive.

Figure III: Rates of participation in adult education and training in member States of the European Union by sex and labour status: 2010 and 2019



Source: Eurostat database, 2020 (accessed on 5 June 2020) (<http://ec.europa.eu/eurostat/data/database>).

Note: The annual European Union Labour Force Survey collects statistics on lifelong learning for the population aged 25–64. The reference period for participation is four weeks prior to the 2019 survey (<https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>).

Sources

- United Nations Education, Scientific and Cultural Organization (UNESCO) and UNESCO Institute for Lifelong Learning, UNESCO Recommendation on Adult Learning and Education 2015, France, 2016 .
- UNESCO, UNESCO Institute for Statistics, UIS glossary (accessed in May 2020) .
- UNESCO et al., Education 2030: Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4, Paris, 2016 .

About the data

Definition

- **Adult participation in learning:** Indicator that measures the share of the population aged 25–64 who received formal or non-formal education and training in the four weeks preceding the 2019 European Union Labour Force Survey.⁴ Adult learning covers both general and vocational formal and non-formal learning activities. Adult learning refers to learning activities that take place after the end of initial (or full-time) education.

Coverage

Women and men aged 25–64.

Availability

Data availability on lifelong learning, including adult education, is limited due to large variations in adult learning programmes and the lack of a common understanding about which categories of learning activities should be included. Data presented correspond to the 28 member States of the European Union that took part in the European Union Labour Force Survey in 2019.⁵

Footnotes

1. United Nations, Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics, UIS glossary. (accessed in May 2020)
2. Eurostat metadata for adult participation in learning.
3. Adult education may encompass formal and non-formal education and training, including: continuing education; recurrent education; equivalency or second chance education; professional development; literacy and post-literacy programmes; adult basic education; information and communication technologies (ICT) training; religious, cultural and political education; technical, vocational and entrepreneurship education and training; income-generation programmes; and other programmes focusing on life skills, livelihoods and community development.
4. The annual European Union Labour Force Survey provides results for the Sustainable Development Goal (SDG) indicator on lifelong learning (defined as the participation of people aged 25–64 in education and training), which is used for regular policy monitoring in the European Union. The reference period for participation in education and training is the four weeks prior to the 2019 survey.
5. Ibid.

Gross enrolment ratio in secondary education



Key points

- Global enrolment ratios in secondary education for both girls and boys are lower than the corresponding ratios in primary education.
- Participation in secondary education has expanded steadily in all regions of the world over the past three decades.
- Despite this remarkable improvement, globally, only 75% of girls and 76% of boys in the official school-age population attended secondary school in 2018.
- Gender disparities in secondary education have been significantly reduced worldwide, shrinking to 1 percentage point in 2018.
- There are variations in secondary enrolment ratios among regions, with ratios close to universal in Northern America and Europe and Latin America and the Caribbean, above 90% in Central Asia and lagging behind significantly in sub-Saharan Africa and Oceania (excluding Australia and New Zealand).

Background

Secondary education is key to more complex skills and knowledge, which offer individuals more opportunities in life and prepare them for tertiary level education. The foundational skills obtained in secondary school are considered essential for career advancement, active citizenship and safe choices about personal health. These are important reasons for the enactment by many countries of policies or laws making both primary education and lower secondary education free and compulsory.¹

Participation in secondary education has increased steadily for both girls and boys

Participation in secondary education has expanded steadily in all regions of the world (see figure I). Over the period 1990–2018, global gross enrolment ratios in secondary education have improved by 28 percentage points for girls and 20 percentage points for boys. Despite this remarkable improvement, only 75% of girls and 76% of boys attended secondary school in 2018. Global enrolment ratios in secondary education for both girls and boys were lower than the corresponding ratios in primary education.

Figure I: Global gross enrolment ratio in secondary education by sex, world and region: 1990, 2005 and 2018 (Percentage)



Source: UNESCO Institute for Statistics database (accessed April 2020) (<http://uis.unesco.org/>).

Secondary gross enrolment ratios show significant variation among regions

Gross enrolment ratios in secondary education show significant variation among regions (see figure I). In 2018, the ratio was close to 100% for both girls and boys in Northern America and Europe and Latin America and the Caribbean, and above 90% in Central Asia. However, despite the steady expansion of post-primary education, secondary enrolment was low in many developing countries. In countries in sub-Saharan Africa, the secondary enrolment ratio was 41% for girls and 46% for boys. In Oceania (excluding Australia and New Zealand), the ratio was 48% for girls and 59% for boys. Secondary enrolment ratios were close to or over 80% for both girls and boys in all the other regions, and in both Australia and New Zealand ratios were far above 100% for both girls and boys, indicating a significant enrolment of over-age students and students repeating grades.

Globally, gender disparities in secondary education have been significantly reduced

Between 1990 and 2005, the global gender gap in gross enrolment ratios for girls and boys declined from 9 to 3 percentage points (see figure I). The decline has continued steadily, shrinking to 1 percentage point in 2018.

Girls still face significant disadvantages in enrolment in

secondary education in several regions worldwide

Despite the gains made over the past three decades, girls are still less likely than boys to be enrolled in secondary school in Oceania, sub-Saharan Africa and Western Asia—all regions with low overall enrolment rates for both girls and boys. National level data (see figure II) show that, in the majority of cases, gross enrolment ratios of under 50% of girls in secondary education are reported in sub-Saharan Africa, and to a lesser extent in Asia and Oceania (Afghanistan, Cambodia, Iraq, Pakistan, Papua New Guinea, Solomon Islands and Yemen). In regions with higher overall secondary enrolment ratios, such as Eastern and South-Eastern Asia and Latin America and the Caribbean, disparities favour girls. Countries in Northern America and Europe and in Central Asia achieved and maintained equal access to secondary education for both girls and boys throughout the period 1990–2018, while Northern Africa and Southern Asia eliminated gender disparities over the same period.

Figure II: Female gross enrolment ratios in secondary education, 2018 (or latest available)



Source: UNESCO Institute for Statistics database (<http://uis.unesco.org/>) (accessed April 2020).

The boundaries and names shown and the designations used on this and other maps throughout this publication do not imply official endorsement or acceptance by the United Nations.

About the data

Definitions

- **Gross enrolment ratio (GER) in secondary education:** Number of students enrolled in secondary education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. The gross enrolment ratio in secondary education makes no distinction between lower and upper secondary levels, treating enrolment and participation in secondary education as a whole by combining both lower and upper secondary levels into a single educational cycle. Because the gross enrolment ratio includes all students in secondary education regardless of their age, its values can exceed 100% in countries where children enter school late or repeat grades.

Coverage

Girls and boys enrolled in secondary education.

Availability

Data are available for 210 countries for the period 1990–2018 (latest available)² in all regional groupings under the Sustainable Development Goals (SDGs) indicator framework.³

Methodological note

In some instances, owing to the inclusion of over-aged and under-aged students because of early or late entrants and/or grade repetition, gross enrolment ratios can exceed 100%. In such cases, a rigorous interpretation of the ratio requires additional information to assess the extent of the effect of those factors. A high gross enrolment ratio generally indicates a high degree of participation, whether pupils belong to the official age group or not. A value approaching or exceeding 100% indicates that a country is, in principle, able to accommodate all of its school-age population, but does not indicate the proportion already enrolled. The achievement of a ratio of 100% is therefore a necessary but not sufficient condition for enrolling all eligible children in school. A gross enrolment ratio exceeding 90% for a particular level of education means that the aggregate number of places for students is approaching the number required for universal access of the official age group. However, this is a meaningful interpretation only if it is expected that the under-aged and over-aged enrolment will decline in the future to free up places for pupils from the expected age group. Lower gross enrolment ratios may reflect a shortage of supply, as well as the impact of other factors, such as the indirect and direct costs of attending school, which may limit enrolment. Furthermore, an upward or downward trend in the school-age population can have an impact on the gross enrolment ratio.

Footnotes

1. Data are from the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNESCO Institute for Statistics database. (accessed in April 2020)
 2. United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, Sustainable Development Goals (SDGs) indicator framework .
 3. Benavot, A., "The Diversification of Secondary Education: School Curricula in Comparative Perspective", UNESCO International Bureau of Education, Geneva, November 2006 .
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