GENDER EQUALITY

HOW GLOBAL UNIVERSITIES ARE PERFORMING

PART 2

A partnership between

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Contents

This report is a joint collaboration between the UNESCO International Institute for Higher Education in Latin America and the Caribbean (IESALC) and *Times Higher Education*.

Data sources

- American Council on Education (US data on educational attainment)
- Higher Education Statistics Agency (UK data on graduate earnings)
- Organisation for Economic Cooperation and Development (data on childcare costs and educational attainment for selected countries)
- THE Impact Rankings 2022
- THE World University Rankings 2022
- UNESCO (data on educational attainment for selected countries)
- World Bank (data on educational attainment for selected countries)

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Executive summary

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In March 2022, we published our first report on gender equality in global higher education. The results found that there is much to celebrate, as well as areas for improvement.

Female students now outnumber male students globally; although there are still fewer women in STEM subjects worldwide, several Asian countries have a higher share of women enrolled in STEM degrees than in arts, humanities or social sciences; and the majority of universities say they have various policies and services that contribute to the goal of gender equality, such as a policy of non-discrimination against women and the provision of appropriate women's access schemes, such as mentoring or scholarships.

But there are important lessons too. Most universities are unable to provide relevant evidence of their policies and services that support women's advancement, suggesting that while certain codes may ostensibly be in place, they are not necessarily being implemented across institutions. Universities are also more focused on measuring women's access to higher education than tracking their outcomes and success rates, while women remain underrepresented in senior positions and among published academic authors.

In this second report, we provide a literature review to put these findings into context, deeper analysis on some of the trends based on updated data, and recommendations for universities.

The report finds that:

- There are a wide range of initiatives that universities can undertake to increase gender equality in their institutions, and they can be carried out within the education, research, engagement and management areas
- The consideration of national policies on gender is critical to understanding the playing field in which universities operate
- Increasing numbers of universities globally are reporting data on their performance on gender equality indicators, with particular growth in Asia
- The shares of students that are first-generation among the whole student population and among female students are generally very similar
- Not all STEM subjects suffer from female underrepresentation at the

student level; there are more female than male students in life sciences, for example. However, the share of female students is increasing in all subjects, meaning that some disciplines are becoming more and more female-biased

- The underrepresentation of male students in certain subjects, such as psychology and education, is concerning
- In all regions, universities are more likely to focus on providing access and support to women than on measuring their progress and success
- Universities' gender equality measures are inextricably linked to national policies; for example, in countries where childcare is not readily available or is expensive, universities tend to be more likely to provide their own facilities
- Despite making up more than half of higher education students, women are underrepresented as lecturers, researchers and particularly leaders
- More governments are developing policies to increase the number of women in leadership positions, in general and within higher education institutions
- A growing number of universities are training faculty on gender equality and implementing a gender perspective in existing academic programmes or developing new ones on gender equality
- Among other research initiatives, universities are increasing their efforts to facilitate the impact of female researchers, create research centres on gender studies or integrate a gender perspective in their existing research areas
- Through their third mission, universities support women's health (inside and outside the university) and female entrepreneurs. They also advocate for gender equality beyond the university walls and potentially in partnership with other actors
- The design and application of equitable admission procedures, the collection of gender-disaggregated data, the existence of human resources frameworks and policies favourable for women, and the increasing representation of women in university bodies are some of the management initiatives to promote gender equality.

Literature review 2.1

SETTING THE SCENE: THE ROLE OF WOMEN IN HIGHER EDUCATION

As a fundamental human right, gender equality is a mission that is present across all 17 of the United Nations' Sustainable Development Goals, but it is explicitly addressed in SDG 5 – "achieving gender equality and empowering all women and girls". Achieving this goal will require work and commitment across many policy areas and sectors, but one critical element will be empowering women in, and through, education, including higher education.

Before presenting analysis of data from higher education institutions themselves, this section of the report provides an overview of the main country-level, internationally comparable indicators relating to gender equity in higher education, and global trends.

After a long history of exclusion and then underrepresentation, the number of women enrolled in tertiary education (International Standard Classification of Education levels 5-8) worldwide has exceeded the number of male students since 2005, according to UNESCO's Institute for Statistics. At the country level, women now outnumber men in tertiary education enrolment in about three-quarters of the countries with available data. This is a significant achievement that is worth recognising and celebrating. At a regional level, female tertiary education students outnumber male students in most of the world's regions. The two exceptions are South and West Asia, where women approach parity but still lag behind, and sub-Saharan Africa, the only region showing a clear female underrepresentation, with 76 female students enrolled for every 100 males in 2019.

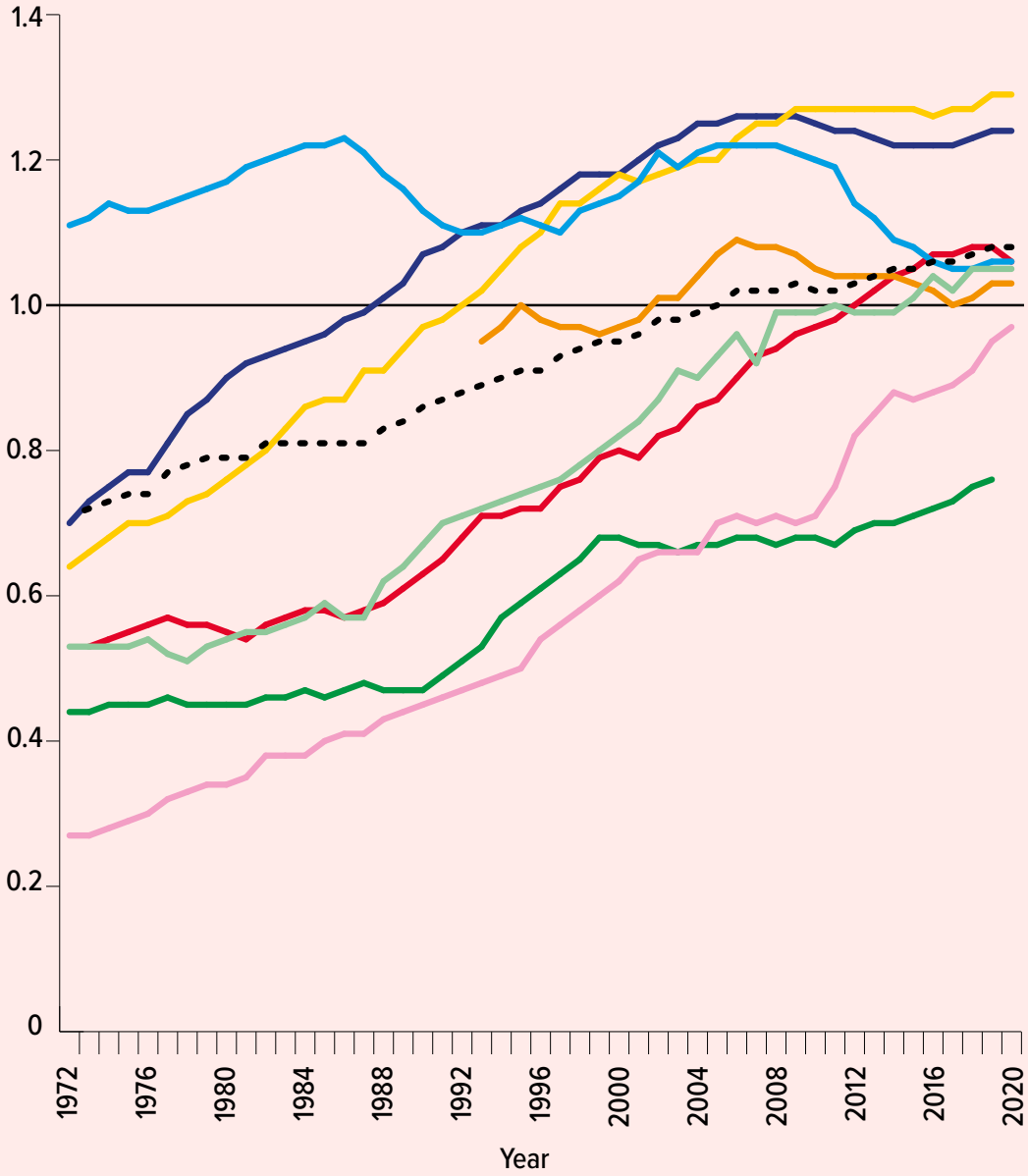

Figure 1. Ratio of female-to-male enrolment in tertiary education, all programmes, 1972-2020

- World
- Arab states
- Central and eastern Europe
- Central Asia
- East Asia and the Pacific
- Latin America and the Caribbean
- North America and western Europe
- South and west Asia
- Sub-Saharan Africa

Source: UNESCO Institute for Statistics, 2022.

While the share of the global population attending higher education has increased considerably in recent decades for both men and women, women's share has increased faster. Between 2000 and 2018, the gross enrolment ratio (GER) in tertiary education for males increased by 17 percentage points (from 19 per cent to 36 per cent), while that for females rose by 22 percentage points (from 19 per cent to 41 per cent).

Some authors have referred to this phenomenon as the "female advantage" in higher education. However, this "female advantage" at an aggregated level does not mean that full gender balance has been reached in all aspects of higher education. The underrepresentation of men in tertiary education enrolment, which is partly caused by low completion rates in upper secondary education, has contributed to a greater female share in higher education. At the same time, inequalities against women still persist in certain countries and regions, and in specific fields of study, academic positions and institutional governance bodies. The following points summarise the areas of female underrepresentation.

In some fields and levels of study

In all regions of the world, tertiary education shows a clear split by gender between the different fields of study. STEM (science, technology, engineering and mathematics) programmes, for example, display a clear underrepresentation of women in most countries. This underrepresentation of female students directly results in there being fewer female researchers in those fields.

Regarding study levels, in 2019, women accounted for 46 per cent of all PhD-level (ISCED 8) students, up from 41 per cent in 2001. However, this figure drops to 29 per cent in low-income countries (2018) and 37 per cent for sub-Saharan Africa.

As teachers, senior academics and university leaders

In 2020, women represented 43 per cent of teachers in tertiary education, compared with 66 per cent and 54 per cent in primary and secondary education respectively. To provide context, the world average share of tertiary female teachers has shown a steady increase over time (33.6 per cent in 1990; 38.8 per cent in 2000; 41.9 per cent in 2010; 43.2 per cent in 2020). The largest increase has been in South and West Asia (a rise of 17 percentage points in 30 years, now at 40 per cent) and the smallest in sub-Saharan Africa (two points in 30 years, now at 24 per cent, which remains the lowest regional share overall).

Women are also underrepresented in school management, senior faculty, university leadership and education policymaking positions. For example, only 18 per cent of university rectors were women in a survey of nine Latin American countries, while only 15 per cent were women in a survey of 48 European countries, of which 20 countries did not have any female leaders. Just 21 per cent of the top 200 universities globally in the *Times Higher Education* World University Rankings have a female leader.

As researchers

Female researchers at higher education institutions represent 39.7 per cent of the world's total, while the share of research and development personnel (including researchers and non-researchers) who are women is 41.7 per cent globally. There is evidence that in some countries, male researchers have benefited from a larger share of research funding, which can affect their long-term academic success.

Male academics produce more publications than women, on average. This publication gap is wider for publications in top journals, as pointed out in Elsevier's gender report from 2020. Gender inequalities in research have increased as a result of the Covid-19 pandemic. During its first wave and lockdown months, besides an overall increase in publication numbers, female researchers increased their publication rates less than male researchers. This deficit was wider for younger female researchers, which could point to an uneven distribution of childcare responsibilities between genders at a time when schools worldwide were closed.

2.2

GOVERNMENT INTERVENTIONS TO PROMOTE FEMALE LEADERSHIP IN HIGHER EDUCATION INSTITUTIONS

In the past two decades, and particularly since 2015 when the SDGs were published, governments worldwide have considerably increased their efforts to achieve gender equality (SDG 5), which is considered a prerequisite for inclusive, robust and sustainable economies and societies. From eliminating gender-based violence to dedicating specific budget to gender issues or ensuring equal representation of women in politics, governments have developed a wide range of policies that have helped women and societies progress. Recognising the impact that the pandemic has had on women, some countries are considering gender-inclusive policies in their Covid recovery strategies. This section examines government policies in different world regions that in targeted ways support the development of female leadership in higher education institutions.

Previous research provides useful insights into some of the international, regional and national policies and interventions that are in place to enhance gender equality in, and through, higher education in different contexts. According to the Global Education Monitoring Report, nearly 50 per cent of countries have created policies and legislation to protect women and girls from discrimination, while around half of such initiatives have been promoted by ministries of education. Furthermore, 105 countries have ratified the 1960 UNESCO Convention Against Discrimination in Education.

In respect to higher education, while supportive government policies have contributed to reversing gender inequalities in enrolment levels, there has been slow progress in increasing female representation in academic, and particularly in decision-making, positions. In general, gender equality and diversity are recognised to have beneficial effects on organisations, institutions and the overall economy. Having female leaders also tends to influence the extent of emphasis placed on gender equality in policy and practice. It is therefore important to document government interventions aimed at increasing female representation in key decision-making positions in the economy in general and in higher education specifically. This highlights effective and viable good practices and assists evidence-based policymaking.

The extent of gender equality within higher education institutions relies

heavily on the general policies that government set. For example, some countries have traditionally established policies that support and promote women in all aspects of society and economy (eg, Nordic countries). Other countries have recently launched ambitious national strategies for gender equality, such as Spain, which has 141 actionable objectives to empower women through the principles of good governance, economic justice and equitable resource distribution, freedom and non-violence, and the protection of human rights. At an international level, the European Commission supports and funds the development of gender equality policies in member and non-member states. This is done, for example, by developing equal treatment legislation, promoting the integration of a gender perspective into all policies, or designing specific measures of women's progress.

Governments' political will is key to empowering women and achieving gender equality. There must be sustained commitment of politicians and administrators to invest the necessary resources to achieve gender equality. Governments' commitment towards gender equality is also shown through regulations, such as the implementation of legal frameworks relating to parental leave, equal pay, affordable childcare and non-discrimination. All these policies have a positive impact on higher education by setting an enabling environment for universities to improve through their internal policies. The time spent on parental care and family obligations often acts as a barrier to women seeking tenure or senior leadership in higher education. Thus, policies that provide women and men with flexibility to take work leave for parenting and caregiving can positively impact the higher education sector by improving the work/family balance.

Responsible governments lead by example – by evaluating and addressing their own gender gaps, which in turn leverages influence by amplifying the impact of national gender equality strategies and legislation. Governments in a growing number of countries have introduced decisive measures to drive up the share of women in leadership positions in all sectors, and some have been specifically targeted at the higher education sector, through legislation, regulation, governance arrangements, policies, unconscious bias training and empowerment programmes.

The following case studies show how a selection of countries have sought to improve the representation of female leaders in higher education. The interventions can be separated into direct (those specific to higher education) or indirect (those affecting all sectors of the economy). This report does not aim to thoroughly evaluate the success of the implementation of these policies in achieving gender parity in leadership positions of higher education institutions, but to showcase countries that are mobilising resources to support female leadership with some positive results.

A major limitation in this evaluation is the dearth of publicly available data on the composition of women in different levels of management of higher education institutions, which points to a need for governments to work with universities to collect and disseminate these data. Having gender-specific statistics is the first step to enabling research to be undertaken and progress to be monitored that promotes female leadership in higher education.

Ethiopia 2.2.1

Women are still grossly underrepresented in higher education leadership positions in Ethiopia. Only 10.6 per cent of executive management positions were held by women in 2019-20 across Ethiopia's 45 public universities. In the same period and across the same institutions, women made up less than 5 per cent of deans and 3 per cent of department heads. Ethiopia also has few female undergraduates, with a tertiary GER of only 8 per cent for women, compared with 13 per cent for men in 2018. This reduces the pool of potential leaders in higher education institutions. Women's share of enrolment in PhD programmes in 2020 was only about 12 per cent of total enrolment.

The Ethiopian Education and Training Policy (1994) includes provisions for enhancing women's participation in educational leadership, management and administrative positions. The Gender Strategy for the Education and Training Sector (2014) also aims to increase the share of female teachers and female educational leaders at all levels of the education and training sector by training, promoting and incentivising existing female leaders. Through an education sector development programme, the government has set goals, such as increasing the participation of women in school management and training school leaders in gender-responsive pedagogy. The 2019 Higher Education Proclamation, the legislative blueprint for the sector, dictates increasing the proportion of women in senior positions as a criterion by which higher education institutions are evaluated.

A leadership recruitment guideline for universities, developed by the Ministry of Science and Higher Education, similarly provides clear directions about gender parity in leadership appointments at all levels of the governance structure. An important development within the sector is the ministry's continuous capacity-building initiatives aimed at improving leadership capabilities for women. These training programmes, usually backed with financial and technical support from foreign ministries of education or international organisations, are targeted at female leaders in higher education institutions and the expected outcome is to contribute to improving the performance of female leaders and the overall institutional leadership capacity in the sector.

Austria 2.2.2

In Austria, national legislation was introduced in 2009 through an amendment of the Universities Act 2002, to require university bodies, such as the senate and all commissions appointed by the senate, to meet a quota of 40 per cent female members. The quota was raised to 50 per cent in 2014. By 2016, all but one of the university councils had fulfilled this quota. There are sanctions for non-compliance; if a university body does not fulfil the required quota, the equal opportunities working group may request a new composition of the body, which makes all previous decisions taken by it invalid.

Data show a significant increase in women's representation immediately

after the regulation was introduced. In 2019, the share of women holding rectorate positions was 49 per cent, compared with 22 per cent in 2005. The year 2011 recorded the greatest increase of almost 10 percentage points, from 32 per cent female rectorates in 2010 to 41 per cent just two years after the quota was introduced. Therefore, the country succeeded in significantly raising the participation of women in university management positions in a short period of time.

The Netherlands 2.2.3

The share of female professors in the Netherlands has steadily increased from less than 12 per cent in 2010, to 17 per cent in 2014, 22 per cent in 2018 and more than 25 per cent in 2021. One of the major contributors to this rise is the Westerdijk Talent Scheme, which was set up by the Dutch Research Council (NWO) in 2017 to encourage universities to increase the number of female professors, and therefore contribute to greater diversity among top-ranking academics.

The education minister made a one-time investment of €5 million (£4.2 million) to enable universities to appoint 100 new female professors within a year and NWO was tasked with dividing the funds. The programme offered universities the possibility to apply for grants if they promoted female researchers to full professors and institutions were also offered compensation for the extra salary entailed. One of the conditions for approving the application for financial compensation was that the professor in question should have permanent employment prospects. In 2018, the goal was reached and 100 female professors were appointed.

In 2020, the Ministry of Education, Culture and Science formulated a National Action Plan for Greater Diversity and Inclusion in Higher Education and Research. The plan calls on the higher education and research sector to work with the government to progress towards full diversity and inclusion.

Colombia 2.2.4

Colombia is ranked 59th out of 156 countries in the World Economic Forum's latest Global Gender Gap Index. Despite its modest position, Colombia has adopted robust regulation protecting women's rights. For example, the country was the first to formally acknowledge the economic contribution of unpaid care work in law in 2010. Colombia has also enacted legislation requiring that women comprise at least 30 per cent of top decision-making positions in public administration. This quota has been a crucial enabler for increased representation of women in public institutions. The Colombian government also has a National Policy on Gender Equality that aims to guarantee women's equality and non-discrimination.

Philippines

2.2.5

The Philippines is the Asian country with the smallest gender gap, according to the World Economic Forum's *Gender Gap Report 2021*, which examines economic participation, education, health and political empowerment. The Philippine government adopted the Philippine Plan for Gender-Responsive Development 1995-2025, a 30-year strategic plan that translated the UN's Beijing Declaration and Platform for Action into policies, strategies, programmes and projects for Filipino women.

In addition, the country has designed and is implementing a Gender Equality and Women's Empowerment Plan 2019–2025. One of its objectives is to enhance women's participation and leadership in the public service and to transform social norms and culture to promote gender equality and women's empowerment. Comparatively, the Philippines has a relatively large share of women in high-ranking positions in various sectors of the economy including higher education, as women represent 46.6 per cent of senior management positions, compared with a world average of 24.1 per cent. This has been attributed to non-discrimination rules for recruitment, paid parental leave and flexible hours.

In short, females are grossly underrepresented in positions of leadership in higher education worldwide. Governments play a major role in creating enabling environments for promoting female representation in the senior management levels of higher education institutions. Although policy choices can, and should, differ across countries in response to national conditions, cultures and contexts, the examples of countries promoting gender equality in higher education leadership through legislation, policies and programmes identified in this review aim to inspire others to take action. National political, economic, social, cultural or financial factors will always affect the degree of success of such interventions, but the first step is the political willingness to change the status quo by recognising that larger female representation in leadership positions creates a more inclusive and sustainable higher education sector and, therefore, society.

2.3

GENDER EQUALITY PRACTICES IN HIGHER EDUCATION INSTITUTIONS

Higher education institutions play an important role in tackling gender equality through their three main missions – in their development of human capital via teaching and learning, in the generation of new knowledge via research and innovation, and in impacting society via community engagement or public outreach. Through each of these missions, as well as through their administration, management and governance systems, universities can help eliminate gender gaps and empower women.

Literature regarding what higher education institutions can do to contribute to SDG 5 is scarce and scattered. The majority of documents on this topic are case studies from institutions in developed countries, so there is little information about which practices are more or less common internationally – prior to the indicators discussed in the next section of this report. Some practices are undertaken at a strategic level (eg, institutional gender policies or plans), others at an operational level (eg, women's networking events), and others are structures that are put in place around this topic (eg, gender centres or institutes). These gender-related activities have traditionally not been measured, which has inhibited universities' improvement in this area. However, in the past few years, some national and international initiatives have been created in order to assess this work.

One of these is the UK Equality Challenge Unit's Athena Swan charter – a framework that is used across the globe to support and transform gender equality within higher education and research. Established in 2005, it measures an institution's performance in improving gender representation in academic and professional, managerial and support staff roles. It examines the progression of students into academia and the career journey and working environment for staff. Athena Swan has become a common means to address barriers for women's advancement and leadership in the UK, Ireland (where it is linked to funding) and Australia. The US and Canada use modified approaches.

Teaching and learning initiatives 2.3.1

Reviewing teaching content to remove stereotypes and biases and ensure that there is representation of women is a crucial avenue towards gender equality. It is also important that universities interrogate the perceptions towards certain programmes and disciplines so that they can be seen as non-gendered (eg, deconstructing the common view that STEM fields are predominantly male-oriented and nursing or education fields female-oriented).

Universities have focused on several methods to achieve SDG 5 in teaching and learning: training faculty, implementing a gender perspective in existing academic programmes, and developing new academic programmes on gender equality. The following higher education institutions exemplify some of these actions:

- Students in residence at Western University in Canada undergo mandatory training to help prevent gender-based and sexual violence. The training entails a one-hour, information-based online module to deepen students' understanding of violence, safety, policies and reporting pathways, plus 90-minute small-group sessions intended to challenge common values and beliefs about sex and consent.
- The Open University of Catalonia in Spain has a Gender Equality Plan 2020–2025 with three goals for transforming teaching: mainstreaming the gender approach within all university teaching contents, teaching gender studies and reducing the gender imbalance of students in different subjects. One way the university seeks to mainstream gender in all teaching is through having a gender equality teaching checklist.
- Women in Computer Science is a student-led society at the University of Cape Town, South Africa. It strives to encourage and retain women in STEM-related careers through formal talks, competitive hackathons and outreach programmes exposing coding to female scholars.
- University staff from Uganda Martyrs University and Gulu University, Uganda, undergo training on gender responsiveness in curricula and pedagogies – for example through teaching and learning materials, classroom management and set-up and classroom interaction. This training is supported by the UK Foreign, Commonwealth & Development Office.

Research 2.3.2

It is important for universities to ensure that women are well represented across all research areas, particularly in STEM fields where there is typically the most room for progress, and that the right conditions are in place for them to increase their research impact. Some higher education institutions have created research centres dedicated specifically to gender studies to increase knowledge and awareness on this topic, or integrated a gender perspective into all of their research. The following initiatives provide some

examples of how higher education institutions can improve gender equality through their research mission:

- Waseda University in Japan has a confidential mentoring programme for female junior researchers, PhD candidates and postgraduates who are considering becoming researchers, focused on their academic and personal lives. The mentors are senior researchers in leadership positions within the university and the programme helps them develop their problem-solving skills. Mentees learn and are inspired by the experience and advice of the senior academics.
- Wilfrid Laurier University in Canada created the Centre for Women in Science, which champions women in STEM and aims to build an inclusive community through research, action and communication. As a research centre, it facilitates and supports research undertaken by women within the institution as well as research about women in science and in mathematical social sciences.
- In 1988, the University of the Philippines created the University Center for Women's Studies (today known as the Center for Women's and Gender Studies) to address concerns and issues involving women in the university and in the society at large. Among other objectives, it encourages and strengthens interdisciplinary research in women's and gender studies.
- The African Institute for Mathematical Sciences (AIMS) is a pan-African network of centres of excellence for postgraduate training in mathematical sciences. The AIMS Women in STEM initiative aims to support leaders in universities, governments, businesses and society with evidence-based recommendations to increase gender equality in STEM fields. It also carries out mentoring and networking events.

Engagement 2.3.3

Beyond their teaching and research activities, universities can support female staff and students through their third mission, for example through initiatives relating to health and well-being or support for entrepreneurial ventures.

Universities also engage with other actors in order to promote gender equality outside their institutions, including other higher education institutions, governments, industry and local communities.

At the same time, universities can support female staff by facilitating their engagement activities with external actors, whether this relates to teaching, research or knowledge transfer. This support is particularly important given that female academics tend to have less stable careers and that some cultures distrust women's professional expertise; in turn, this means their impact beyond the university can be limited.

The following are examples of universities that contribute to gender equality through their third mission:

- The University of Wuppertal in Germany coordinates a network of experts in 20 universities in the North Rhine-Westphalia region. Established by the government, the Women Entrepreneurs in Science network supports female entrepreneurs and women interested in founding a company at the student and academic level. It runs a series of events for women to share ideas and advisory services to help them transform their ideas into sustainable businesses. The network also partners with 15 external organisations.
- The Pt. Ravishankar Shukla University, Raipur in India undertakes community-based participatory research with the State Planning Commission and the local tribal community on women empowerment issues. Meanwhile, Bhagat Phool Singh Mahila Vishwavidyalaya (BPS Women University), also in India, promotes student community engagement and conducts field projects in partnership with a local women's group.
- The University of British Columbia in Canada provides accessible sexual and reproductive care and health services to students including sexual health information, sexual counselling, pregnancy testing, cervical screening, sexual health supplies and testing for sexual transmitted infections.
- In 2016, five Colombian universities from different regions (Rosario, Barranquilla, Medellín, Cali and Bucaramanga), together with Oxfam, UN Women and the Presidential Council for Gender Equity of Colombia, created the UNESCO Chair in Gender Equity in order to contribute to SDG 5 in the country. The organisations codesign and coordinate a wide range of activities to promote a culture of gender equity in different social settings, including culture, the economy, politics, family, health and education. They also have agreements with other actors for specific activities, such as a partnership with the Colombian Ministry of ICT on an online course.

Administration and management

2.3.4

The design and application of admission procedures, the collection of gender-disaggregated data, the existence of human resources frameworks and policies favourable to women, and the representation of men and women in different faculties and governing structures of higher education institutions all have important implications for gender equality. In addition, the organisational culture towards women embedded by leaders of these institutions has an impact on the experiences of both students and staff. At the same time, on-campus services can improve the work-life balance of parents (students or staff) and the health and well-being of women more broadly.

Some examples of gender equality measures applied by higher education institutions in their administration and management are:

- An essential prerequisite for other gender equity measures is collecting and disseminating data on the ratios between women and men at various levels, from student enrolment and completion on each area of study, to the composition of teaching staff, senior academic roles or governing bodies. One example of this activity comes from the Gender Equality Observatory in Bolivia – an initiative from 12 Bolivian universities, which join efforts to gather and analyse statistical data and use these for the basis of their gender equity measures.
- Ghent University in Belgium has a wide range of policies for parents, including maternity and paternity leave for staff, the right to breastfeeding breaks, flexibility options for pregnant students, and childcare services for both staff and students. Together these initiatives create a favourable environment that facilitates work-life balance of staff and students.
- Uva Wellassa University in Sri Lanka created the Center for Gender Equity and Equality in order to "ensure equal opportunities and terms for both genders among the university community" as well as a "gender sensitive environment...with zero tolerance towards sexual and gender-based violence". The centre oversees the implementation and monitoring of the university's gender equality policies and promotes gender equity within the institutional culture more broadly.
- The Autonomous University of Barcelona in Spain has an Observatory for Equality, which has created handbooks on gender perspectives in teaching and research. The observatory offers useful information on how to ensure that research groups are gender-balanced and to efficiently integrate gender perspectives in all university research. It also makes a wide range of internal and external gender research frameworks, toolkits and guidelines available to its staff.

Analysis

3.1

INTRODUCTION

The latest institutional data received by *Times Higher Education* in 2022, which in general refers to the closest academic year to January to December 2020, shows that there is increasing interest in benchmarking performance against the United Nations' Sustainable Development Goals, including SDG 5 – "achieving gender equality and empowering all women and girls". In total, 938 institutions provided data on their contributions to SDG 5 in 2022, up from 776 last year, a 21 per cent increase. The number of universities participating across all the SDGs was 1,524, a 23 per cent increase.

The rise in the number of institutions has been accompanied by a rise in the number of participating nations in SDG 5, too; the 938 universities hail from 101 different countries or territories (up from 87 last year), and 30 of those have at least 10 institutions that submitted data (up from 26). The four new countries that now have at least 10 universities are the Philippines, Romania, Saudi Arabia and South Korea.

Overall, 264 of the 938 institutions are new since 2021 (some of the institutions that participated in 2021 did not participate in 2022). The largest growth has been seen in Asia; one-third of universities in the region in this year's database are new, mainly driven by increased participation from Japan, Pakistan and India. Africa and Europe have also seen significant increases in participation, while Oceania has seen the least change, reflecting the fact that Australia and New Zealand have relatively small higher education systems and already had strong rates of participation.

938

institutions provided data on their contributions to SDG 5 in 2022

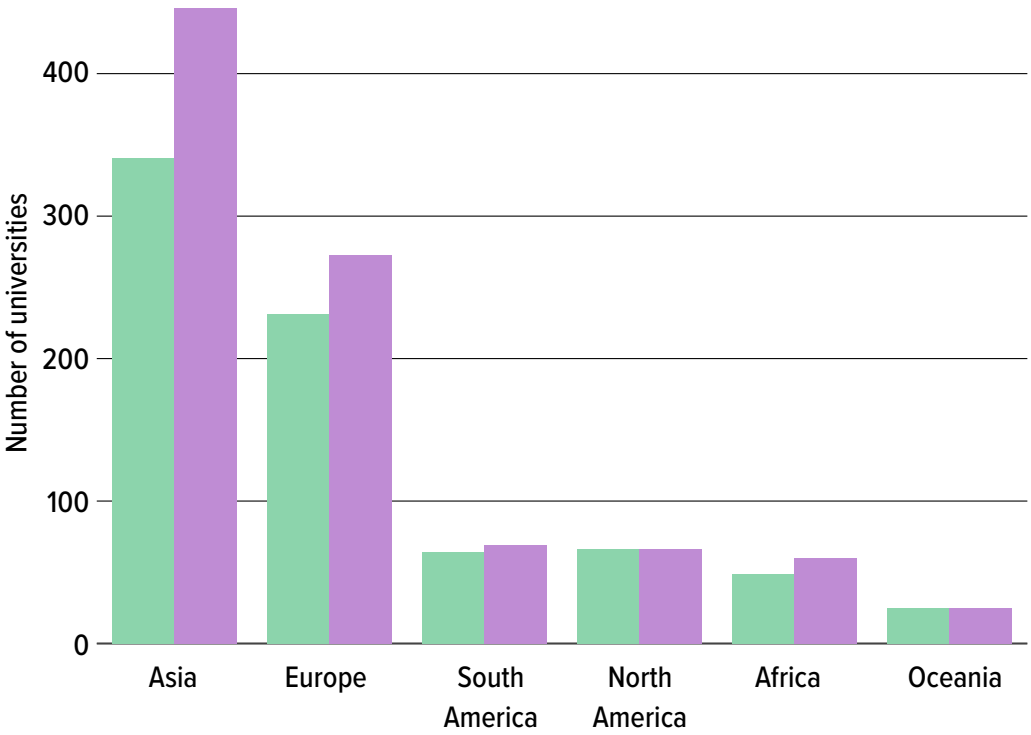

Figure 2. Number of universities providing data on SDG 5, in descending order by region

The biggest participating countries in SDG 5 are very similar to last year: Russia, Japan, Pakistan, Turkey and India. However, the change in the population of institutions that submitted data means that it is difficult to make year-on-year comparisons on country performance across the SDG 5 indicators.

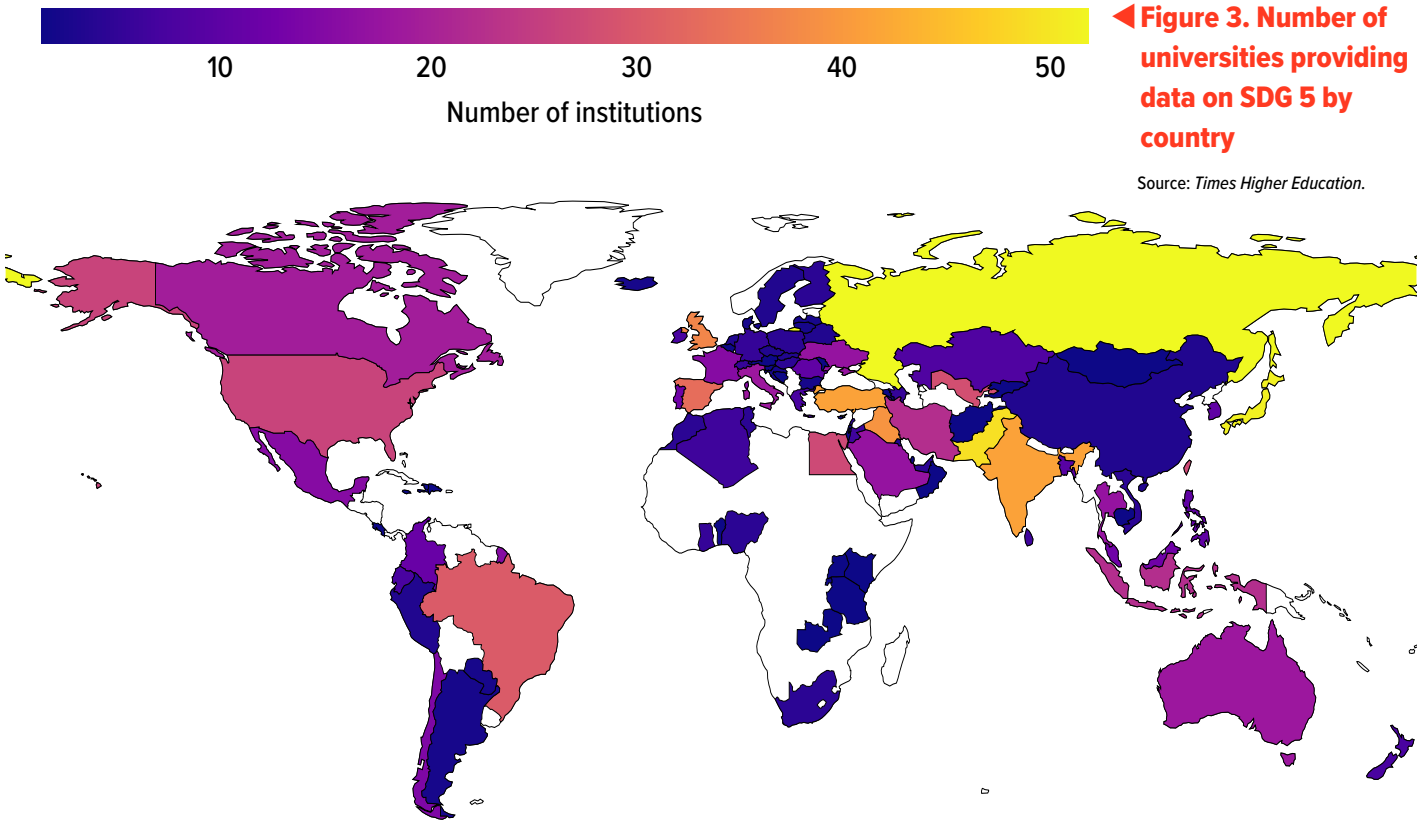

Figure 3. Number of universities providing data on SDG 5 by country

Source: *Times Higher Education*.

3.2

FIRST-GENERATION STUDENTS

As part of our data collection for SDG 5, *THE* asks institutions to report their number of first-generation female students. But we also, when collecting data for SDG 10 (reduced inequalities), ask institutions for first-generation figures over their entire student body. This enables us to compare both datasets.

It is important to note that there is no "better" result, and that the work that institutions can do towards social mobility is greatly dependent on their socio-demographic context. Another caveat on the data presented here is that, as with other metrics, it is limited to institutions taking part in our data collection, which might not always be representative of their countries as a whole.

At the regional level, the average share of students that are first-generation among the whole student population and among female students is generally very similar. Africa is the only continent with a noticeable difference, with 31 per cent of female students and 35 per cent of the overall student population being first-generation. Most regions show the opposite trend, with a slightly higher share of first-generation female students than first-generation students overall. This means that globally, there are more first-generation students who are female than male.

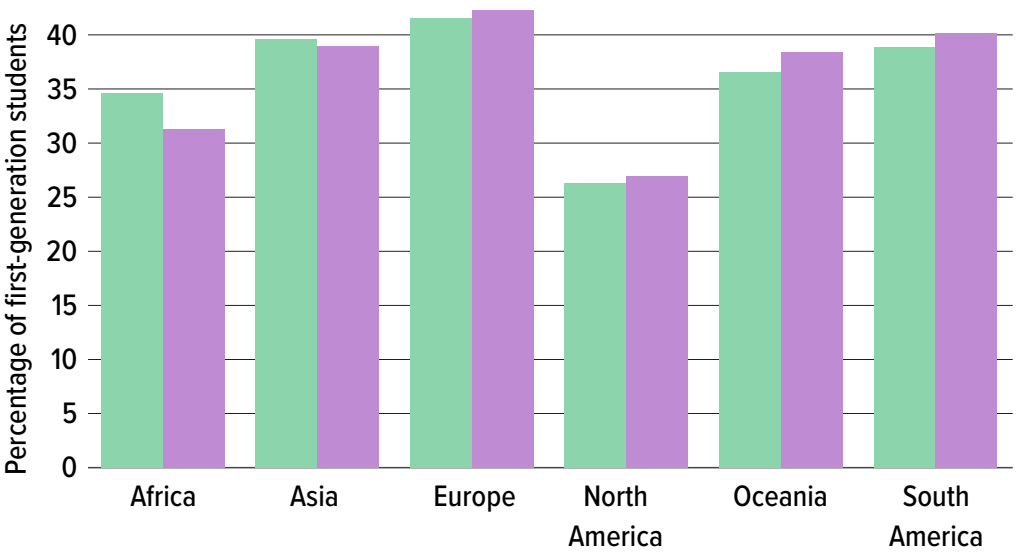

Figure 4. Average percentage of first-generation students by region

all students

female students

Note: Based on 732 universities that provided reliable data on share of first-generation students overall and by gender.

At the country level, the first-generation data reported by institutions can also be combined with national educational attainment data (see page 2 for sources). The educational attainment data we are using is the percentage of the country's working-age population with at least a bachelor's degree. This is a high attainment measure and was chosen for this analysis as it corresponds to the share of the population that was served by participating institutions' main activity (four-year degrees).

There is no single narrative: on the one hand, an institution in a country with very high educational attainment has a smaller pool of first-generation students to enrol. On the other hand, that same country might have reached this high educational attainment through its universities' efforts in enrolling first-generation students.

A similar ambiguity is also present in countries with low educational attainment, where institutions might be working hard to address social mobility by enrolling as many first-generation students as they can, but also be limited by the low educational level of the general population.

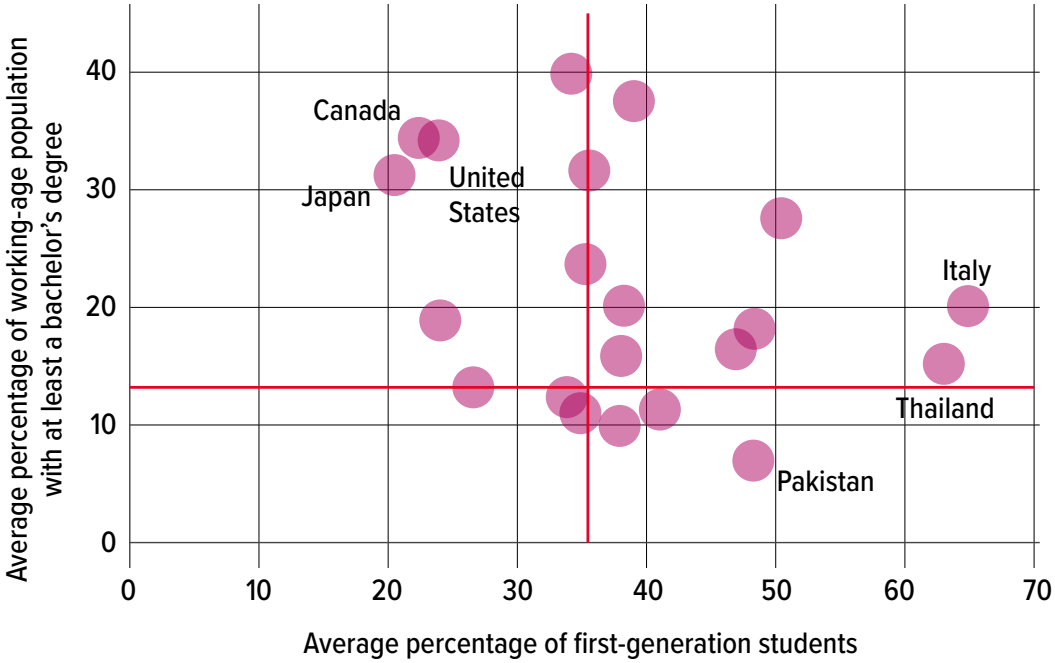

Figure 5. Average percentage of first-generation students and average percentage of working-age population with at least a bachelor's degree, per country

Note: Each bubble represents a different country. Data on population with a degree relates to latest year available from the sources listed on page 2.

The chart above shows the average percentage of first-generation students compared with the average percentage of the population with a bachelor's degree in 23 countries. Only countries with at least 10 institutions providing data on first-generation students and with reliable data for both values are shown.

The coloured lines represent the median values for all countries worldwide. This divides the chart into four quadrants.

The notable countries in this chart are the cluster of three in the top left with relatively high educational attainment levels and relatively low proportions of first-generation students: Japan, Canada and the United States. These nations have average educational attainment rates of 31, 34 and 34 per cent respectively, and average reported first-generation percentages of 21, 22 and 24 per cent.

On the far right-hand side, two countries, Italy and Thailand, have very high shares of first-generation students (65 and 63 per cent respectively) and moderately high educational attainment levels (20 and 15 per cent).

Pakistan, with a bachelor's attainment of just 7 per cent and 48 per cent first-generation students, is squarely in the bottom-right quadrant.

3.3

SUBJECT-LEVEL GENDER GAPS

Separate institutional data collected from universities by *THE* allow us to verify the claims made by institutions regarding their efforts to improve access for women in underrepresented subjects. These data cover more than 2,000 institutions globally; of those, 700 also provided data on the SDG 5 impact indicators in 2022.

Overall, the subject-level data show a well-documented trend: STEM subjects have low female participation (especially computer science and engineering in which less than a third of students are female), while psychology and education are oversubscribed by female students. The imbalance here is more than simply one of female underrepresentation; the underrepresentation of male students in the "caring" subjects is equally concerning, with far-reaching social and economic impacts on society.

Although there is a lot of focus within the higher education sector on efforts to increase the number of women in STEM, not all STEM subjects suffer from female underrepresentation at the student level (although they all do at the academic level). Physical sciences is five percentage points away from parity, with 45 per cent of students in those subjects identifying as female, while life sciences has more female than male students (57 per cent are female).

In order to truly assess parity at either the institutional or regional level, it is therefore necessary to look at more granular data than simply "STEM versus humanities".

The average percentage of female students in computer science and engineering in the full global dataset is 26 and 27 per cent respectively. For institutions that also submitted data on SDG 5, this increases to 28 per cent for both subjects – a slight difference which might suggest that those institutions have made a more conscious decision to address gender equality. However, it is worth noting that the types of institutions in each dataset are different; those submitting general institutional data are more research-intensive, on average, than those providing data for the impact indicators.

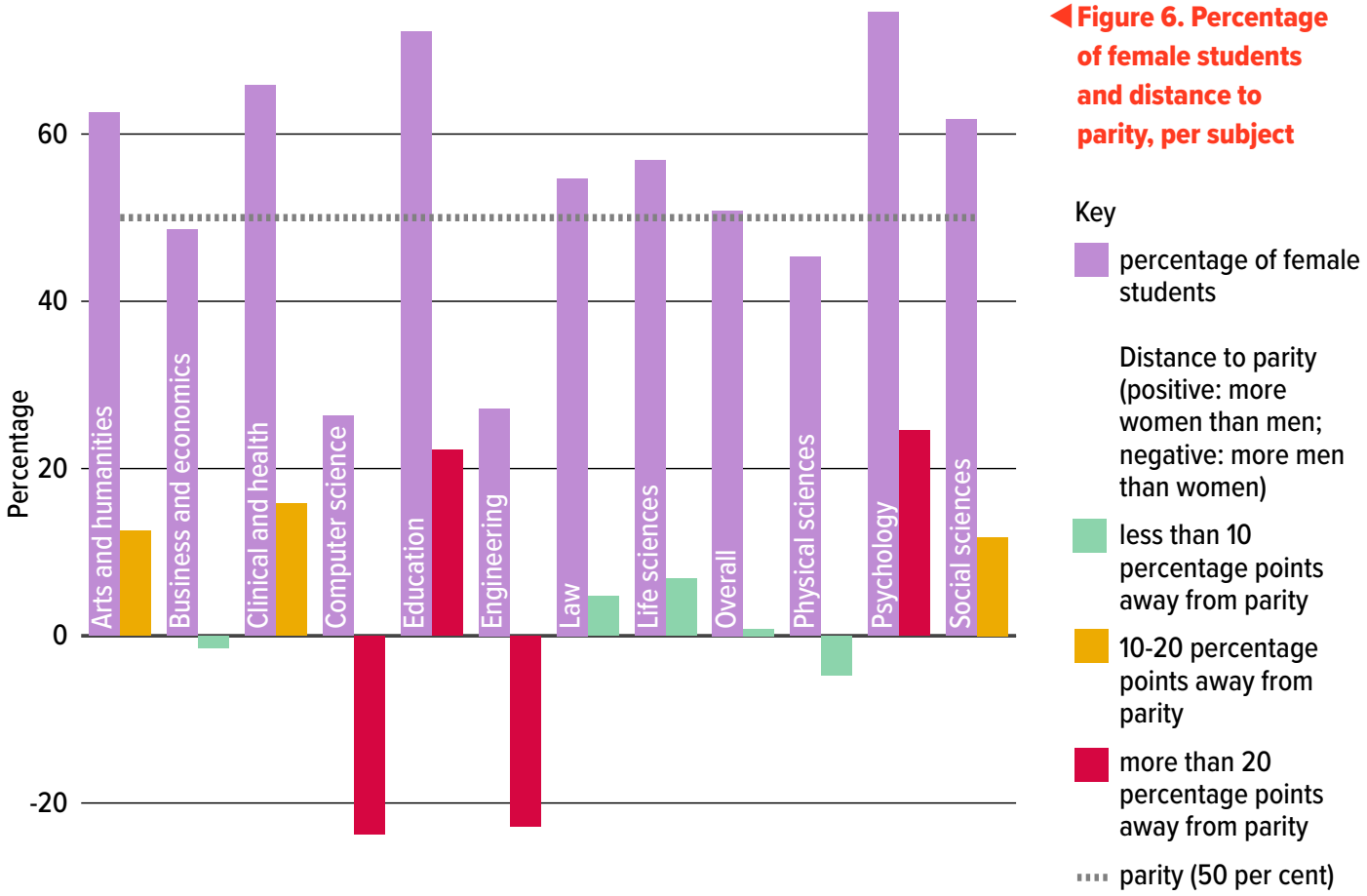

Figure 6. Percentage of female students and distance to parity, per subject

Universities participating in SDG 5 are asked whether they encourage applications by women in subjects where they are underrepresented, either through university outreach work or through collaborations with other universities, community groups, government or NGOs in regional or national campaigns. More than three-quarters (78 per cent) of institutions report that they do.

At the institution level, this response shows no clear correlation with the actual percentage of female students in the most underrepresented subjects (computer science and engineering). Institutions that answered "yes" have slightly more female students in computer science than those that said "no" (28.4 per cent v 27.6 per cent), but fewer in engineering (27.8 per cent v 29.7 per cent). As with the first-generation data, it is impossible to establish a causal link between these two factors, since they affect each other: institutions that are closer to gender parity in engineering might not have specific policies of encouraging female applications as they are already receiving sufficient numbers; or they might, and those policies could be the reason they are doing well.

However, one question we can explore with the data is how has female representation changed over the past five years, and are we getting any closer to per-subject parity?

Overall, there is some progress in subjects where women are underrepresented, but women are becoming more overrepresented in other subjects.

Among the subjects that have still not reached parity, business and economics is making the fastest progress; the share of female students has risen from 45.5 per cent in 2015 to 48.3 per cent in 2019, based on universities that submitted general institutional data annually across the five-year period. The percentage of female students in computer science has also increased, but to a lesser extent, from 24.1 to 25.5 per cent, meaning that it is 1.4 percentage points closer to parity.

Life sciences, on the other hand, is moving further away from parity as the share of female students increases; 55 per cent of students in the subject were female in 2015, compared with 57.9 per cent in 2019. This movement towards a greater gender bias in life sciences is hidden when looking at overall figures of women in STEM; it is masked by the low representation of female students in computer science and engineering. The reverse is also true, with the high representation of female students in life sciences somewhat obscuring how low the shares of women are in other STEM subjects.

Not all STEM subjects are equal when it comes to graduate outcomes either. UK data on graduate earnings from the Higher Education Statistics Agency show that high-skilled computer science and engineering graduates have median earnings of £27,000 and £28,000 respectively, compared with £23,000 for biology graduates; this suggests that, in the UK, female students may be overrepresented in subjects that lead to lower-paid jobs.

3.4

IMPROVING ACCESS V MEASURING OUTCOMES

The first report showed that access measures are common among institutions that participated in SDG 5, with very few universities not focused on improving access for female students. In 2022, 86 per cent of institutions said they "systematically measure and track women's application, acceptance or entry rates, and study their completion rates at the university". Of those, 83 per cent also have a policy to address these rates. Of the 14 per cent of institutions that said they did not measure and track women's application, entry and completion rates, only 22 per cent had the policy.

Access, however, is only part of the story: ensuring that female students (and staff) can remain enrolled (and employed) and succeed requires long-term commitment and various policies and actions. However, fewer universities monitor the outcomes of female students, as explored in the first report. In 2022, only 69 per cent of universities globally said they track women's graduation rates and have plans aimed at closing any gap.

We can explore this trend in more detail by categorising the qualitative SDG 5 indicators and comparing the results by region. The indicators can be split into three groups: access measures, support measures and progress measures.

Figure 7. Global results for qualitative indicators

Indicator	Type of indicator	% of institutions globally that have policy/service
Track application, acceptance and completion rates for female students	access	87
Have a policy to address application, acceptance, entry and participation rates for female students	access	75
Have women's access schemes, such as mentoring or scholarships	access	83
Encourage applications by women in subjects where they are underrepresented	access	78
Have a policy of non-discrimination against women	support	92
Have a policy of non-discrimination against trans-gender people	support	70
Have maternity and paternity policies that support women's participation	support	90
Have accessible childcare facilities for students	support	62
Have accessible childcare facilities for staff and faculty	support	70
Have a policy protecting those reporting discrimination from educational or employment disadvantage	support	89
Have women's mentoring schemes in which at least 10 per cent of female students participate	progress	66
Track women's graduation rate compared with men's and scheme to close gap	progress	69

The percentage of institutions that said they have the above policies or services varies by continent.

In Africa and Asia, the main focus is on access, followed by support and then progress. Oceania and North America have comparable levels of access measures, but are more likely to focus on support measures. Europe and South America have smaller shares of institutions with access and support measures, and even lower numbers with progress measures.

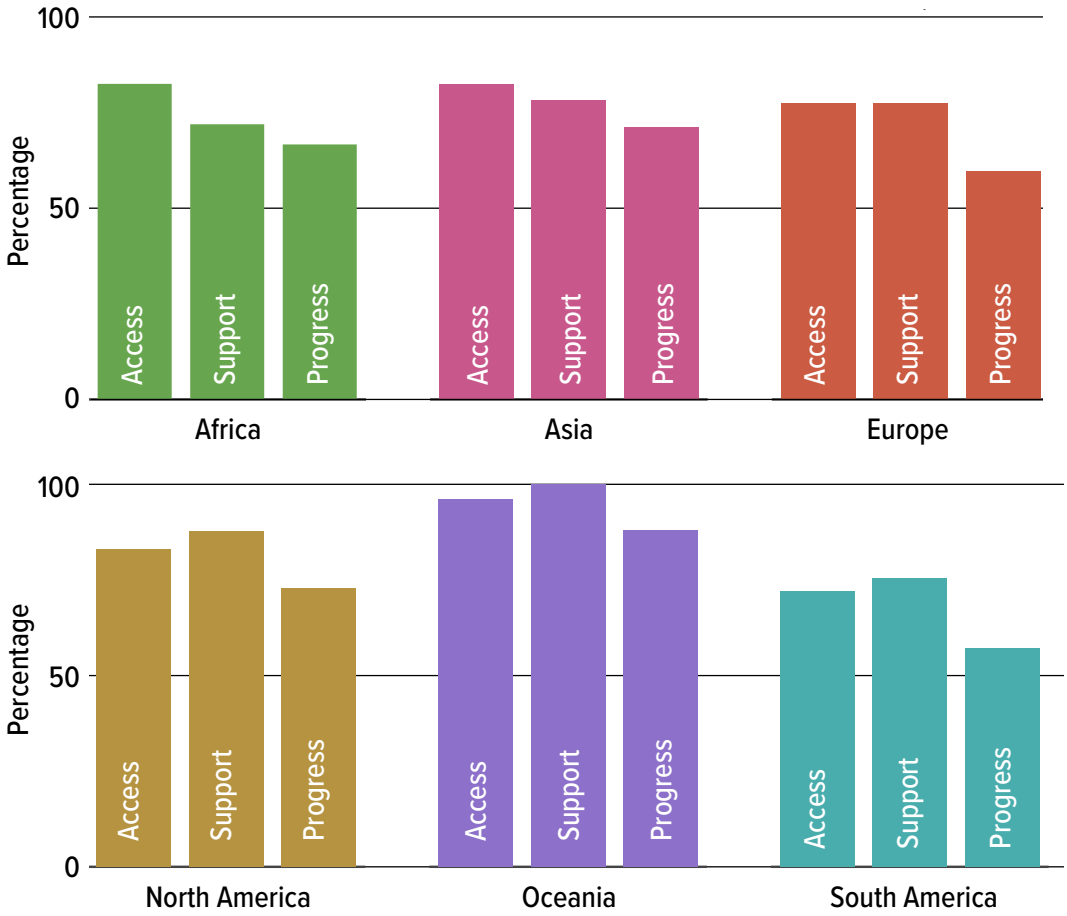

Figure 8. Level of take-up of access, support and progress measures by region

Note: These charts are based on the extent to which universities in each region answered "yes" when asked if they had various gender equality measures. For example, Africa's level of take-up for the four access measures is 82.5 per cent. This was calculated by determining the overall percentage of "yes" answers among all 60 African universities that submitted data, across all four access indicators (240 data values in total).

While it appears that the progress measures have the lowest take-up in each region, separating the results for those two indicators reveals that there are again significant differences. Universities in Africa, Asia and South America are more likely to offer mentoring programmes than track women's graduation rates, whereas the reverse is true for institutions in Oceania, North America and Europe in particular.

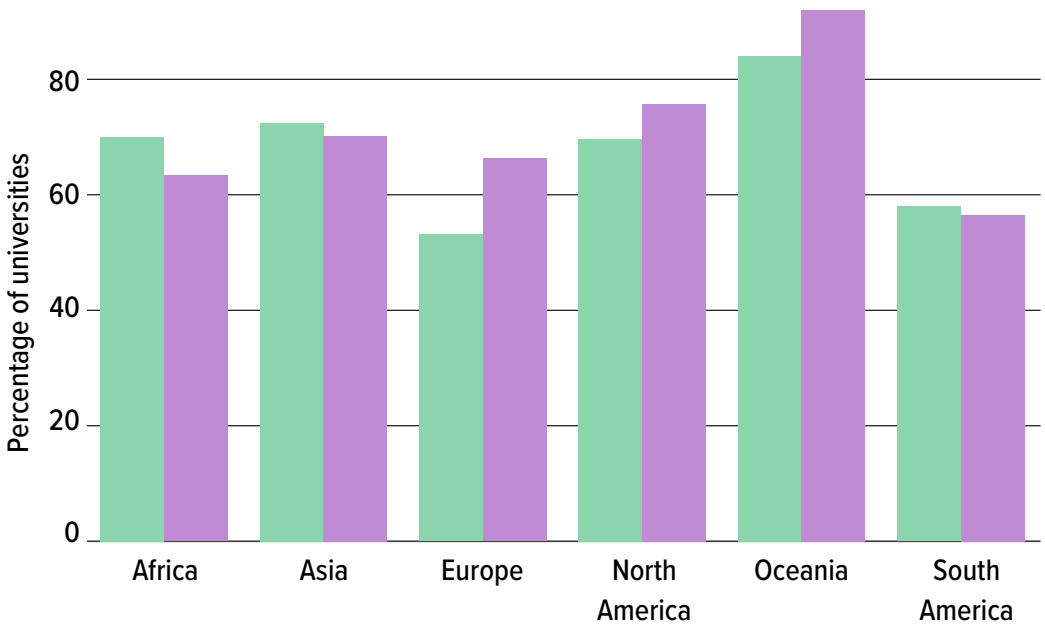

Figure 9. Percentage of universities that have two progress measures, by region

Women's mentoring schemes

Track women's graduation rate

At the country level, universities in Saudi Arabia are most likely to have mentoring schemes and track graduation rates (94 per cent in both cases), which may reflect the prevalence of gender-segregated universities in the nation, while institutions in Ukraine are least likely to (29 per cent and 24 per cent respectively).

Of all the qualitative indicators in SDG 5, childcare facilities for students are the ones that are least often provided by institutions; they are offered by just 62 per cent of universities, based on 2022 data. The share of institutions providing childcare facilities for staff and faculty is not that much higher, at 70 per cent. The first report noted that France is the nation with the lowest percentage of institutions providing childcare facilities to students and suggested that this could be because childcare is readily available outside of universities in France, as well as because people in the country tend to have children later.

Further analysis supports the theory that the availability – and cost – of childcare nationally is a significant factor in the responses to both childcare indicators. In the UK, where childcare costs are the highest in Europe (over 90 per cent of women's median full-time earnings, according to the Organisation for Economic Cooperation and Development), 81 per cent of participating institutions provide childcare for staff; in France, where costs are a third of the UK's, only 33 per cent of participating institutions do so.

New Zealand and Australia also have very high childcare costs, and participating institutions from those countries all provide childcare (for students as well as staff). In countries with high childcare costs and low public support, providing this service could help ensure that female faculty can remain employed. However, it should be noted that not all childcare provided by institutions is free.

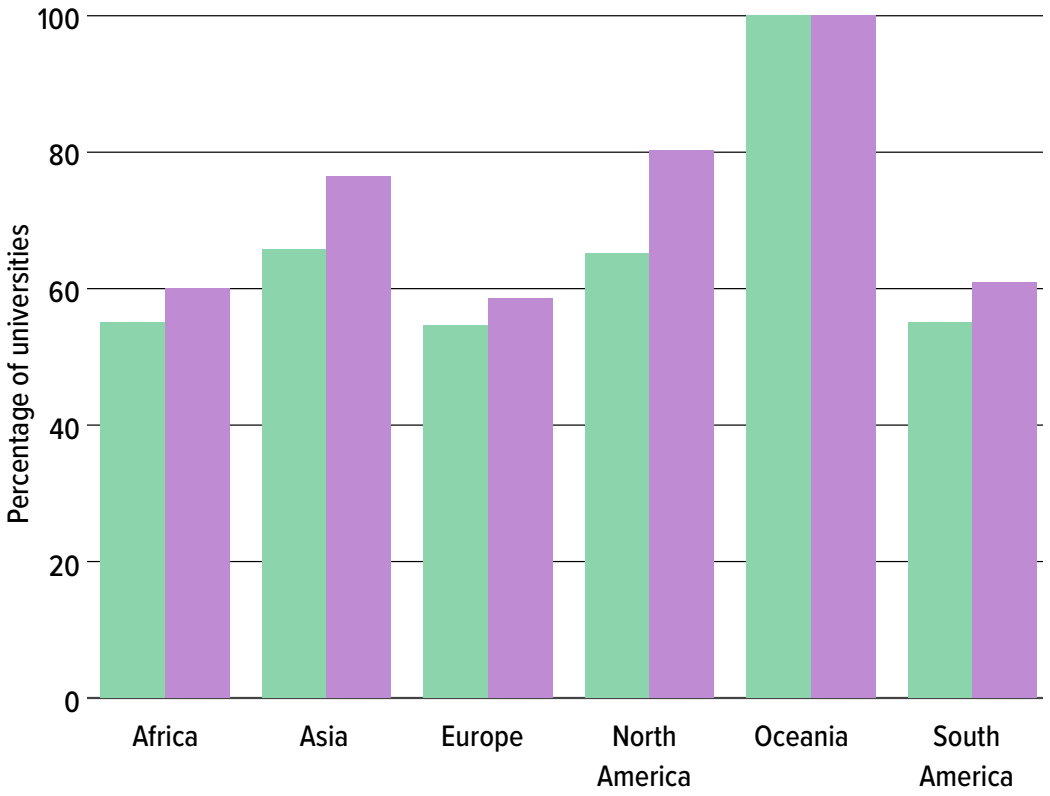

Figure 10. Percentage of universities providing childcare facilities, by region

Childcare facilities for students

Childcare facilities for staff

Recommendations 4

Devise a comprehensive approach to tackling gender inequality
Making substantial progress requires a long-term vision supported by the senior leadership team; an official set of values and regulations, which are enforced; and dedicated staff or offices that are responsible for gender equality initiatives at the departmental level. Ensure that there is regular communication between the departments, centres and units that undertake gender equality initiatives.

Involve the entire university community
Bring together students, staff and academics of all genders to identify examples of gender bias and devise solutions. Embed activities into teaching programmes, research projects and staff workloads to ensure that gender equality is recognised and valued.

Move beyond focusing on 'women in STEM'
Not all STEM subjects suffer from female underrepresentation at the student level. Examine trends at a more granular discipline level to ensure that gender equality measures are targeted appropriately. The underrepresentation of male students in some subjects is also an issue that has implications for women and should not be overlooked.

Introduce more initiatives focusing on the progress and success of women
Improving access for female students and staff is important but not sufficient. Universities need to ensure they also track success rates and outcomes for women, compared with men. It is critical to periodically review these data and use them as a base to make evidence-based decisions that improve women's outcomes.

Go beyond national policies and laws
Legal frameworks relating to gender equality have improved in most countries in the past decade and these regulations are helpful in providing a basic set of anti-discrimination and anti-harassment red lines. But to successfully make progress on gender equality and change their internal cultures,

universities should be more ambitious and develop their own internal regulations and policies, which can better target their own gaps in gender equality.

Ensure that policies and services are widely communicated and implemented
Policies and services relating to gender equality are only worthwhile if they are known by the university community and enforced across the institution as a whole. Details of policies and services should ideally also be made publicly accessible to enable the general public to hold the institution accountable for their commitments.

Regularly review gender equality policies
Existing policies should be examined at least every five years and, if necessary, updated to reflect changing trends, local contexts and best practices.

Do not be put off by resistance
Making change is not easy and resistance to new initiatives and policies is inevitable. Accept this early on and focus on how any challenges can be overcome.

Regularly collect and analyse gender-disaggregated data
The state of gender equality at a given institution can only be properly understood by using data. The *THE* impact indicators provide a good starting point for the data that should be routinely collected and analysed to measure and report your progress.

Engage with gender equality experts in other sectors outside higher education
This could involve discussing the best ways to measure or tackle gender inequality.

A partnership between

THE