Global diversity in higher education staffing: Towards openness

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Abstract

The adoption of institutional diversity, equity and inclusion policies and programs in recent decades highlights an ongoing need for structural and cultural change within higher education institutions. It also raises questions around gender, race and disability politics, the decolonisation of diversity and neoliberal management of higher education. How are institutionalised policies enacted and what are the outcomes? Charting the impacts of changes can be achieved through analysis of publicly available statistics. Demographic statistical data provide insights into the outcomes and impacts of diversity policies and practices. However, obtaining and analysing such data in order to understand institutional, national and regional diversity depends on multiple factors. Underpinning institutional diversity data collection and availability are national and international imperatives through policy and program reform, but also institutional reputation and world university rankings. Drivers for data collection include political and social change movements, government imperatives, priorities and funding programs. Gender equality or gender parity is now an expressed target in many countries, often in relation to professional level, disciplines and the percentages of teaching and research in academic faculty positions. More variable across geographic locations are data relating to institutional staff and faculty age, ethnicity, nationality, race, indigeneity and disability. Our project embraces diversity as an indicator of openness in higher education institutions on the path to Open Knowledge Institutions. Analysis of publicly available data relating to diversity in research and staffing (academic/faculty and professional/administrative) in order to understand institutional openness reveals a varied datascape. This article explores and discusses the data presence, gaps and significance in global higher education staff demographic diversity data.

Keywords: higher education, staff, diversity, data collection, statistics, gender, ethnicity
Why is diversity important?

In 2007, Andy Stirling examined institutional diversity across scientific disciplines and proposed a systematic framework for exploring the interdisciplinary perspectives of diversity. In relation to science and technology policy he noted that “diversity offers a means to promote innovation, hedge ignorance, mitigate lock-in and accommodate pluralism” (Stirling 2007: p. 715). This statement echoes the value of diversity to higher education institutions, encouraging openness in research, for example in collaboration, the inclusion of diverse knowledges, ideas, languages and cultures. Equity, diversity and inclusion, or variations of these terms, are slogans and statements encountered in many higher education institutions as strategic plans and policies indicate intentions to become diverse, or to project, diversity in terms of student bodies and staffing. However, organisational diversity is a socially constructed term that incorporates dynamics of power (Desivilya et al. 2017). The choices or decisions institutions make to collect and share particular demographic categories can exclude, ignore and silence those who do not fit, or do not wish to be categorised.

The World Access to Higher Education Day (2019) global analysis, map and related report by Jamil Salmi (2018) document worldwide higher education equity policies at country level. But how are equity and diversity achieved, and how do they vary globally? The Curtin Open Knowledge Initiative (COKI, n.d.) explores institutional demographic equity and diversity, their assessment, and the impacts and outcomes of related policies. Core to achieving openness in knowledge creation, sharing, research and teaching is the diversity of institutional staff - academic, executive, professional, administrative and technical. All levels of staff contribute to institutional equity and diversity. This article discusses the availability and variability of global higher education staff demographic diversity data.

Approach to the study

This article begins with a review of background literature on diversity in higher education, including critical perspectives on equity, diversity and inclusion policies, particularly in regard to the dimensions of gender, race and disability. This is followed by a discussion of the context of this study, the research methodology, what we found in terms of the characteristics of global demographic statistical higher education staff diversity data, and a discussion of the results.

Background

National and international demands for changes in equity for institutional admissions and employment have become part of the higher education landscape in many countries since the mid-twentieth century. They are enacted through affirmative action and equal opportunity policies based on characteristics such as age, race, gender, socio-economic status, ethnicity, language, sexual orientation, dis/ability, religion and caste. Laura Dudley Jenkins and Michelle Moses (2017) estimated about 25 percent of countries introduced affirmative action programs, many in the previous 25 years. India introduced “reservation policies” or “caste quotas” to
address inequalities in education and employment following its independence from Britain in 1947 (Jenkins 2003; Robles and Krishna 2012; Subramanian 2019).

The United States implemented legislative measures in education to redress the impact of slavery with the 1964 Civil Rights Act (Da Silva 2016). However, in her book *White Fragility* Robin D’Angelo (2018) notes that following opposition and multiple legal challenges to racial affirmative action programs and legislation in the United States in recent years, many such programs have ceased to exist. Courts upheld charges of discrimination and “preferential treatment” inherent in affirmative action programs, demolishing principles of equal opportunity (Da Silva 2016: p. 193). Harris and Ellis (2020) report a decline in institutional diversity in United States higher education from 1989 to 2014 that they characterise as limiting the capacity of institutions to respond to changes.

Challenges relating to admission to educational programs similar to those in the United States have succeeded in India (Subramanian 2019). South Africa introduced equity legislation in 1998 to redress past inequities, and to advance the employment of population groups such as “black people, women and people with disabilities” (Kola and Pretorius 2014: p. 1316). Despite some progress, Pitsoe and Letseka (2018) find persistent barriers to equitable access and participation in South African higher education due to poverty, social inequality and organisational inefficiencies. Black women continue to encounter research and promotion challenges, with ongoing gender and racial stereotypes. Despite national mandates, not all individual institutions have equity policies that set out diversity strategies that target black women (Ramohai, 2019).

The European Higher Education Area (n.d.), developed in 1998 to promote collective action among European higher education institutions, includes a social dimension with a focus on equality and inclusion through gender and disability. Gender equality and integrating a gender perspective in policies in academic research is one of the priorities for the European research area (European Union 2019). A recent qualitative study by the European University Association analysed survey responses from 159 universities and 12 follow-up in-depth interviews to understand how European universities are promoting and achieving diversity, equity and inclusion. The authors found that the concepts are seen as strategically important to higher education institutions in terms of creativity and excellence, but strategies vary greatly within different cultural, legislative and institutional contexts. They cite several successes, but note the barriers affecting the implementation of strategies and policies that include lack of awareness, funding and other resources, institutional consensus, information and training (Claeys-Kulik, Jørgensen, and Stöber, 2019). Latin American and Caribbean countries established aims to achieve diversity in education, but the implementation also varies by country (Buenestado-Fernández, Álvarez-Castro, González-González, and Espino-Díaz 2019).

The concepts of diversity and equity are complex and context dependent. In many countries, education for marginalised and disadvantaged population groups varies according to geographical context and location (Klarsfeld, Knappert, Kornau, Ngunjiri and Sieben 2019). Diversity in Chinese higher education is complex and multifactorial. The expansion,
internationalisation and globalisation in higher education since the 1990s have had varied impacts on student gender balance and knowledge diversity (Liu 2016; Marginson 2018; Wang and Leong 2019). In countries such as France and Brazil all citizens are equal before the law, and legislation cannot be enacted to enable the collection of diversity data (Cheng, 2012). As Klarsfeld et al (2019) point out, less is known about diversity and equality practices in smaller, under-resourced countries. Discovering more about these countries is difficult, particularly in relation to higher education employment because of limited resources for data collection. Further, the focus of national and regional policies on student diversity can limit attention to the heterogeneity of faculty, academic and professional or administrative staff (Buenestado-Fernández et al. 2019).

Critical perspectives

Diversity, inclusion and equity policies and programs have replaced equal opportunity and affirmative action in many western higher educational institutions. From research in Australia and the United Kingdom, Sara Ahmed (2012) notes that this occurred because the words equity, diversity and inclusion (EDI) are seen as more positive and less threatening to institutional reputation than the earlier terminology with implications of a deficit. Universities use EDI policies as a marketing tool to promote themselves as diverse institutions, but without necessarily achieving diverse outcomes. The adoption of policies and appointment of diversity staff to implement them complies with legislation (for example in the United Kingdom) but transforming institutions and existing embedded habits and attitudes is challenging (Ahmed 2017). Renaming the journal Equal Opportunities International to Equality, Diversity and Inclusion: An International Journal in 2009 reflects the impact of changes in policy terminology. Da Silva (2015) points out that the diversity goals of the University of Michigan Law School were seen as contributing to a state’s “economic and military needs”, and this formed the basis of a legal decision in the United States to uphold racial admission practices (p. 195). Within a neoliberal environment, diversity in education has become a market asset.

For some, the incentives for change in the current era of neoliberalism in higher education institutions are driven by economic rather than social justice reasons: gender equality/equity programs are being “hijacked by government and neutralized” (David 2015). The multinational, economic focus of universities has inhibited the resourcing and action of diversity gender and racial equity policies, and limited their outcomes (Blackmore, Sánchez-Moreno and Sawers 2015; Da Silva 2016; David 2015). The globalisation of higher education and the powerful influence of international ranking leads some universities to attempt to globalise by employing international academic staff, but without adapting cultural attitudes and practices, in terms of national customs and academic traditions. For example, South Korean universities exhibit “hierarchical, paternalistic, closed and autocratic management”, and the hiring of western academics by one university to build research activities and enhance rankings had limited impact in terms of expanding institutional diversity and inclusivity (Shine and Gress 2018: p. 299). A mixed methods analysis by Buenestado-Fernández et al. (2019) of the institutionalisation of diversity outreach within 127 higher education institutions selected from the
Academic Ranking of World Universities (ARWU) found limited progress in the implementation of diversity indicators.

Underlying diversity, equity and inclusivity programs are ongoing conflicts with the systemic influences of colonisation, patriarchy and marginalisation across countries. Keet et al (2017) warn of the dangers of “decolonial discourse” becoming rhetoric or metaphor because of systemic and structural blockages in the academy, as demonstrated in South Africa by the struggle between “neoliberalism and managerialism [and] transformation” after 1996 (Keet, Sattarzadeh and Munene 2017: p. 4). In an analysis of three institutions in the United States and Uganda, Aneeth Kaur Hundle (2019) proposes a “decolonizing diversity” approach in higher education that interrogates and challenges “neo-colonial racial inequality and the politicization of minority and racial difference” (p. 317). This includes exploring and incorporating non-mainstream epistemological and cultural knowledges into curricula, along with pedagogies, research and methodologies (Pihama, Lee-Morgan, Smith, Tiakiwai and Seed-Pihama 2019).

Globally, two key areas that many institutional diversity policies and programs focus on are gender and origin (ethnicity, nationality, race).

Gender

The United Nations Gender Parity Index (GPI) (United Nations Statistical Division 2015a) is an indicator developed for Millennium Development Goal 3: Promote gender equality and empower women, Target 3A: Eliminate gender disparity in all levels of education by 2015. The GPI measured the ratio of girls to boys in primary, secondary and tertiary education. Data for tertiary education enrolment indicated some progress, projecting an overall world ratio of 1.08 in 2015. Three regions demonstrated less than an equal ratio: Sub-Saharan Africa (0.62), Eastern Asia excluding China (0.87), Southern Asia (0.82) and Western Asia, including the Middle East (0.99) (United Nations Statistics Division 2015b). The UN Sustainable Development Goals (SDGs) have continued on from the Millennium Development Goals, with two goals relevant to this study: 4. Quality Education - Ensure inclusive and equitable quality education...for all) and 5. Gender equality - Achieve gender equality and empower all women and girls. The 2019 report on Gender Equality 2018 data records some progress, but notes gaps in policy implementation and resourcing, inadequate data tracking and availability of data from some countries (United Nations Statistics Division 2020).

The United Nations’ focus on gender equality and educational equity since 1990 appears to have had some impact and raised awareness through recommending measures. However, while student gender balance may now favour women in many countries, staffing levels do not always reflect a concomitant balance, particularly among senior academic, managerial and leadership positions (David 2015). The growth for women in access to higher education does not necessarily lead to gender equity in higher degree research and higher education employment (UNESCO Institute for Statistics, & Fiske, 2012; UNESCO Institute for Statistics, 2019). Through persistent “structural and cultural barriers” that vary nationally, institutional change remains a challenge to achieving gender equality globally (Blackmore, Sánchez-Moreno and Sawers 2015: p. iv). Analysis by Ann Brower and Alex James (2020) of 2012 academic
research performance and salary data from Aotearoa New Zealand identified a persistent gender pay gap and slower progression through academic levels for women than for men.

Recent twenty-first century initiatives focus on equity, diversity and inclusion in higher education and research to balance gender distribution among staff, particularly in the STEMM (science, technology, engineering, mathematics and medicine) disciplines where the percentages of women tend to be lower than men. Since 2001, the United States National Science Foundation's (NSF) ADVANCE program has funded programs to increase the numbers of women in the STEM faculties (Yen et al. 2019). The Athena SWAN Charter, established by the Equality Challenge Unit in the United Kingdom in 2005, aims to increase participation by women in STEMM fields. In 2015, the Charter expanded to include all disciplines, professional and support staff, trans staff and students (Advance HE n.d.). Ireland adopted Athena Swan in 2015. The Australian Academy of Science and Academy of Technological Sciences and Engineering partnered in 2015 to introduce the Athena SWAN Charter to Australia under the Science in Australia Gender Equity (SAGE) initiative. Currently the focus is on STEMM disciplines (Science in Australia Gender Equity (SAGE), 2018). The Netherlands government sponsored the Westerdijk Talent scheme provided funding to appoint 100 female professors in universities in 2018. These programs aim to challenge institutional biases but achieving cultural change needs to be ongoing and constantly reviewed.

Analysis of gender equality and achievement is complex, within institutions, countries and at country level, and continues to be influenced by biological influences and assumptions (Richardson et al. 2020). Further, acknowledging that gender extends beyond a binary to include sex roles and sexual preferences in higher education institutions is not widespread globally (Blessinger 2018).

Race, ethnicity, indigeneity, nationality

Globally, diversity data in relation to people’s origins varies the most widely. Depending on histories of settlement and colonisation, slavery and indentured labour, migration, wars, border changes and resulting movements of people, countries may enact legislation and policies, and collect data relating to the race, ethnicity, indigeneity or nationality (citizenship) of their peoples. Some examples are discussed below.

In the United Kingdom, the Race Relations Amendment Act (2000) and the Equality Act (2010) were followed by the introduction of the Race Equality Charter 2014 by the Equality Challenge Unit within Advance Higher Education in order to advance race equality and the progress of minority ethnic staff and students in higher education institutions. It is similar to the Athena Swan Charter for gender. The two charters compete for resourcing and positioning, an example of intersectionality that can occur when race and gender are regarded as exclusive of each other (Cho, Crenshaw, and McCall 2013). In a study of both charters, Bhopal and Henderson (2019) found the major challenges to both charters in achieving change in higher education to be resourcing and workload issues.
Universities Australia’s Indigenous Strategy 2017-2020 (Universities Australia n.d.) quotes government guidelines requiring universities to implement an effective Indigenous workforce with strategies to increase the number of Aboriginal and Torres Strait Islander staff to “3 percent of the total workforce” (reflecting population parity) (p. 32) with at least one Aboriginal or Torres Strait Islander person employed in a senior executive role. The guidelines specify strategies to increase the number of Indigenous students, graduates and staff, and include Indigenous knowledge in curricula. These strategies are amended and adapted at individual institutions. The first strategy report indicates baseline targets were not being met, while the second takes a different approach, highlighting positive achievements (Universities Australia 2020).

In the United States, individual states enact legislation regarding universities and can appeal to the US Supreme Court to rule on challenges to practices. Hundle (2019) draws attention to the challenges to guidelines introduced by Barack Obama’s government on diversity admission and employment policies, particularly race-based, with many being overturned by the courts during the Trump administration. Goldstein, Hode and Meisenbach (2017) suggest an incompatibility between universities promoting a “business case for diversity” and racial equality.

Canadian universities have developed strategies to meet federal and provincial government legislation. However, Enakshi Dua and Nael Bhanji (2017: p. 238) found these strategies to be ineffective and “non-performative” in addressing racism. In the neoliberal environment in which universities operate, policies can become a means of masking racial discrimination while presenting a perception of equity. The percentages of diverse population groups employed in higher education institutions appear to be small, and as with women in higher education, particularly in senior positions (Gasman, Abiola, and Travers 2015).

Collecting ethnic origin data is not possible in some countries. In France, for example, racial and religious statistics are not gathered and inclusiveness policies are not enacted in universities because the country’s secular status requires universities to remain neutral (Claeys-Kulik, Jørgensen and Stöber 2019). It is important also to note ongoing sensitivities relating to the collection of ethnicity, indigeneity, racial and nationality data. In some locations, declaring one’s race, ethnicity or nationality raises possibilities or memories of persecution, historical and current. Staff members may choose not to share such personal information. Further, data and statistics carry implicit values that reflect the perspectives of dominant populations, methodologies and epistemologies (Wilks et al. 2018).

Disability
The Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) encouraged governments to establish inclusive education policies and programs in order to move previously fragmented efforts; to include all students and celebrate differences. While the initial focus was on persons with disability, interpretations of the Statement have differed, leading to the notion of inclusive education for all and less emphasis on disability (Kiuppis 2012).
Progress has occurred in primary and secondary education. The Statement identified the contributions of higher education staff through involving “people with disabilities in research and training roles in order to ensure that their perspectives are taken fully into account” and to provide role models for students with disabilities (p. 28). However, Stephen Thompson (2020) notes that 25 years after the Salamanca Statement higher education institutions still need to “become disability-inclusive”. A wider, holistic view extends disability and access as the responsibility for all, not just individuals, a “culture of access” (p. 244). As with other diversity data, policies vary from country to country. France has a legal requirement of six percent of employees to be disabled (Claeys-Kulik et al. 2019).

The research project

Universities exist to support the creation and transfer of knowledge, and efforts by universities to enable open knowledge have the potential to broaden the impact of higher education and research institutions. Our research project focuses on understanding the technical and social possibilities of bringing together open access publishing, open data, open courseware in open knowledge institutions; building on a general commitment to an open society, open government or open science. Achieving institutional openness involves the coordination and communication of policies and programs, and collaboration within institutions. In order to be successful Open Knowledge Institutions, universities also need to address challenges of diversity in input and output. This means engaging with questions of who makes knowledge and research, and how knowledge is shared, within disciplines or scholarly communities, across discipline boundaries and between universities and their wider communities.

Cultural change

In practice, the path towards openness involves cultural change. Many universities are at the beginning of this change model, and policies tend to be framed as addressing deficits and institutional preservation or reputation. The effort a university puts into translating its intentions into reality is not always visible or transparent in the outcomes. Narratives around equity, diversity and inclusion are associated with good policy but do not necessarily achieve transformation. Discriminatory practices within universities are structural and systemic, reflecting wider cultural customs within countries and regions as well as academic traditions. Legislation, policies and programs to address discrimination are introduced by those who are part of the dominant system. Tools and policies can be regarded as indicators of progress but outcomes can tell a different story (Ahmed 2017). Separating the dimensions of diversity and equity (gender, sexuality, ethnicity, nationality, race, disability, class, caste, religion) in policies overlooks their intersectionality within institutional structures as interlinked subjects of discrimination (Crenshaw 1990).

Diversity in higher education

Diversity is a key element of open knowledge institutions. A diversified staff that reflects institutional student bodies and communities contributes to openness and the inclusion of diverse ideas, knowledges and languages. Diversity in open knowledge is enacted through the
transmission of knowledge to students in teaching and the creation of diverse models and examples. Underpinning research and teaching is internal diversity among personnel and practices in administering, managing and decision-making within an institution. External diversity encompasses openness in organisational relationships and partnerships, funding arrangements and bodies, crossing geographical and political boundaries (Montgomery et al. 2020). The COKI project is exploring mechanisms and developing tools to understand the extent to which a university operates as an effective open knowledge institution. As part of this, we are exploring how to improve open knowledge performance, enabling universities to work more effectively with diverse local and global communities in the production of knowledge.

Staff demographic statistical data provides quantitative evidence of institutional diversity. While this is only part of the story, it enables an understanding of institutional and national performance in relation to policy intentions and outcomes. Differences at country levels highlight the challenges in collecting global data. The aim of the study is not to compare national and regional diversity performances against each other, but to identify the extent of staff diversity data and potential indicators to understand progress in response to diversity and equity policies and programs at institutional levels.

Methodology

This study explores and charts institutional staff demographic diversity in order to understand the outcomes and impacts of equity, diversity and inclusion policies. We searched for, identified and scrutinised sources documenting institutional academic, faculty, professional, administrative and technical staff demographics through publicly available statistical data from national, regional agency websites and one-off reports from university and association websites. We started with known sources in Australia, Aotearoa New Zealand, Europe, South Africa and the United Kingdom (based on our collective experiences), and extended the research to web-based searches for data in similar agencies in other countries. Further sources we identified through research publication citations and international collections such as UNESCO, the World Bank, the Equity Policy Map World Access to Higher Education Day (2019).

The data sources identified consist of ministries and departments of education and higher education funding bodies and research associations who collect and collate institutional staff demographic statistics at country level. For large regions such as Europe, the European Tertiary Education Register (ETER) and Eurostat provide data for multiple countries, but statistics are also included from individual country sources. The selection is a geographical mix of countries and regions, within the bounds of online data availability, accessibility and language. Included are 24 sources of national and regional data providing more than summarised national information. Countries not included are those undergoing or recently completed higher education structural and financial reform or whose sources do not provide detailed statistical collections (for example, China, Egypt, Peru, South Korea). Nations experiencing war and political turmoil may have low priorities and limited funding directed towards higher education
and research. UNESCO and the World Bank provide detailed data, especially regarding gender and equality in education, but only at the country level.

During 2019 we downloaded statistical files, identified and collected available data elements for each country or regional source. The files include statistical indicators of diversity such as gender, origin (ethnicity, nationality, race), physical ability or disability, age of staff as well as employment status. Where possible we analysed further by staff orientation (academic, non-academic), staff levels, and for academic staff, by teaching or research duties. For the purposes of longitudinal analysis, we recorded data availability for individual years and the range of years provided. The availability of institutional disaggregation of data is also recorded.

**Statistical data characteristics**

**What we found**

Diversity statistical data for university staff are varied, non-standard and often incompatible across countries, regions and continents. Obtaining high quality, publicly accessible data is challenging. Data are disparate in terms of the dimensions recorded, the disaggregation at institutional level, available year ranges, terminology and the format of data files. Global consistency is limited because of variations in geographic policy, legislation and government requirements. But problems also exist with the continuity of data collected, recorded and changes in collection methods. Institutional name changes and mergers present difficulties for longitudinal analysis, especially in countries with large numbers of institutions which have undergone higher education system reform in the last decade or two, for example, the United Kingdom and South Africa. How persons are counted varies and can include full-time, part-time, temporary, permanent, contract, full-time equivalent (FTE) or whole-time equivalent (WTE) and headcount per person. As well as creating difficulties in cross-comparisons, these different methods for counting people can mask actual, real numbers. For example, large numbers of sessional or casual academic staff may be collapsed into smaller FTE numbers (Thomas, Forsyth and Bonnell 2020).

The summary table in Appendix 1 provides details of the data recorded for the sources consulted. Gander, origin (race, ethnicity or nationality) and age are the three dimensions reported on most consistently, but with wide variation by country.

**Diversity data**

Diversity is a somewhat amorphous category and in the context of higher education is highly dependent on national or local cultural norms, beliefs and shifts in thinking, government and institutional priorities. The gender or sex of university staff is the most commonly available diversity dimension across the statistical sources analysed. However, gender data are sometimes only available for academic staff. Sexual preferences may be incorporated into diversity and equality statements and policies in the context of a third gender choice (unknown
or unspecified), but this practice is not yet widespread. Four data sources examined address nonbinary gender by including an undeclared gender category in addition to the binaries of women and men or female and male: Unknown (South Africa), Unclassified (Europe-ETER), Unspecified (Australia from 2018), Canada (sex unknown/other from 2017). However, often the numbers in these categories are too small to be considered or are not identified for privacy reasons and thus excluded from analysis.

Data regarding origin are based on a mix of ethnicity, race, minorities, nationality and citizenship. The process of recording, or not recording such data is contentious, political and incomplete, however. Indigenous persons subjected to discriminatory practices may be reluctant to declare indigenous status, or consider the question and defining categories disrespectful or inappropriate. Australia reports only Indigenous staff figures (Aboriginal and Torres Strait Islander peoples) as a subset of all staff data. Other colonised countries Aotearoa New Zealand, South Africa and the United States have more extensive categories for indigenous peoples and other races or nationalities, but not all data are disaggregated by institution. Canadian ethnicity or origin data are identified in a one-off report from the Canadian Association of University Teachers; Statistics Canada provides occupational data on “visible minorities” and “Aboriginal identity” occupations but not disaggregated by institution. Statistical data from Chile do not appear to record percentages of Indigenous staff, despite recent activism and an increased number of Indigenous students (Webb 2018). Most European and some Latin American countries collect data on the national or foreign status of staff. Finland includes nationality by continental and regional origin, but only for non-academic staff. España adds EU country data to the Foreigner status and the Netherlands includes EU/EEA (European Union, European Economic Area) as a category. The United Kingdom records five race categories at institutional level, and nationality data as either UK or EU at a national level, not institutional. Within Africa, South Africa, as noted above, provides origin data, and Rwanda and Tunisia include a category Foreigner. Countries from Asia included in this analysis did not collect or provide origin data. Categories of Other and Unknown (Aotearoa New Zealand, Netherlands) allows individuals to make a choice to not be classified. See Table 1 for detail.

<table>
<thead>
<tr>
<th>Country</th>
<th>Staff ethnicity, race, nationality data categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aotearoa New Zealand</td>
<td>European, Maori, Pasifika, Asian, Unknown, Other</td>
</tr>
<tr>
<td>Australia</td>
<td>All staff, Indigenous (Aboriginal and Torres Strait Islander)</td>
</tr>
<tr>
<td>Canada</td>
<td>Visible minorities, Aboriginal identity (not disaggregated)</td>
</tr>
<tr>
<td>Chile</td>
<td>Chileño, Extranjero (foreigner)</td>
</tr>
<tr>
<td>España</td>
<td>España, EU, rest of Europe, US_Canada, Latin America, Caribe, Nth Africa, rest of Africa, Asia_Oceania</td>
</tr>
<tr>
<td>EU (ETER)</td>
<td>National, foreigner, unclassified, for academic staff (where available)</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Finland</td>
<td>Finland, EU, North America, Latin America/Carribean, Africa, Asia, Oceania (non-academic staff only)</td>
</tr>
<tr>
<td>Ghana</td>
<td>No data</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>No data</td>
</tr>
<tr>
<td>India</td>
<td>No data</td>
</tr>
<tr>
<td>Indonesia</td>
<td>No data</td>
</tr>
<tr>
<td>Ireland</td>
<td>No data</td>
</tr>
<tr>
<td>Italy</td>
<td>Italiano, Straniero (foreigner)</td>
</tr>
<tr>
<td>Kenya</td>
<td>No data</td>
</tr>
<tr>
<td>Mexico</td>
<td>No data</td>
</tr>
<tr>
<td>Morocco</td>
<td>No data</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Netherlands, EU/EEA, Other countries, Unknown</td>
</tr>
<tr>
<td>Rwanda</td>
<td>Rwandan, foreigner</td>
</tr>
<tr>
<td>South Africa</td>
<td>African, Coloured, Indian, White</td>
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<tr>
<td>Sri Lanka</td>
<td>No data</td>
</tr>
<tr>
<td>Taiwan</td>
<td>No data</td>
</tr>
<tr>
<td>Tunisia</td>
<td>Etrangers (Foreigners)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>White, Black, Asian, Mixed, Other (per institution); UK, Other EU, non-EU, Not-known, Caribbean, African, Indian, Pakistani, Bangladeshi, Chinese, other Asian, other mixed (national level only)</td>
</tr>
<tr>
<td>United States</td>
<td>American Indian or Alaska Native; Asian; Black or African American; Hispanic or Latino; Native Hawaiian or Other Pacific Islander; White; Two or more races.</td>
</tr>
</tbody>
</table>

Table 1: Ethnicity, race and nationality source data collected by countries

The age of university staff at institutional level is available publicly from thirteen sources - Canada, Chile, Europe (Eurostat), España, Ghana, Italy, Mexico, Morocco, Netherlands, South...
Africa, Spain, Sri Lanka and the United Kingdom. This is usually expressed within a range; some countries calculate an average age figure. Europe (Eurostat data) and Aotearoa New Zealand provide age data at country level only. Taiwan records the percentage of teaching staff aged 50 and over in universities, colleges and junior colleges, at country level only.

The United Kingdom is the only country reviewed that collects and shares public institutional data on staff disability, within the following categories: Disabled, Not known to be disabled, Unknown. This is supplemented with more detail at the national level only (UK), such as specific categories of disability (learning, mental health, physical, hearing).

Limitations in data coverage

Disaggregation of data by institution is available for most sources included, except for the European Eurostat collection, India, Rwanda and Taiwan. However, disaggregation is not always provided for all data elements. Time frames vary, with only seven institutions sharing data back to 2000 or earlier. Time periods for data collection differ by source and include individual years and combined years (e.g. 2016/2017).

Limitations in the data gathered include variability in sources, online accessibility and format. Many countries provide downloadable data in spreadsheets facilitating analysis, but some data must be extracted from pdf-based reports or webforms. Terminology variations create incompatibilities in correlating across countries and languages. For example, academic and research staff may be combined, with separate statistics for teaching and research functions or instructional research professionals, teaching and research staff (in Spain, personal docente e investigador) and separate research staff (personal empleado investigador). Non-academic staff are described variably as administrative, administrative and services (personal de administración y servicios), professional, general, executive, managerial staff and librarians. Individual institutions may collect more detailed diversity demographic staff data beyond that which is available through public national or collective agencies. However, retrieving data from individual institutional websites on a large, global scale is complex.

Our data collection focuses on sources at a national level, and the inconsistency of the data globally is evident. Frances Henry et al (2017) also note the lack of coordination of data between countries, even at national census level. In a comparison of equity in terms of ethnic diversity - racial and indigenised data - for higher education staff in Canada, the United States, United Kingdom and Australia, the authors confirm how impossible it is to obtain directly comparable data internationally. “Data are collected at different levels and time frames, from different sources, and by different entities (from the university to the national level).” (p. 24). Instead the authors undertook their own data gathering from institutional websites employing a “face and name methodology” (p. 27), surveyed academic staff in eight Canadian universities, and used published and unpublished online material.
Discussion

The intention of the COKI project in collecting and analysing institutional diversity data is to explore correlations between staff demographics and the nature of higher education research production and teaching at national levels. This contributes to understanding how institutional research and teaching reflect and represent cultural and knowledge diversity within student bodies, local and national communities. Analysis of available demographic data produces a snapshot of trends in countries with diversity programs and policies.

Comparing country gender data demonstrates variations in the spread of percentages of women academic staff in institutions within countries. For example, Figure 1 shows four countries have different institutional distribution from 2010 to 2017. In Australia, with up to 43 universities in 2017, the spread is reasonably even, between 38 to 55 percent. In the United Kingdom (95 universities in 2017), percentages of women academics start in the low 30 percent, moving to the mid 40 percent range by 2017. South Africa (eight universities) begins with universities showing 40 percent of women academics in 2010 and increasing to just under 50 percent in 2017. Aotearoa New Zealand (eight universities) begins with around 42 percent in 2012, rising to 52 percent in 2017.
Figure. 1: Countries over time: The spread of institutional percentages of women academic staff in Australia, United Kingdom, South Africa and Aotearoa New Zealand, 2010 to 2017.
Analysis and images: Curtin Open Knowledge Initiative.
Investigating the academic staff gender balance further within countries reveals interesting patterns at an institutional level. In Australia, the balance of women academic staff is higher in newer, less traditional, regional universities than in the older, established metropolitan institutions known as the Group of Eight (Go8). Figure 2 shows the distribution for 43 Australian universities (includes five private institutions receiving public funding). Go8 institutional percentages of women in academic positions in 2017 fall below 50 percent, whereas the IRU (Innovative Research Universities), most RUN (Regional Universities Network) and many Unaligned universities have above 50 percent women academics. All but one ATN (Australian Technology Network) universities have less than 50 percent women academic staff. These were previously technical colleges with greater emphasis on science, engineering and technology, suggesting a disciplinary gender bias with more men employed as academics. Our analysis suggests the less established universities are achieving outcomes from open, equitable hiring policies and practices.

Analysis of 2017 gender data for 44 United Kingdom universities suggests a similar tendency (Figure 3). The percentage of women academic staff is higher in the University Alliance of professional and technical group (2006), the MillionPlus group representing post-1992 universities, and Unaligned universities, with most universities in the established Russell Group recording below 50 percent women academic staff.

**Figure. 3:** UK academic staff gender breakdown: 44 universities by grouping, 2017. Note: uneven bar endings are caused by rounding of small figures in the reported data. Data source: United Kingdom. Higher Education Statistics Agency (2018). Analysis and graph: Curtin Open Knowledge Initiative.
Concluding remarks

The United Nations brought focus to gender equality as a global imperative with the Millennium Development Goals and the Sustainable Development Goals, although the latter focus less on education. All countries included in this study record staff gender statistics, but our analysis shows progress in achieving gender parity is patchy. Dimensions such as age, ethnicity, race and disability among university staff are represented poorly in diversity data collections.

Globalised higher education and competition for international students has supported many institutional budgets. Despite the recent challenges from COVID-19 restrictions in 2020, openness to and achieving staff diversity as part of institutional practices continues to be advantageous. Diversity in university populations is used by several global university rankings as a measure or indicator of internationalisation. However, as Spencer-Oatey and Dauber (2019) note, the existence of international students and staff does not necessarily indicate a diverse campus or educational outcome. Universities need to encourage and facilitate opportunities for interaction, knowledge sharing and critical thinking among diverse populations. Yet research shows limited interaction between domestic and international students, and Spencer-Oatey and Dauber (2019) identify a need to move beyond these binary distinctions.

Policies and programs promoting equality, diversity and inclusion are present in many universities. To understand the impact and outcomes of such policies we identified and analysed statistical data for institutional staff. The variations and incompatibilities in the global collection and availability of diversity data discussed here illustrate the difficulties and irregularities in using such data as a global comparative indicator. However, universities can examine their internal performance through diversity data in relation to other institutions and ponder how this may affect their teaching and research outcomes. The presence and the absence of diversity data are useful for individual institutions to explore and understand their progress in becoming open knowledge institutions producing diversity in research and teaching.
## Appendix 1: Data sources and summary by country

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<th>Country</th>
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<th>Source</th>
<th>Gender</th>
<th>Gender</th>
<th>Academic, non-academic</th>
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<th>Teaching/research</th>
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<th>Nationality/citizenship</th>
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<th>Individual years</th>
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Table 2: Summary of institutional staff demographic data publicly available by country, region and source, 2019.
References


Henry, F., Kobayashi, A., & Choi, A. (2017). Representational analysis: Comparing Canada, the United States, the United Kingdom, and Australia. In F. Henry, C. James,


