

3 The development of the Gender Equality Audit and Monitoring survey

Kevin Guyan, Amanda Aldercotte, Jörg Müller, Maria Caprile and Sergi Yanes Torrado

Introduction

To address gender inequality within higher education and research organisations, it is first vital to define the problem. In place of something abstract and fluid, gender equality practitioners need to establish the scale and contours of the challenge they face – attribute a name to the challenge and describe it with characteristics fixed in time and space. As described by Rachel Palmén and Jörg Müller in the Introduction chapter, “knowing the institution” is an integral component in the ability of Communities of Practice (CoPs) to develop strategies and initiatives that respond to gender inequality. An approach that builds on the European Commission’s (2011) definition of structural change, alongside the requirement for top-level support and effective management practices. This early step in the process is facilitated by the Gender Equality Audit and Monitoring (GEAM) survey, one of the main outputs of the ACT project.¹ Developed by research teams from the United Kingdom (Advance HE) and Spain (Notus and Universitat Oberta de Catalunya), the GEAM provides a comprehensive, transferable and transnational survey for higher education and research organisations that wish to monitor and/or undertake an audit of gender equality of academic, technical and support staff. The modular survey includes units on working conditions, beliefs and biases, organisational culture and climate and individual behaviours as well as the capture of data about the identity characteristics of respondents.² This chapter reflects on decisions made in the design of the GEAM, its roll-out and its revision. As well as charting the development of the GEAM, it also presents a case study that provides an in-depth consideration of its approach to the collection of gender, sex and sexuality data.

The GEAM survey consists of core and extended questions. Core questions comprise a comprehensive collection of questions that cover most aspects of gender equality in research organisations and provides a good starting point for implementing an initial audit and assessment of an organisation or

organisational unit's gender equality. The core survey is also fixed in that the questions are set for all organisations using it, and are thus directly comparable across these organisations. Extended questions include a repository of additional questions that organisations can add to the core survey to tailor it to investigating gender equality in their unique context. The survey can be hosted on any LimeSurvey platform; the GEAM questionnaire, reporting template and documentation are open access.

The design of survey questions is as much a science as an art (Schaeffer & Dykema, 2011; Schaeffer & Presser, 2003). With this principle in mind, the research team deliberated over the design of questions, the provision of response options, the addition of "prefer not to say" options and open-text comment boxes, the inclusion of supplementary text within the survey and supporting guidance to accompany the GEAM. There was not necessarily a "right" or "wrong" answer to any of these decisions, as survey customs differ across disciplinary and national contexts. What guided our approach was the requirement for the GEAM to meet the needs of the ACT project and provide the CoPs with a tool to advance their work.

As a survey, the GEAM is primarily geared towards generating quantitative data about individual perceptions and experiences of the working environment. The GEAM is therefore envisaged as one element in a wider basket of data collection methods and to be used in conjunction with data from interviews and focus groups, document/discourse analysis and administrative data. The combination of quantitative data sources with qualitative data will provide a more comprehensive picture of known forms of exclusion and gender inequality as well as emergent topics not currently covered by standardised instruments such as the GEAM. Although primarily a tool to collect quantifiable data about individuals within research organisations, positioning the GEAM among other data collection methods responds to critiques of quantitative data from some feminist scholars and invites further reflections on what Sally E. Merry (2016) describes as the "seductions of quantification". Those who have highlighted the limitations of quantitative survey data tend to identify two major critiques, one epistemological and one methodological. From an epistemological position, survey instruments are historically associated with positivism (i.e., the view that knowledge is value-free and objective). Reflecting the scholarship of Donna Haraway (1988) and Helen E. Longino (1990), knowledge produced by the GEAM is situated within social contexts where the survey was designed and is conducted. In addition, with an eye to scholarship from the field of science and technology studies, John Law (2009) has noted how surveys can partly construct the categories they claim to observe. In other words, designing a survey that asks particular questions about gender equality in higher education and research organisations shapes how we come to define the borders and establish the scope of what is understood as gender equality.

In terms of methodology, scholars have questioned the measurement of gender, sex and sexuality in surveys and the tendency of this data collection method to present a reductionist account of the phenomena under investigation. For example, Anna Lindqvist et al. (2020, p. 1), addressing the measurement of gender, have noted that although much quantitative research in the social sciences uses gender as a variable, studies often overlook what is actually meant by gender and how is it operationalised in different studies. Amanda Baumle (2018, p. 281) has further described how a queer critique of quantitative data about gender, sex and sexuality might understand “categories as absent of real meaning”. This chapter’s case study presents a detailed account of how the GEAM responds to these critiques.

This chapter therefore positions the design of the GEAM survey within a wider scholarship that responds to challenges that come with the bridging of quantitative data and identity characteristics. These debates within gender studies and the broader social sciences have led us to qualify the use of the GEAM survey in the following ways. As a survey instrument, it must echo the approach of Ann Oakley (1999) who describes the power of quantitative methods to transform personal experiences in ways that demonstrate evidence of collective oppression. For example, describing the use of United Kingdom census data on sexual orientation and trans/gender identity to improve the lives of lesbian, gay, bisexual, trans and queer people in the United Kingdom, Kevin Guyan (2021, p. 8) has noted, “the census is a reflection for how some groups see themselves, present to others and transform identity characteristics into constituencies that form the basis for action to address inequality and injustice”. The GEAM can produce knowledge about common experiences and perceptions among staff, with findings consequently used to inform the prioritisation of interventions. The GEAM intended to provide CoP members, as well as other higher education and research organisations, with a means of getting to “know their institution”. However, the use of a survey to capture this information meant that the data collected about perceptions and experiences was frozen in time and space. Furthermore, although surveys shine a light on particular areas of an institution previously overlooked, coverage is not exhaustive and cannot necessarily cover the diversity of experiences related to gender inequality.

Knowing the institution – What is the purpose of the GEAM survey?

As well as collecting data on the identity characteristics of respondents, the GEAM also provides research organisations with a method to assess perceptions, beliefs and experiences across a range of topics that directly and indirectly relate to the theme of gender equality. This includes questions on parental leave, work-life balance, recruitment, promotion and working conditions during the COVID-19 pandemic. Unlike other gender equality reporting templates and indicators used at a European level, such as those

developed by the Plotina project (Schwarz-Woelzl, 2015), modules target all employees and capture information about their perceptions and experiences of the working environment instead of institution-level data. The GEAM consists of five modules completed by individuals:

- Socio-demographics
- Working conditions
- Beliefs, attitudes and bias
- Organisational culture
- Behaviour and interpersonal relationships

Additional modules, such as institutional-level indicators and questions on COVID-19, were reviewed during the development and are available as extensions to the GEAM main questionnaire. The GEAM survey was primarily designed to facilitate and strengthen the work of the CoP member organisations, as part of the wider ACT project. For this reason, the GEAM needed to provide an online, adaptable questionnaire framework that produces comparable data and facilitates knowledge sharing, benchmarking and dialogue across national and organisational contexts. The research team wished to design something standardised – so that the same questions could be asked across different national/regional contexts – but also adaptable so that institutions could utilise the GEAM to advance gender equality in ways that work best in their context.

An innovative aspect of the GEAM is its technical setup and implementation. While many survey instruments are only available as Word documents or indirectly in scientific articles, the GEAM is available as a shareable LimeSurvey archive file. The modular approach makes it possible for users to import and setup a complete GEAM survey in a matter of minutes. Additional modular questions can be imported or exported as they become available on the dedicated portal database. In addition, the research team has produced a reporting template that generates descriptive statistics of a GEAM survey as a Word file. Using the popular software collaboration platform Github, GEAM users can contribute to all aspects of the project including its documentation, reporting templates and new questionnaire adaptations.³ Although not originally part of the development plan, the research team has also developed a suite of manuals to accompany the GEAM, including: (i) an in-depth explanation of its development, documenting its reliability and validity; (ii) a practical, hands-on set of instructions that walks users through setting up the survey on LimeSurvey and handling the data generated responsibly; and (iii) an analysis handbook that provides users with an introduction to the statistical approaches that can be applied to the GEAM data, with examples of how to interpret these results. For more advanced users, the analysis handbook also includes the code required to run the prescribed analysis in the statistical software package R. Recognising that the majority of GEAM users are likely to be relatively

unfamiliar with quantitative analysis, the research team also developed a reporting script that automatically generates an overview of the survey data as well as a breakdown of data by respondents' gender. Together, this suite of accompanying tools is intended to help those involved in gender equality research move from the initial step of identifying the issues to interpreting them in context and deciding which actions to pursue.

Although designed to facilitate and strengthen the work of the CoPs, the GEAM was also understood as an addition to a wider landscape of activity related to the collection and analysis of gender statistics. The United Nations (2006, p. 1) describes gender statistics as “statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life”. Although described as “gender statistics”, these activities entail the collection, analysis and presentation of data that is sex-disaggregated and gender-sensitive. Gender statistics are inclusive of statistics about topics that relate to gendered issues (such as maternity leave and childcare), reflect gender diversity (such as the proportion of women in senior leadership positions) and acknowledge social and cultural biases in the data (such as the use of collection methods that favour certain groups of people, for example, online staff surveys are only accessible to those that have access to the internet while at work). As noted by Engender (2020, p. 6), a Scottish feminist policy and advocacy organisation, the production of “gender statistics requires statisticians and analysts to move beyond simply counting women, and to fundamentally reconsider some of their assumptions about the world”.

Following the 1995 Beijing Platform for Action, several programmes were introduced to expand and improve the collection, analysis and presentation of gender-sensitive data, with tools developed by institutions including the Organisation for Economic Co-operation and Development, UN Statistics Division and the World Bank (Engender, 2020, p. 5). Within the European Union, research projects funded under Horizon Europe will be required to have a Gender Equality Plan (GEP) that is public, supported by training and capacity building activities, has dedicated resources and engages in data collection and monitoring activities (European Commission, 2021). In specific national contexts, such as in Spain, there is a requirement for GEPs to discuss the collection, analysis and evaluation of initiatives by gender but no guidance or standardised suite of tools to support these requirements. In many cases, GEP implementation by different institutions has been conducted in isolation from others and with processes that differ widely in terms of their scope and effectiveness. In many cases, this implementation occurs without a proper assessment of gender equality needs and priorities, or the necessary monitoring and evaluation mechanisms (European Institute for Gender Equality, 2016). Results usually do not transcend the immediate project context while quality assessment of the reliability and validity of the generated data has not been conducted. It is at this juncture where the GEAM is intended to play a key role and provide a standardised

assessment tool that advances mutual learning but is sensitive to local, national, regional and organisational contexts.

Designing the GEAM survey

Having discussed what the GEAM intends to achieve and the landscape of gender statistics within which the survey is situated, this section examines the origins and testing of the GEAM.

Origins

The origins of the GEAM are found in the Athena Survey of Science, Engineering and Technology (ASSET, see Aldercotte et al., 2017), a survey conducted in the United Kingdom at multiple time points (2003/04, 2006, 2010 and 2016) into the association between gender and experiences, expectations and perceptions of the workplace among academics in Science, Technology, Engineering, Mathematics and Medicine (STEMM). As a survey designed to assess the perceptions and experiences of researchers working within UK institutions, ASSET reflects the legislative context of equality, diversity and inclusion practice in the United Kingdom (most notably, for surveys conducted after 2010, the Equality Act and its articulation of nine protected characteristics (Equality and Human Rights Commission, 2021).

The ASSET 2016 survey contained 89 questions in total, including both categorical and continuous items (i.e., Likert scales). Questions asked in the ASSET 2016 survey were used to inform an initial framework for the GEAM. As part of ACT's second project meeting, in Berlin in 2018, the initial review was reviewed by Consortium members to identify any sensitive items and potential thematic gaps. This review also allocated items to one of six themes and 31 modules (see [Table 3.1](#)). This framework was further strengthened by a literature review (Aldercotte et al., 2021), which examined measurement scales used in previous studies on gender equality in different thematic contexts, and feedback from the wider ACT consortium.

Testing

After completion of an initial draft of the GEAM survey (i.e., version 1.0), items went through three rounds of assessment to ascertain their applicability across organisational contexts and countries:

- 1 **Focus groups:** The first draft of the GEAM survey was discussed in six focus groups carried out by seven partners in France, Germany, Sweden, Slovenia, Argentina, Spain and the United Kingdom to obtain feedback on the applicability of the GEAM across the unique institutional contexts of European countries as well as exploring its global transferability with a focus group in Latin America. Participants shared several observations including the need to not only capture empirical information about

Table 3.1 Framework and coverage of version 1.0 of the GEAM survey.

Socio-demographic variables	<ul style="list-style-type: none"> • Identity characteristics • Care responsibilities
Working conditions	<ul style="list-style-type: none"> • Job and career • Working arrangements and intensity • (Mental) health and safety • Job satisfaction
Beliefs, attitudes and stereotypes	<ul style="list-style-type: none"> • Perceived factors in career development • Perceived factors in recruitment and promotion • Sexism • Male/female identity and gender roles • Diversity • Leadership • Gender and status • Unconscious bias
Organisational culture and climate	<ul style="list-style-type: none"> • Perceptions of gender equality • Organisational culture and masculinity • Organisational climate • Working culture and career development • Barriers to training and career development • Parental leave experiences and culture • Campus climate • Group and team climate
Behaviour and interpersonal experiences	<ul style="list-style-type: none"> • Sexual harassment • Stalking and bullying behaviour • Bystander behaviour • Microaggressions • Interpersonal sexism

working conditions but also the working climate and the importance of ensuring an intersectional approach to data collection. In response to these points, questions on the perception of discrimination as well as the Masculinity Contest Culture were added. An extensive set of socio-demographic variables covering seven dimensions of social discrimination were also included in the refined, consolidated draft of the GEAM. Participants also identified what survey items to include as GEAM core survey questions and what to include as extended survey questions.

- 2 **Piloting with CoP members:** The consolidated draft of the GEAM was then implemented in the ACT LimeSurvey platform and piloted. Pilot participants were recruited principally through CoP facilitators with the aim to have one person per CoP member organisation responding. The pilot was launched in August 2019 and remained accessible online until the second week of September. A total of 68 responses were received. The resulting suggestions were integrated to produce version 1.0 of the GEAM core survey, which was then translated into Spanish, Polish, French and German for the final round of piloting.

- 3 **Piloting with non-CoP members:** After translating version 1.0 of the GEAM core survey, it was piloted with a group of CoP member institutions. The institutions distributed the survey to staff through their existing staff networks and had varying levels of response (ranging from around 60 participants to over 1,000 at the individual institutions). However, across all institutions there was a high degree of missing data, with large proportions of respondents dropping out of the survey after completing only a few modules, indicating issues with survey length. Taking into account the feedback on the length of the GEAM core survey and issues surrounding specific questions about respondents' gender, job and career and experiences of parental leave, version 2.0 of the GEAM core survey (see [Table 3.2](#)) was developed, updated and

Table 3.2 Version 2.0 of the GEAM core and extended GEAM survey (denoted by *)

Socio-demographics	<ul style="list-style-type: none"> • Age and marital status • Nationality and ethnicity • Religion* • Sex and gender • Disability • Education and income
Working conditions	<ul style="list-style-type: none"> • Job and career • Contract • Recruitment and promotion • Training • Caring responsibilities • Work-life balance/ work-family conflict scale • Job satisfaction • Work intensity • COVID-19 • Burnout and work engagement* • Lab safety*
Belief and bias	<ul style="list-style-type: none"> • Beliefs about unconscious bias* • Sexism* • Female/male identity and norms* • Leadership* • Diversity*
Organisational culture and climate	<ul style="list-style-type: none"> • Gender equality • Perceptions of work environment • Recruitment • Promotion* • perceived factors in career development • Masculinity contest culture • Team climate*
Behaviour	<ul style="list-style-type: none"> • Microaggressions • Bullying and harassment • Contra power*

finalised on the ACT LimeSurvey platform (for all language versions of the survey).

Following multiple rounds of testing, the GEAM survey includes five thematic blocks, containing a total of 43 modules and 54 core items and 112 extended items. The thematic blocks are ordered according to the following logic:

- 1 **Socio-demographic variables:** Includes information regarding respondents' age, gender, disability, sexual orientation, trans status/history, ethnicity and nationality as well as their socio-economic background.
- 2 **Working conditions:** Is a broad theme that contains items related to respondents' current contract, how they were recruited to their current role, their access to training opportunities and ratings of work-life balance, job satisfaction and work intensity.
- 3 **Belief and bias:** Focuses on social psychological constructs, i.e., it targets respondents' individual beliefs, attitudes and stereotypes regarding unconscious bias, sexism, masculine/feminine norms, diversity and leadership.
- 4 **Organisational culture and climate:** Extrapolates individual gender-related beliefs and attitudes towards the organisational or workgroup context. Its focus is largely on perceptions (targeted as "climate" measures) regarding gender equality but also deeper cultural aspects captured with the Masculinity Contest Culture scale. Climate refers primarily to how people perceive certain aspects of their work environment (e.g., teamwork) whereas culture has a normative dimension that captures employees underlying fundamental beliefs and values, for example, in relation to individualism, gender or respect for authority (Schneider et al., 2013).
- 5 **Behaviour:** Covers incidents of microaggressions, bullying and harassment and contra power harassment.

Case study: Asking about gender, sex, sexual orientation and trans status/history

One sticking point that emerged during the design, testing and roll-out of the GEAM survey was the measurement of the socio-demographic characteristics of gender, sex, sexual orientation and trans status/history. In particular, whether the GEAM should ask a single question presented as being about gender or two questions, one on gender and one on sex. The survey does not define the concepts of gender and sex (and the gender question does not explicitly mention "gender" in its question wording). It is therefore likely that many respondents will understand the two questions in the same way

and understand them as measuring the same concept.⁴ The GEAM therefore includes the following three core questions:

Are you:

- A man
- Non-binary
- A woman
- Prefer not to say
- Other

Which best describes your sexual orientation?

- Bisexual
- Gay/lesbian
- Heterosexual/straight
- Prefer not to say
- Other

Are you trans or do you have a trans history?

- No
- Yes
- Prefer not to say

And the non-core question:

What is your sex?

- Female
- Male
- Prefer not to say
- Other

Except for “What is your sex?”, the questions are core items and are therefore included as default in all versions of the GEAM. In addition, the GEAM survey captures data about identity characteristics (including social class, age and disability) to examine how perceptions and experiences of gender equality intersect with other variables of social discrimination. The research team were guided by the view that it is myopic to analyse gender equality by only collecting data about gender, and that perceptions and experiences of gender are always shaped by how gender intersects with race and other identity characteristics (Crenshaw, 1989).

The GEAM's adoption of a multi-dimensional approach to the collection of data about gender, sex and sexuality expands upon the approach of previous and ongoing EU-funded projects that measure gender equality, such as Plotina (Schwarz-Woelzl, 2015). Outputs from these projects collect data about "gender" but do not critically examine the interplay between gender, sex and sexuality. In addition to a multi-dimensional approach to gender, sex and sexuality data, the GEAM also collects information on respondent's age, marital status, ethnicity (majority or minority ethnic group), country of birth, citizenship, disability, education and parental education. The collection of data about several components of an individual's identity facilitates an intersectional approach to analysis, although the GEAM does not ask about race, religion or a detailed question on ethnicity.⁵ For example, the disaggregation of GEAM results for respondents who identify as disabled, lesbian women or older, heterosexual men. Analysis at this granular level will depend on the size of samples but serves as an important reminder that perceptions and experiences of gender equality are intertwined with other facets of identity.

The GEAM, therefore, differed in its effort to respond to scholarship on gender, sex, sexual orientation and trans status/history data that highlights a lack of detail as to what we mean when we discuss gender and sex, the interchangeability of these concepts in the social sciences, and interactions between gender and sex and the related concepts of sexual orientation and trans status/history. For example, Amanda Bittner and Elizabeth Goodyear-Grant (2017, p. 1020) have described how "sex and gender tend to be used interchangeably among political behavior scholars (and others), both conceptually and operationally". As a result of the conflation of sex and gender, "gender also tends to be measured as a dichotomy, which is a normatively undesirable practice, and also one that inhibits precision in the measurement of gender" (Bittner & Goodyear-Grant, 2017, p. 1020).

In addition, scholars have noted that when surveys ask about sex, the concept is often naturalised in ways that assume something fixed and a binary separation between female and male respondents (Butler, 1990; Fausto-Sterling, 1993; Hawkesworth, 2013). Survey questions about sex often draw on biological criteria, which include asking about one's sex assigned at birth, and overlook how belief systems (in different cultures and time periods) have informed the meanings that societies attribute to different biological phenomena (Westbrook & Saperstein, 2015).

The GEAM survey aimed to avoid these mistakes and not to presuppose fixed or binary definitions of gender, sex or sexuality concepts. Furthermore, by demarcating core and extended survey items, the GEAM foregrounds asking a question about gender (with response options "man", "woman", "non-binary" and "other") above asking a question about sex (with response options "male", "female" and "other"). Lindqvist et al. (2020, p. 10) have argued that "researchers in the social sciences are rarely interested in the physiological/bodily aspects (i.e., genitalia, chromosomes,

bodily attributes) or legal gender, but are more often interested in how individuals identify or express themselves from a social perspective”. As a survey instrument designed to monitor gender inequality among those working in higher education and research contexts, the primary interest of the GEAM is phenomena associated with gender rather than sex, though the two concepts are interrelated.

The design of the GEAM’s questions on gender and sex also had to acknowledge that some countries, such as Germany and the Netherlands, provide legal recognition to categories that transcend the binaries of man/male and woman/female. For example, in Germany, the constitution was amended to note the right for individuals to register their legal sex as “diverse” (Schotol & Mügge, 2021, p. 1). The provision of non-binary response options for questions on gender, sex and sexual orientation was unproblematic, particularly as research has highlighted that the inclusion of non-binary questions in population surveys does not invite adverse reactions from general respondents (Medeiros et al., 2020, p. 128).

The research team felt it was important to include a question that differentiated trans (people whose gender identity and/or expression is different from their sex as assigned at birth) and cis individuals (people whose gender identity and/or expression matches their sex as assigned at birth). The inclusion of a trans status/history question in the GEAM core survey also acknowledged that the perceptions and experiences of trans people have been historically overlooked (and in many instances, erased) from general studies as well as those specifically examining the topic of gender equality (Westbrook & Saperstein, 2015, p. 548). The GEAM survey uses an innovative approach to collect data on trans status/history that asks a single, direct question. Departing from the question format adopted by projects such as Gendered Innovations (European Commission, 2020, p. 193), the GEAM uses what is often described as a one-step approach to differentiate cis and trans respondents or those who have a trans history. In this example, the term “trans history” is understood to refer to people who no longer identify as trans but were assigned a sex at birth that differs from how they currently identify (in other words, they have transitioned). The GEAM asks one question to identify this population, “Are you trans or do you have a trans history?” This approach differs from a two-step method that asks one question about an individual’s sex at birth and one question about their current gender identity. When viewed together, this data is used to discern who might identify as trans. Within the context of the United Kingdom, the use of a two-step approach is problematic due to the Gender Recognition Act. There are also concerns about the acceptability or relevance of asking people about their sex at birth in a survey designed to gauge their present perceptions and experiences of gender equality, this observation might be particularly true of trans people and those who are intersex or have differences in sex development. Furthermore, the European Commission (2020, p. 193) has noted difficulties in the use of a two-step question when translated

into languages that use a single term to refer to both sex and gender identity (the Commission notes Danish, Norwegian and Sweden as examples).

Translation and comprehension

Throughout the design of the GEAM survey, the research team were mindful of construct equivalence – the view that measurable concepts exist that are understood by all groups answering a survey. For example, it is difficult if not impossible to make sense of responses to a question about “bullying and harassment” if respondents understand this concept in different ways. As Heather Ridolfo et al. (2012, p. 117) explain, “data lacks comparability if a particular construct does not exist, or is fundamentally different, in one or more of the represented cultural groups”.

As the GEAM was to be translated into multiple languages and used in a diversity of institutions and countries, the need for equivalent constructs was vital to allow for the possibility of analysis across different contexts. Translations were revised or implemented from scratch by Consortium partners or directly by external individuals interested in carrying out a GEAM survey in their organisation. In either case, translators experienced in gender equality made sure that the nuances and meaning of the English concepts used were adequately captured in the destination language. Since many translations were voluntary contributions, reverse translation from the destination language to the source (English) language was not carried out.

The challenge of construct equivalence did not only relate to the comprehension of topics associated with gender equality but also the socio-demographic terms used to describe the gender, sex and sexuality characteristics of respondents. In the United Kingdom, for example, the Office for National Statistics (ONS) has described its difficulty in translating questions about gender from English into other languages, particularly when questions are intended to differentiate concepts of gender and sex (UN Economic and Social Council, 2019, p. 5). During the design of the question on gender identity for the 2021 English and Welsh census, the ONS reported that it was not possible to adequately translate this concept into German, Dutch, Romanian or Greek (as it had to differ from another census question that asked about sex) (*ibid.*). As Leslie W. Suen et al. (2020, p. 2313) observe, “depending on the translation and cultural variations, participants could be self-categorizing themselves differently or using the write-in option different from originally intended” by the designers of the survey.

A recurring theme in feedback received on the GEAM were flashpoints where data collected was not applicable to the context under investigation. These flashpoints ranged from what appeared at first to be relatively simple concepts, such as the labels that respondents ascribed to their current contract (e.g., the term academic was widely recognised but the labels associated with administrative and support staff varied considerably across

pilot contexts), to more nuanced issues such as the availability of various resources and support surrounding parental leave and childcare that vary considerably across legal contexts and may not be at the discretion of the institution to offer staff.

Reception and acceptability

The research team designed the GEAM with an eye towards its reception and the acceptability of questions asked among respondents. As participation was voluntary, the design of the GEAM erred in favour of asking more questions (and possibly more probing questions) rather than less. This decision was based not only on the research team's personal experiences of conducting questions that ask about gender, sex and sexuality but also a wider literature on the reception of questions, particularly within the context of the United States and LGBT communities. The Williams Institute (Badgett, 2009), a think tank based at the University of California in Los Angeles, has challenged the belief that asking questions about the perceptions and experiences of LGBT people is a sensitive topic or likely to distress respondents in mainstream population studies that might risk them ending their participation in the survey. Although it is vital that survey questions about gender, sex and sexuality are presented in a considered and respectful manner, for most respondents these topics are not understood as taboo and – when asked – most people are willing to provide an answer. Scholarship has also noted that, depending on the design of the study, individuals from sexual minority groups are not necessarily less forthcoming or harder to reach than those from sexual majority groups. Nancy Bates et al. (Bates et al., 2019, p. 718), for example, has noted that “despite this implicit assumption, there is little empirical evidence on the topic”.

Discussion

The GEAM not only functions as a means to “know the institution” but also has a normative function in determining what is brought into view and what is precluded from examinations of gender equality in higher education and research organisations. Knowingly or unknowingly, surveys on gender equality can come to describe the phenomena they claim to observe – not only through the data collected but through the design and selection of questions. The effects of research methods on the problems they are intended to investigate have been explored by several scholars. Law (2009, p. 239), for example, explains, “there are two great views of method in science and social science. On the one hand, it is usual to say that methods are techniques for describing reality. Alternatively, it is possible to say that they are practices that do not simply describe realities but also tend to enact these into being”. If the GEAM is understood as a means to bring certain topics or issues into being, it can also function as a tool

to raise awareness about gender equality within institutions (for example, among senior leaders).

As a means to generate standardised quantitative data, the GEAM can also be contextualised with an overall trend in research organisations towards governance through benchmarking and quantification. As Merry (2016) argues, indicators and quantitative data have a knowledge effect (i.e., facts about pay gap) as well as a governance effect (i.e., they provide a basis for decision making and accountability). The production of harmonised statistics and quantitative indicators prepares the ground for competitive benchmarking exercises, which suggest the replacement of politicised decision making with supposedly “fair” and “neutral” standards of statistical quantification (Bruno, 2009). In light of this fiction, it is vital to remain aware of the constructed nature of survey instruments and indicators, which – once designed – tend to acquire a life of their own that hides the ambiguities and subjective decisions that informed its construction.

There are therefore clear limitations as to what can be brought into being through the methods selected, as the normative functions of the GEAM need to reflect existing gender equality discourses. For example, the GEAM would not be understood or well-received by respondents if it asked a question about the ability of women to lead research projects as this stereotype is out-of-step with current views in most contexts where the survey was conducted. It is therefore more helpful to consider the GEAM as an output that can shine a light on some issues and not others. There is much to learn when we view the GEAM as doing more than providing a mirror image of gender equality in the higher education sector but also informing what is included and excluded in this reflection. We hope that these conceptual reflections on the design of the GEAM bring some of these discussions into view in ways that encourage critical reflection among others engaged in the design and roll-out of gender equality surveys.

As the ACT project concluded, the roll-out of the GEAM survey highlighted areas where ideas about gender equality, education and research, and working practices are conceptualised differently – both in terms of language and how ideas are understood across borders. In particular, the collection of socio-demographic data about individual respondents required the design of standardised diversity monitoring questions, response options and supplementary guidance that were understood across different national contexts. Although the research team engaged in critical reflections as to the potentials and limitations of the GEAM survey throughout its design and multiple iterations, it was also apparent that the tool could not deliver everything expected of it. Returning to the socio-demographic measurement of gender, sex and sexuality discussed in this chapter’s case study, critics of the GEAM might highlight the limitations of the approach adopted. For example, although focused on gender equality, the GEAM survey does not provide insights into how gender expression might affect people’s perceptions and experiences. This gap is not unique to the GEAM; Lindqvist

et al. (2020, p. 8) note that gender expression is seldom “accounted for in the social sciences” and, citing the work of Devon Magliozzi et al. (2016), explain that it is rare to see surveys that ask “participants about how feminine and masculine they see themselves, and how feminine and masculine they believe others see them”. Furthermore, although the GEAM attempts to provide a more rounded account of gender, sex and sexuality through the provision of multiple questions, the provision of categorical options for all four questions means that potential insights are perhaps missed.⁶ Although the decision was made to ask questions that challenge binary assumptions about gender and sex, the research team did not consider the inclusion of a question that captured information about gender as a continuum as this did not align with approaches to gender equality used in other parts of the ACT project and risked confusing GEAM survey respondents.

There is also the question as to what happens with data collected via the GEAM survey. Moving from data to action – early feedback suggests challenges around who undertakes the analysis of data collected and its use to inform action within an institution. The team involved in the GEAM have therefore had to ensure we provide the right level of support to institutions so that we are not too prescriptive but equally able to empower institutions to use the GEAM survey for action. For example, in its support of the CoPs, the GEAM can also collect data that informs an evidence base for action. This evidence base might include the use of quantitative data to convince senior leaders of the existence of problems and the need to take action or insights into what works (and what does not work) to improve gender equality in different contexts.

While the GEAM has some limitations (for example, the categorical approach to identifying respondents’ gender), it nonetheless provides CoPs and others engaged in addressing gender inequality with a starting point and helps move the dial in the direction of progress. As Baumle (2018, pp. 281–282) describes, strength comes from disclosing the weaknesses and limitations of the data collected while also “emphasizing the importance of generating new knowledge”. In regard to the remit of the ACT project, the GEAM has provided institutions with a tool to collect data that demonstrates the existence of gender inequality where previously no evidence base existed.

Conclusion

As a research instrument translated into multiple languages and rolled out across different national higher education and research contexts, the GEAM survey presents an insight into some of the challenges associated with the transnational measurement of gender, sex and sexuality. A key strength of the GEAM survey is that the items have been sourced from existing surveys that have been used previously to investigate gender differences in staff experiences and perceptions. The items have been adapted and tested for

use across a range of contexts, lending a greater deal of assurance of their reliability and validity than previous gender equality surveys. The paper concludes with a discussion of the tensions between the design of a universal and culturally-specific measurement tool, as well as the overlap and interplay between concepts of gender, sex and sexuality and early indications of how this multi-dimensional account presents a more detailed picture of respondents' experiences of gender equality across higher education and research contexts.

Notes

1. Communities of PrACTice for Accelerating Gender Equality and Institutional Change in Research and Innovation across Europe" Horizon 2020 project, grant number 788204 is referred to throughout this book as "The ACT project". See also <https://www.act-on-gender.eu>.
2. For details and documentation regarding the GEAM, please visit <https://geam.act-on-gender.eu>.
3. See <https://github.com/actongender>.
4. It is estimated that around 99% of the United Kingdom population perceive or experience no difference between their gender and sex (Government Equalities Office, 2018). Furthermore, in regard to how sex is conceptualised in United Kingdom censuses, the Office for National Statistics has described how there exists five concepts of sex that a data collection exercise could ask about: sex as registered at birth; sex as recorded on birth certificate; sex as recorded on legal/official documents; sex as living/presenting; and sex as self-identified (Rosiecka, 2021).
5. It is uncommon (and in many contexts illegal) to capture data about a person's race or ethnicity in countries where the GEAM survey was implemented.
6. In other words, the GEAM does not use continuum scales to measure gender identity. The provision of scales to measure the gender of respondents might take the form of a bipolar scale (man/masculine \leftrightarrow woman/feminine) or two unipolar scales (man/masculine \leftrightarrow not man/masculine, woman/feminine \leftrightarrow not woman/feminine) (Gidengil & Stolle, 2021, p. 2).

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