

All-Party Parliamentary Group on Diversity and Inclusion in STEM inquiry on Equity in the STEM workforce: response from the British Neuroscience Association



Introduction

The British Neuroscience Association (BNA) is the largest UK organisation representing and promoting neuroscience and neuroscientists. We have over 2000 members, whose interests cover the whole range of neuroscience, from ion channels to whole animal behaviour to real-life applications in the clinic and beyond.

Neuroscience research benefits when it brings together and builds on the diversity of views, backgrounds, and life experiences within the neuroscience community to help to tackle the complex challenges neuroscience presents. We know that there are long-standing barriers faced by underrepresented groups that negatively impact representation within science, technology, engineering and mathematics (STEM) disciplines, including neuroscience, and that these are particularly prevalent at advanced career stages.

We are committed to making the BNA, and neuroscience in general, more equitable and inclusive, and are proud to be a supporter of the Declaration on Equity and Inclusion from ALBA – an international network of brain scientists committed to fostering fair & diverse scientific communities.¹

We welcome the opportunity to respond to this inquiry into equity within the STEM workforce, and have limited our submission to key areas for the APPG to consider.

Summary:

- There is a lack of sufficiently fine-grained, discipline-specific demographic data within the broad category of STEM that would help the BNA better assess the neuroscience research community.
- The BNA has attempted to fill these data gaps, through self-reported surveys and by gathering institutional data. These data suggest a decrease in representation with seniority. We are targeting new initiatives, such as the new BNA Scholars programme, to support students from currently under-represented ethnic groups in neuroscience.
- We believe there is a need for more research to be conducted within specific STEM disciplines to help the sector better establish the full picture of representation and appropriately respond to the needs identified.

Q1. What are the demographics of STEM workers in your organisation or sector? Are there gaps in the quality of evidence, monitoring or reporting?

1.1 The BNA holds a number of events for the neuroscience community each year, with our largest event being the BNA's Festival of Neuroscience – held every two years. These are attended by researchers across the different areas of neuroscience, and across all career levels, with representation including delegates from a number of non-UK countries.

¹ <http://www.alba.network/declaration>

1.2 For the past three festivals, we have conducted voluntary surveys of delegates that attended to help the BNA with feedback that can be used to inform future events, and these have also captured some demographic information that give us more information about the attendees – such as career stage, ethnicity and gender (see tables 1 and 2). While the data is representative of the overall delegates that attended these neuroscience events, it is self-reported (carrying with it potential biases in terms of who responded to the surveys) and should be treated as indicative in terms of the UK neuroscience research community as a whole. These data do suggest though a decrease in representation with seniority.

Table 1: Demographic data from BNA Festivals of Neuroscience

Demographics	BNA2015	BNA2017	BNA2019
Gender			
Female	56%	55%	62%
Male	44%	45%	37%
Other	N/A	N/A	1%
Ethnicity			
White	82.8%	80%	87%
Mixed/multiple ethnic groups	3.9%	2.8%	4%
Asian/Asian British	9.9%	9.6%	4%
Black/African/Caribbean/Black British	1.3%	1.4%	1%
Other	2.1%	6.1%	4%
Respondents	464 (~30% of delegates)	363 (~32% of delegates)	304 (~29% of delegates)

Table 2: Demographic data from BNA2019 Festivals of Neuroscience

Demographics – BNA2019	Postgraduate Researchers	Early Career Researchers	Senior Academic Researchers
Gender			
Female	70.7%	59.7%	47.1%
Male	27.8%	36.8%	52.9%
Other	0.8%	1.8%	0%
Ethnicity			
White	80.5%	96.5%	94.1%
Mixed/multiple ethnic groups	8.3%	0%	0%
Asian/Asian British	4.5%	1.8%	0%
Black/African/Caribbean/Black British	1.5%	0%	0%
Other	5.3%	1.8%	5.9%
Respondents	133	57	34

1.3 In all of BNA’s activities we are intent on providing equality for all and promoting an inclusive culture, and having clear demographic data on neuroscience researchers is something that is important to help us better understand the diversity of the community we represent, and better shape our future activities and programmes as a result.

Gaps in data

1.4 While there are some demographic open data provided by bodies including the Higher Education Statistics Agency, and other sources summarised in the APPG’s Data Analysis Brief², there is a lack of sufficiently fine-grained, discipline-specific demographic data within the broad category of STEM that would help us better assess the neuroscience research community. In 2018, the BNA attempted to fill some of that knowledge gap, through a project that aimed to gather statistics across academic institutions on the number of established and postdoctoral neuroscientists, postgraduate and undergraduate students in neuroscience and neuroscience-related fields, in addition to finding out information on gender within that data. Data were gathered from over 20 institutions, and there was a clear trend that throughout the institutions that the female population was generally much higher at the undergraduate stage (over 60% in nearly all institutions analysed) and decreases as the stages go higher into academia.³ This also matches the trend we have seen within our surveys in the figures above.

1.5 There are also gaps in our own data collection that we are actively looking to address in the future. For example, the BNA does not currently collect ethnicity data on its membership, and is therefore reliant on the survey data mentioned above from our events. However, the BNA does now collect data on gender within our current membership database. Figure 1 below, which shows a selection of membership categories where members have added information on their self-identified gender, follows the other trends we have seen within neuroscience showing female underrepresentation in more senior research positions.

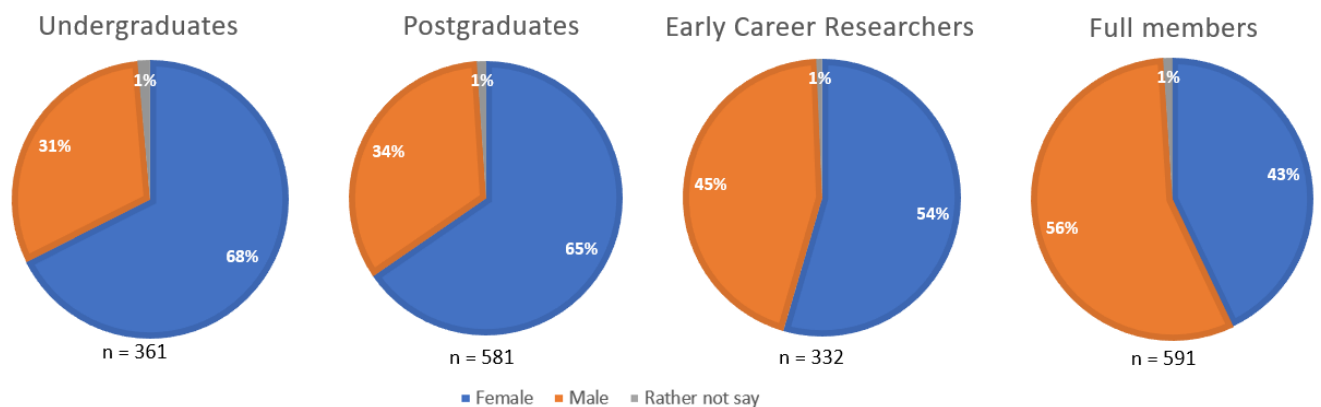


Figure 1: BNA membership gender breakdown

1.6 While we have been able to provide some indication of the trends in gender at different stages of neuroscience in academia, there are still clear gaps in data on other underrepresented groups in academia, and gaps in data in general from neuroscience roles in other sectors in the UK. We believe there is a need for more research to be conducted within specific STEM disciplines to help the sector better establish the full picture of representation and appropriately respond to the needs identified.

² APPG on Diversity and Inclusion in STEM. [The State of the Sector: Diversity and representation in STEM industries in the UK](#). Data Analysis Brief Inquiry into the STEM Workforce; 2019.

³ British Neuroscience Association. Unpublished data from 21 higher education institutes in the UK; 2018

Q3. Where are there evidenced inclusive behaviours and policies within different organisations, subsectors, sectors and countries on: recruitment and/or retention?

3.1 The BNA is a member of the Royal Society of Biology, which has with its member organisations to help inspire and promote the STEM subjects to students – for example , through its Bioscience Careers Day.⁴ We also provide a number of educational resources helping to promote neuroscience and neuroscience careers.⁵

3.2 There are a number of initiatives within neuroscience aiming to impact recruitment and retention of neuroscience researchers from underrepresented groups. Within the US for example, the NINDS OPEN strategy seeks to enhance neuroscience workforce diversity through a combination of resources and funding opportunities at the National Institutes of Health.⁶ The BNA has provided support to the development of the Women in Science Database (WISDATBASE) hosted by Royal Holloway, which aims to increase the visibility of women scientists by providing a searchable database that contains information about their expertise and research interests.⁷

3.3 An important part of making the neuroscience environment inclusive is through raising the profile of voices from underrepresented groups. We are a supporter of #BlackInNeuroWeek, when an international collaboration of neuroscientists, neuro-engineers, and science communicators help to raise this profile through celebrating, amplifying, and supporting Black voices in STEM.⁸

3.4 The BNA is seeking to address some of the issues around underrepresentation in neuroscience through its own initiatives. In January 2021, the BNA launched its new BNA Scholars programme for neuroscience students from Black, Asian, or minority ethnic backgrounds.⁹ We have created this in consultation with BNA members and others interested in improving representation, diversity and equity in neuroscience, to support students from currently under-represented ethnic groups in neuroscience and build a supportive community through networking opportunities, bursaries and mentorship. The mentorship scheme is at the core of the BNA Scholars programme after being identified as a key way to make a difference during events we have held with the neuroscience community and through talking to individuals about what they needed for their careers.

3.5 ALBA is an international network of brain scientists committed to fostering fair and diverse scientific communities through a focus on tackling implicit bias and workplace culture. The ALBA declaration, which the BNA endorsed at its launch in January 2021, is a show of support from the neuroscience community for evidence-based actions that individuals and organisations at any level can take to promote equity and inclusivity. These include specific commitments on:

- recognising and counteracting bias
- supporting allyship and advocacy
- improvements to selection, hiring and assessment
- establishing a positive workplace environment
- establishing transparent career structures

⁴ The Royal Society of Biology Bioscience Careers Day: <https://www.rsb.org.uk/careers-and-cpd/careers/bioscience-careers-day>

⁵ <https://www.bna.org.uk/resources/>

⁶ Jones-London M. NINDS Strategies for Enhancing the Diversity of Neuroscience Researchers. *Neuron*. 2020 Jul 22;107(2):212-214. doi: 10.1016/j.neuron.2020.06.033. Epub 2020 Jul 10.

⁷ <https://wisdat.royalholloway.ac.uk/>

⁸ <https://www.blackinneuro.com/>

⁹ <https://www.bna.org.uk/about/our-prizes/#bna-scholars-programme>

- promoting healthy work-life balance.¹⁰

Q5. What are the impacts of COVID-19 on equity for STEM workers (including job and income security, contract type etc.) in the short- and medium-term? Which communities, groups, organisations or sectors are being most impacted?

5.1 The RSB highlighted in a survey last year that women, people with childcare-dependent care, and those coping with COVID-19 in their families, reported significant disruption to their work and feared about progression.¹¹ We have also found within survey work conducted at the BNA that the initial COVID-19 lockdown was having a number of negative effects on the neuroscience community. From the respondents to the survey:

- around 88% have seen a negative impact on the overall progress of their research
- around 80% were concerned that restoring their research will be hindered by insufficient funding
- Nearly two-thirds were concerned about how their own mental wellbeing was being impacted
- 32% of respondents were considering leaving neuroscience research as a result of COVID-19.¹²

5.2 Some of the responses to the survey also indicated that there will be impacts on research involving underrepresented groups:

“My research involves addiction in the black community, especially migrant African community. Before all of this, it was hard to recruit and I had to travel to different cities to test. Now with Covid, many of participants who already come from low SES backgrounds may not feel safe or financially able to travel to the fMRI centre. I am trying to find a grant to support me with recruitment. But I think more importantly when there is limited research involving BAME groups. There is still no support in neuroscience for research in Non-western communities.” - Postgraduate researcher in neuroimaging

5.3 We are also concerned that some of the impacts of COVID-19 that affect whether someone continues in research are hitting those at the early stages of their research career particularly hard. Since our survey of neuroscience researchers last June, there has been some additional support provided to PhD students in their final years, but this has not been provided to all PhD students affected. There remains a need for additional resources to help ensure that particular groups are not left behind, as the impacts of COVID-19 may exacerbate existing imbalances in for underrepresented groups.

Submitted: 29/01/21

¹⁰ <http://www.alba.network/declaration>

¹¹ Bellingan L. [Coping with COVID](#). The Biologist; 2020.

¹² <https://www.bna.org.uk/mediacentre/news/covid-19-survey-results/>