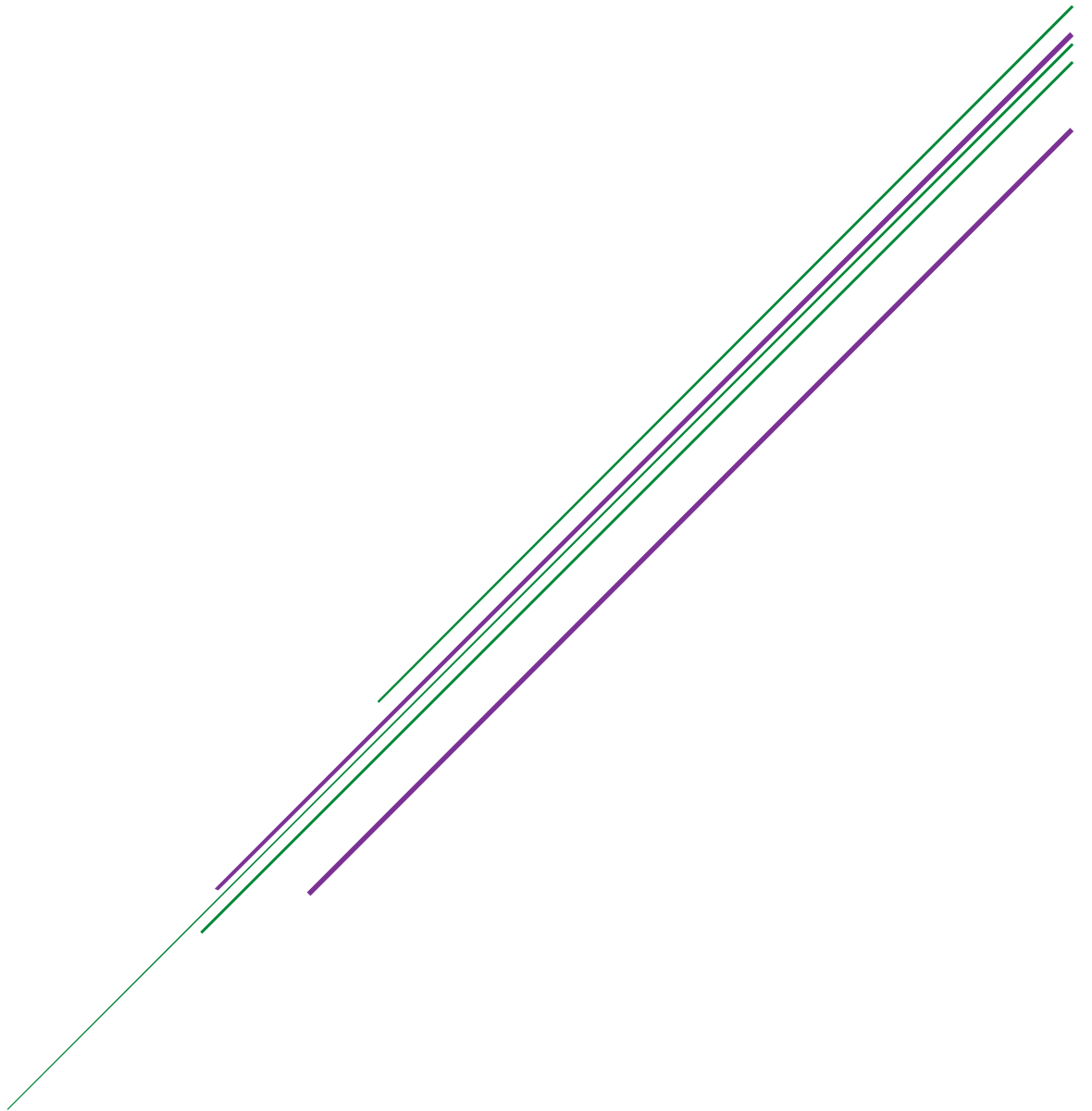


# 2022 Global Geochemistry Community Survey Report

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## Table of Contents

Executive Summary .....	2
Methodology .....	4
Number of respondents and member rate of participation .....	4
Geographic distribution of respondents .....	5
The unknown population of non-members .....	5
Representativeness and usefulness of the data .....	6
Other potential sources of bias .....	6
Sample Demographics .....	7
Membership in Geochemistry Societies .....	7
Age and Location .....	7
Racial, Ethnic, Religious and Gender Identity .....	9
Family Background .....	13
Special Considerations .....	14
Career Path .....	17
Current Status, Role, and Employer .....	17
Work History .....	23
Community Condition .....	27
Work-life Balance .....	27
Mental Health .....	31
Workplace Conditions .....	33
Harassment and Safety .....	37

## Executive Summary

- The survey was distributed by the European Association of Geochemistry (EAG) and the Geochemical Society (GS) during 2022.
- A total of 1,560 respondents were included in the analysis because they identified themselves as either geochemists or cosmochemists. About 17% of the members of EAG/GA participated in the survey.
- Due to the survey methodology, it is important to note that the results cannot be interpreted as representative of the membership of EAG, GS, or geochemists in general.
- Nevertheless, the survey results present a useful description of the survey respondents' demographics, career experiences, work-life balance, and experiences of exclusionary behaviors.
- Most respondents who started the questionnaire finished it, with 1301 of 1560 respondents answering the last question intended for everyone (Question 37 about exclusionary behaviors).

### Demographics

- About one-fourth of the survey respondents belong to neither society. 38% belong to GS only and 29% belong to EAG only. About ten percent of the survey respondents belong to both societies. **(Figure 1)**.
- About 30% of the survey respondents are in their 30's **(Figure 2)**.
- A little more than half of the respondents live in four countries: USA, UK, Germany, and France **(Figure 4)**. Almost half of the respondents speak English as their first language **(Figure 5)**.
- Almost three-fourths of the respondents identify as white **(Figure 6)**; about 60% identify as men **(Figure 7)**. Only 1% said that they do not identify with the sex they were assigned at birth **(Figure 8)**. More than 80% identify as heterosexual **(Figure 9)**. More than 60% identify with no religion, while about one-fifth identify as Christian **(Figure 10)**. Two percent said that they consider themselves to be refugees or displaced persons **(Figure 12)**.
- 46% of respondents said that their primary caregiver(s) had a high school education, and 43% said their caregivers had a degree-level qualification or higher **(Figure 11)**.
- 80% of respondents report no disability. The largest category of disability is mental health at 9% **(Figure 13)**.
- About two-fifths of respondents reported that they have no caregiving responsibilities and are not parents. About one-fourth said they are parents of school age children, and one-fifth said that they are parents of older children **(Figure 14)**.

### Career Path

- 64% of the respondents are employed in academia. Twelve percent are students. Ten percent are employed outside academia **(Figure 15)**. Of those employed in academia, 22% are full professors and 20% are research or senior research scientists **(Figure 16)**. Almost half of those employed outside academia are employed by the government, excluding funding agencies **(Figure 17)**, and almost 40% are group leaders or mid-level employees **(Figure 18)**.
- About one-third of employed respondents are on fixed-term contracts **(Figure 19)**. More than 90% of respondents have had at least one fixed-term job **(Figure 21)**.

- More than three-fourths of respondents have had international work experience (**Figure 20**). Almost half of respondents describe their career paths as linear and within one sector (**Figure 22**).
- Half of respondents have considered pursuing professional challenges outside of science (**Figure 23**).

#### Community Condition

- Respondents generally report a satisfactory work-life balance, but a significant proportion report experiencing poor health at least partially due to workplace experiences.
  - Almost 60% of respondents have a work-life balance that they are happy with, while about one-third replied that they do not (**Figure 24**). In response to an unsatisfactory balance, about one-third of respondents said either that they resigned, changed employers, or moved, or that this is currently in process (**Figure 26**).
  - 44% of respondents said that they have been seriously unwell or experienced a period of poor mental health either solely or partially due to workplace experiences (**Figure 27**).
  - Only 36% of respondents who reported (1) a disability or who (2) experienced a period of being unwell or poor mental health, or (3) attended counseling or therapy or were prescribed medication to increase mental health said that their employer responded positively to requests for accommodations (**Figure 29**).
- Most (71%) respondents reported their workplace provides proper infrastructure, such as instruments, materials, office space, and internet (**Figure 31**), and about the same percentage reported that their lab or instrument room was accessible for them (**Figure 32**).
- Twelve percent of respondents said that appropriate competitive funding has not been available to support their research and access to networking events such as conferences (**Figure 33**).
- Exclusionary behaviors seem to be widespread among these respondents. A large percentage of respondents (40%) reported that they had felt physically or emotionally unsafe, threatened, or undermined in the workplace and other professional settings (**Figure 35**). These behaviors occurred in offices, in committee meetings, in labs, in the field, and virtually (**Figure 36**) and took a variety of forms, the most common of which were improper credit for work, others taking credit for work, and undermining language (**Figure 37**). About one-fourth of respondents said that they had witnessed such behavior more than 20 times (**Figure 39**). More than half of those who reported these behaviors were dissatisfied with the outcomes (**Figure 40**).

#### Appendix

Responses to the last open-ended question that solicited additional comments are included in an Appendix.<sup>1</sup>

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<sup>1</sup> EAG-GS note: This Appendix will not be published in full as part of our survey reporting due to the potential for comments that may identify individual respondents.

## Methodology

The survey was distributed by EAG and GS in a variety of ways:

- On 16 Dec 2021, EAG sent the email to 3,300 active members and 1,582 non-active/ex-members. Follow-up e-mails were sent on 21 February 2022 and on 31 March 2022.
- EAG also included the survey in its monthly newsletters from 16 December 2021 until March 2022. The newsletter is distributed to more than 14,000 people (including members) in the community.
- The survey link was posted on EAG's and GS's social media.
- GS sent the survey link to 3,775 members and published it in its newsletter that is sent to about 8,000 contacts (including members).
- Potential respondents were asked to forward the survey link to their colleagues.
- The survey officially closed on 28 October 2022.<sup>2</sup>

### Number of respondents and member rate of participation

A total of 1,938 responses were collected. Upon entering the survey, respondents were asked whether they considered themselves to be either a geochemist or a cosmochemist. Those who did not identify as geochemists or cosmochemists were removed from the data analysis as they were not the targeted population for the project's goals. A total of 1,560 respondents considered themselves either a geochemist or a cosmochemist and are included in the analysis. This includes 1,175 EAG/GS members and 385 non-members.

Because the survey link was posted on social media and could be forwarded, the number of people who were exposed to the survey invitation is not known. Therefore, a response rate, which is calculated using the number of people known to receive the survey invitation, cannot be calculated. Rather, we are presenting a **participation rate**, similar to one described by the American Association of Public Opinion Research.<sup>3</sup> This number lets us define what percentage of the members responded to the survey. We calculated this number by the total number of respondents who self-identified as members of EAG or GS ( $n = 1,175$ ) in the survey<sup>4</sup>, dividing by the total number of EAG and GS members who were directly contacted ( $3,300 + 3,775$ )<sup>5</sup>, and then expressing the result as a percent. This calculation leads us to a **participation rate** of 16.6%.<sup>6</sup>

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<sup>2</sup> Everyone received the same link whether by e-mail, newsletter, or social media; unique links were not used. Therefore, it is not possible to tell which members responded to a member e-mail and which responded to the newsletter or social media.

<sup>3</sup> 2016. AAPOR. *Standard Definitions*. [https://www-archive.aapor.org/AAPOR\\_Main/media/publications/Standard-Definitions20169theditionfinal.pdf](https://www-archive.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf), page 49. Accessed 20 February 2023.

<sup>4</sup> Respondents who were members of both societies are included in this number but are only counted once.

<sup>5</sup> The number of people who are members of both societies is not known, so the participation rate is a conservative estimate.

<sup>6</sup> Respondents who entered the survey but were not geochemists or cosmochemists ( $n = 378$ ) are not included in this calculation and are not included in the analysis. It is possible that some members do not identify as geochemists or cosmochemists.

### Geographic distribution of respondents

In order to describe how similar the respondents were to the membership of EAG and GS, we obtained data from the societies on the geographic distributions of their memberships. Some of the respondents were members of both EAG and GS, so we compared respondents who were members of either or both societies to the combined EAG and GS memberships. We used the percentage geographic distribution of each society to calculate the estimated combined number of members from three regions: North America, Europe, and all others. Because the societies use different regional categorizations, the only comparable regions are North America and Europe.<sup>7</sup> For member respondents, we used data from the current residence question and categorized the respondents' countries using regional categorizations from the United Nations Statistics Division.<sup>8</sup> Because the respondents are not representative of any population (see below), the following table and statements are given only for a general understanding about similarities among all members, member respondents, and non-member respondents.

Region	Estimated percentage of EGA/GS members	Percentage of member respondents	Percentage of non-member respondents
Europe	42%	45%	42%
North America	34%	35%	35%
Other	25%	20%	23%

In general, member respondents are very similar in terms of geographic location to all EAG/GS members, but this does not mean that the respondents are representative of EAG/GS members because representativeness largely depends on survey methodology. Member respondents' geographic regions are also very similar to those of non-member respondents.

### The unknown population of non-members

The survey also reached a certain number of geochemists/cosmochemists who are not members of EAG or GS. The non-member respondents may have received a forwarded invitation or may have seen the survey link on EAG/GS social media. The only way for non-members to have received a survey invitation is through a connection to EAG or GS. These connections occurred through newsletter lists, social media, and in the case of EAG, by a direct e-mail request to former members. In order to have received a forwarded invitation, it is necessary to have a direct or indirect connection to an EAG or GS member. Therefore, the group of non-members responding to this survey consists of geochemists/cosmochemists with connections to EAG/GS, and not all such scientists in the world, many of whom may have no connection to EAG/GS.

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<sup>7</sup> For example, GS combines Asia and the Middle East, while EAG does not combine Asia with any other region.

<sup>8</sup> <https://unstats.un.org/unsd/methodology/m49/overview/> Accessed 20 February 2023.

### Representativeness and usefulness of the data

- All members received an e-mail requesting participation. However, some members were additionally exposed to the invitation via newsletters or social media while other members may not have seen social media requests, for example. In other words, some members were contacted more frequently than others. Because not everyone had an equal chance of being contacted to participate in the survey, we cannot say that the results are representative of EAG/GS memberships.
- Non-members were contacted via newsletters, social media and forwarding. In addition, the population of non-members is unknown, and the results are not representative of this unknown population.
- Because the results are not representative, EAG and GS must be careful with the interpretation of these results; the findings and interpretation are limited to people who actually took the survey.
- Although the results are not representative, they can still be used by EAG and GS. The experiences and demographics described within are still valuable. The findings can still be utilized to devise actionable results. One example would be in the area of harassment and discrimination, which was reported by many respondents.

### Other potential sources of bias

In general, women are more likely to respond to surveys than men are; older respondents are more likely than younger. Because the respondents are not representative, it is unknown whether these biases are present. In addition, almost two-thirds of the respondents are employed in academia, which may indicate a bias toward geochemists employed in academia. Professional societies may draw members more from academia than from outside it, so this may be an artifact of the employment type of most EAG/GS members.

The introduction to the questionnaire and the newsletter announcements did not mention any potentially controversial topics, so it is unlikely that the survey attracted respondents who wished to comment on such topics. The survey was discussed in various DEI forums, so participants in these forums may have been more likely to respond. Some respondents used demographic questions where respondents could self-describe as opportunities to complain about what they perceived as intrusive DEI-related questions. So there were respondents who probably are less sympathetic to DEI than participants in DEI forums may be. If the survey attracted people who were more sympathetic toward or had more awareness of DEI issues, this likely would affect the responses mainly to the questions about harassment and exclusionary behaviors. This is not necessarily a drawback if the societies wish to pursue steps to increase awareness of or reduce instances of exclusionary behavior.

## Sample Demographics

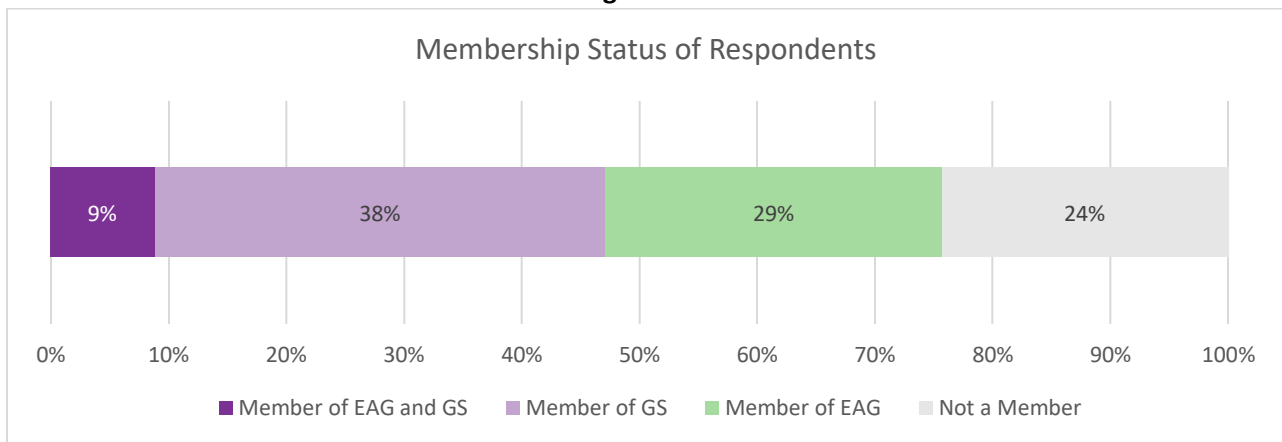
The survey presented numerous questions related to general demographics and the identity of respondents.

When respondents self-described on any question, the analysts recoded the answers, if possible, into either existing categories or created new categories.

### Membership in Geochemistry Societies

Respondents were asked to specify if they were members of the European Association of Geochemistry (EAG), the Geochemical Society (GS), or both. **Figure 1** displays the breakdown of respondents in with each membership. Nearly four respondents in ten (38%) were only members of the Geochemical Society; and, about three respondents in ten (29%) were only members of the European Association of Geochemistry. Only about one respondent in ten (9%) were members of both societies. A quarter of respondents (24%) belonged to neither society.

**Figure 1**

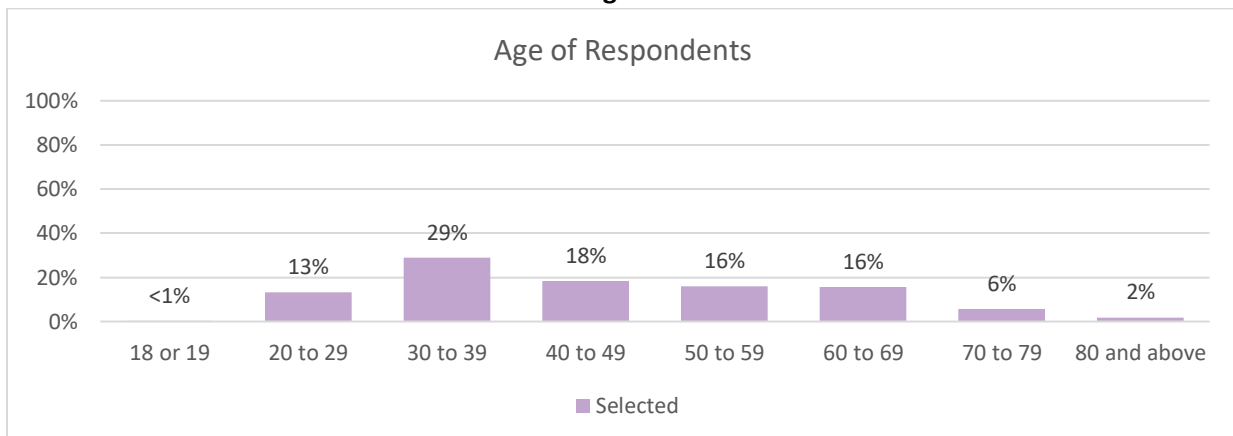


A total of 1,553 respondents provided an answer to this question.

### Age and Location

Respondents were asked their age. **Figure 2** shows the breakdown of responses. The largest group of respondents were those 30 to 39 years old (29%). The distribution of ages is relatively flat, with 10-20% of respondents reporting they were 20 to 29, 40 to 49, 50 to 59, and 60 to 69 years old.

**Figure 2**





A total of 1,559 respondents provided an answer to this question. Less than 1% of respondents preferred not to respond to this question.

The next series of questions asked respondents about their backgrounds, including the country they were born in, the country they currently work, and the language they first learned. **Figure 3**, **Figure 4**, and **Figure 5** detail the fifteen most listed country of origin, current country of residence, and first language.

**Figure 3**

15 Most Listed Countries of Origin	
• United States of America - 417	• Australia – 40
• United Kingdom - 153	• Spain - 39
• Germany - 139	• Switzerland - 32
• France - 108	• Japan - 30
• India - 62	• Russian Federation - 29
• Canada - 57	• Netherlands - 24
• China - 55	• Brazil - 22
• Italy - 48	

A total of 1,544 respondents provided an answer to this question. Respondents selected a total of 86 unique countries.

**Figure 4**

15 Most Listed Countries of Residence	
• United States of America - 460	• China - 39
• United Kingdom - 146	• Italy - 37
• Germany - 121	• Japan - 31
• France - 105	• Spain - 27
• Switzerland - 79	• Netherlands - 22
• Canada - 72	• Brazil - 20
• Australia - 62	• Russian Federation - 18
• India - 43	

A total of 1,537 respondents provided an answer to this question. Respondents selected a total of 73 unique countries.

**Figure 5**

15 Most Listed First Languages	
• English - 730	• Russian - 30
• German - 159	• Dutch - 23
• French - 137	• Hindi - 21
• Spanish - 69	• Hebrew - 18
• Chinese (Mandarin) - 65	• Other - 18
• Italian - 52	• Bengali - 14
• Portuguese - 41	• Greek - 14
• Japanese - 31	

A total of 1,537 respondents provided an answer to this question. Respondents selected a total of 49 unique languages.

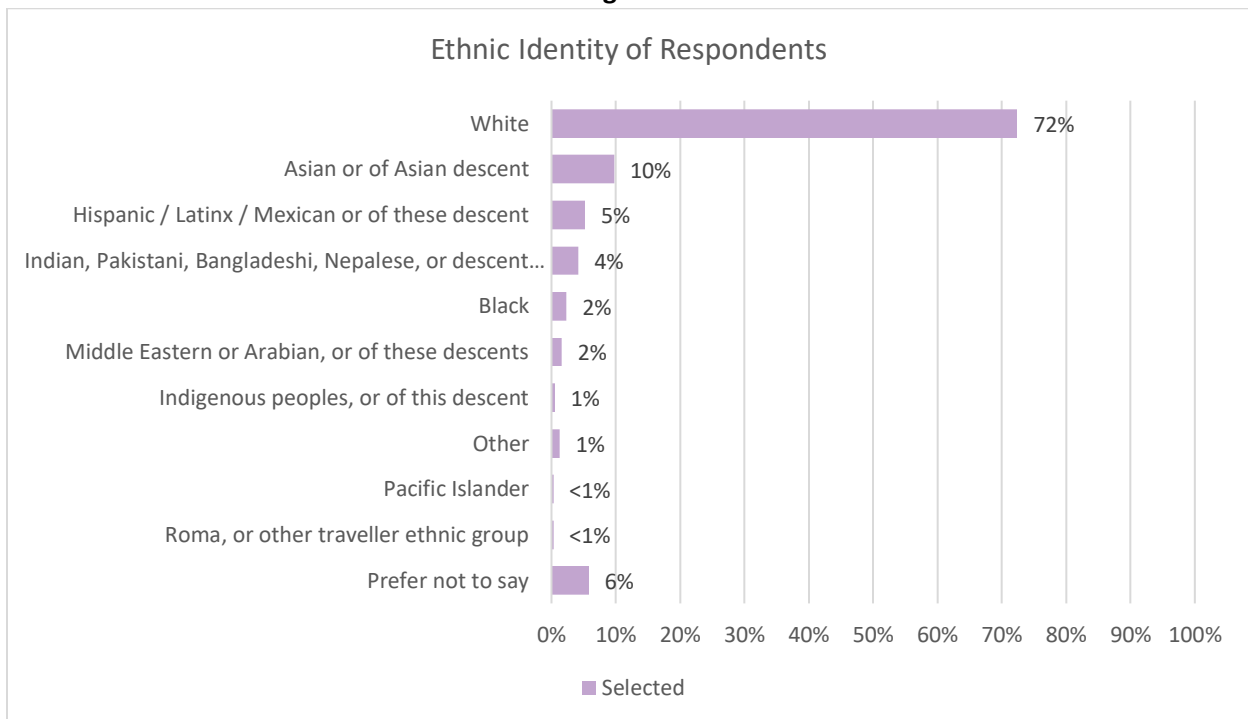
## Racial, Ethnic, Religious and Gender Identity

Respondents were asked what they considered their ethnic identity. Respondents could select any or all of the following options:

- Asian or of Asian descent (excluding Indian, Pakistani, Bangladeshi, Nepalese, Pacific islanders)
- Black
- Hispanic / Latinx / Mexican or of these descent
- Indian, Pakistani, Bangladeshi, Nepalese, or descent thereof
- Indigenous peoples, or of this descent
- Middle Eastern or Arabian, or of these descents
- Pacific Islander
- Roma, or other traveller ethnic group
- White
- Other
- Prefer not to say

Respondents could also choose to self-describe in a text box<sup>9</sup> if they preferred or did not find the above options applicable to them. **Figure 6** displays the responses.

**Figure 6**



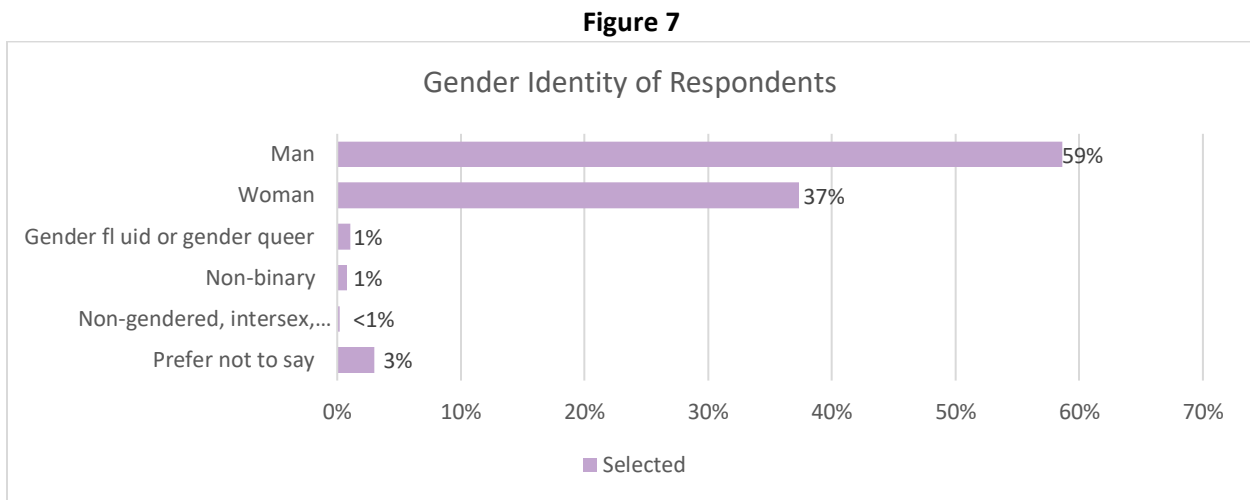
A total of 1,543 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

<sup>9</sup> When respondents self-described on any question, the analysts recoded the answers, if possible, into either existing categories or created new categories.

Respondents were asked what they considered their gender identity. Respondents could select any or all of the following options:

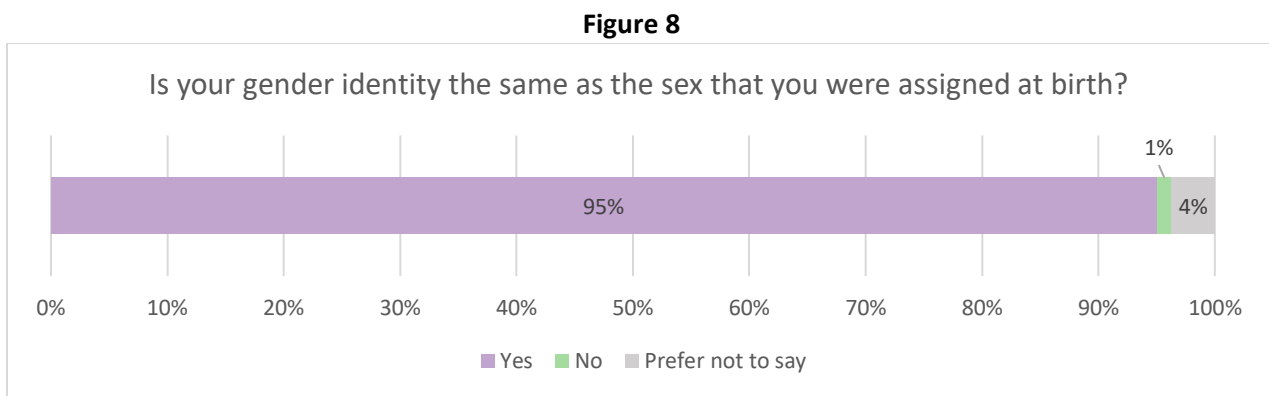
- Man
- Woman
- Non-binary
- Gender fluid or gender queer
- Non-gendered, intersex, non-conforming, or demi-gender
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 7** displays the responses.



A total of 1,423 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

Respondents were asked to indicate if their gender identity was the same as the sex that they were assigned at birth. **Figure 8** displays the responses. The vast majority (95%) indicated that they were the same gender identity as the sex they were assigned at birth. More respondents preferred not to respond to the question (4%) compared to the number of respondents who indicated they were a different gender identity than what was assigned to them (1%).



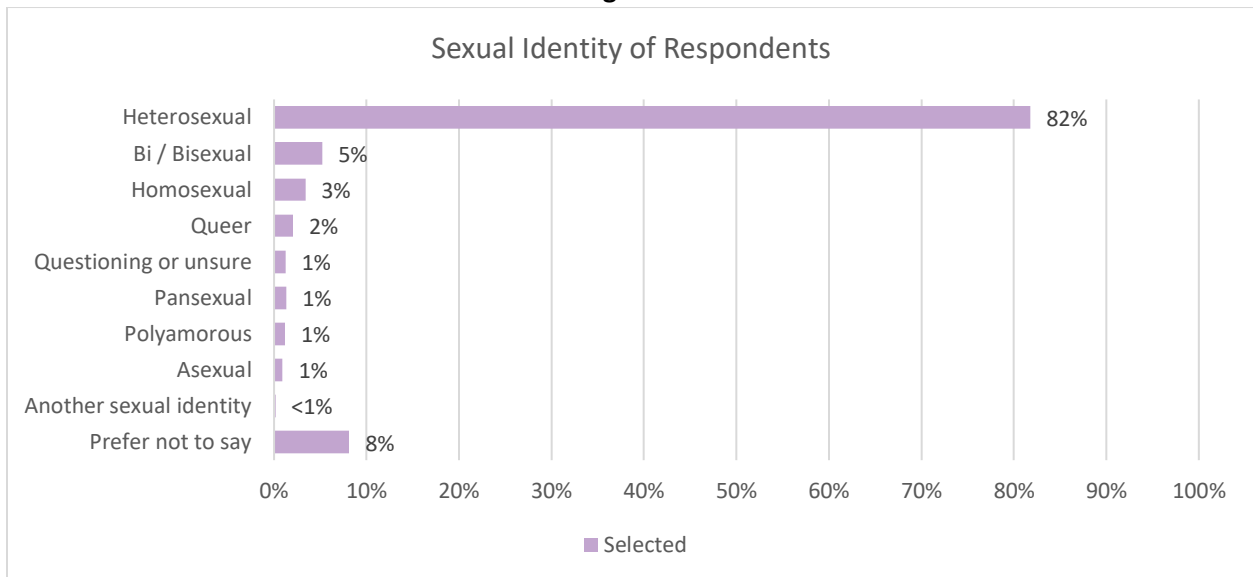
A total of 1,426 respondents provided an answer to this question.

Respondents were asked what they considered their sexual identity. Respondents could select any or all of the following options:

- Heterosexual (straight)
- Homosexual (lesbian, gay)
- Bi / Bisexual
- Pansexual
- Questioning or unsure
- Asexual
- Polyamorous
- Queer
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 9** displays the responses.

**Figure 9**



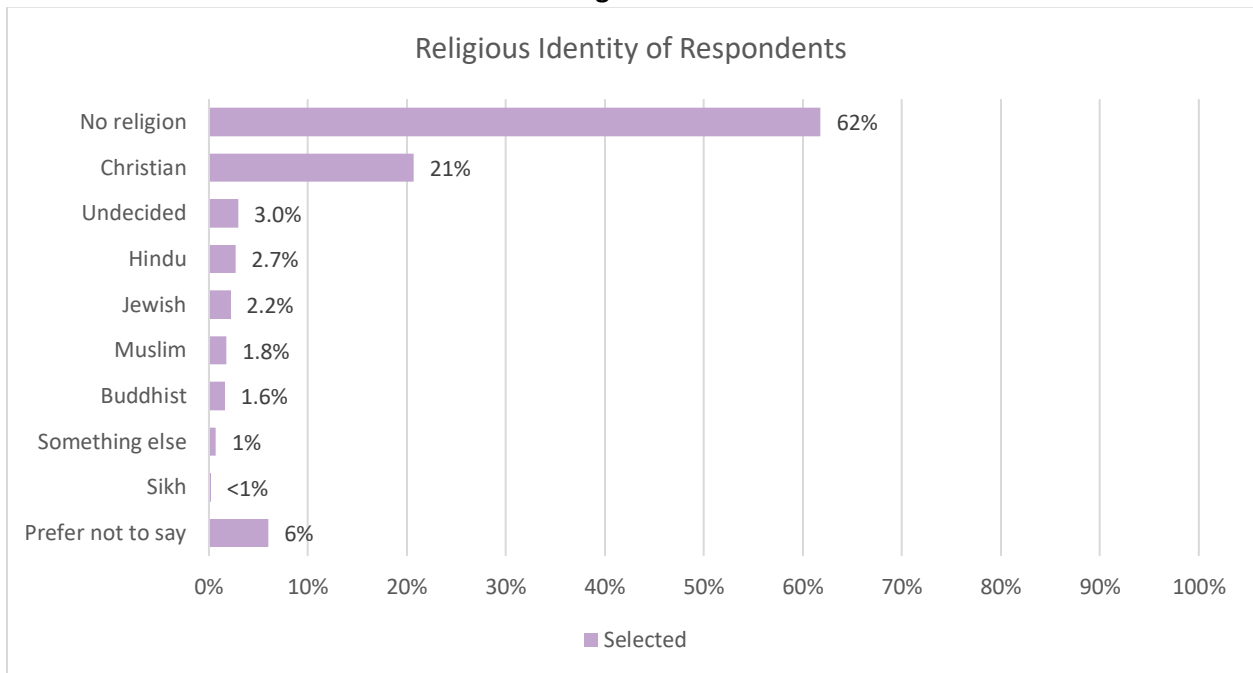
A total of 1,414 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

Respondents were asked what religion or faith they identified with. Respondents could select any or all of the following options:

- No religion
- Undecided
- Buddhist
- Muslim
- Jewish
- Sikh
- Hindu
- Christian
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 10** displays the responses.

**Figure 10**



A total of 1413 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

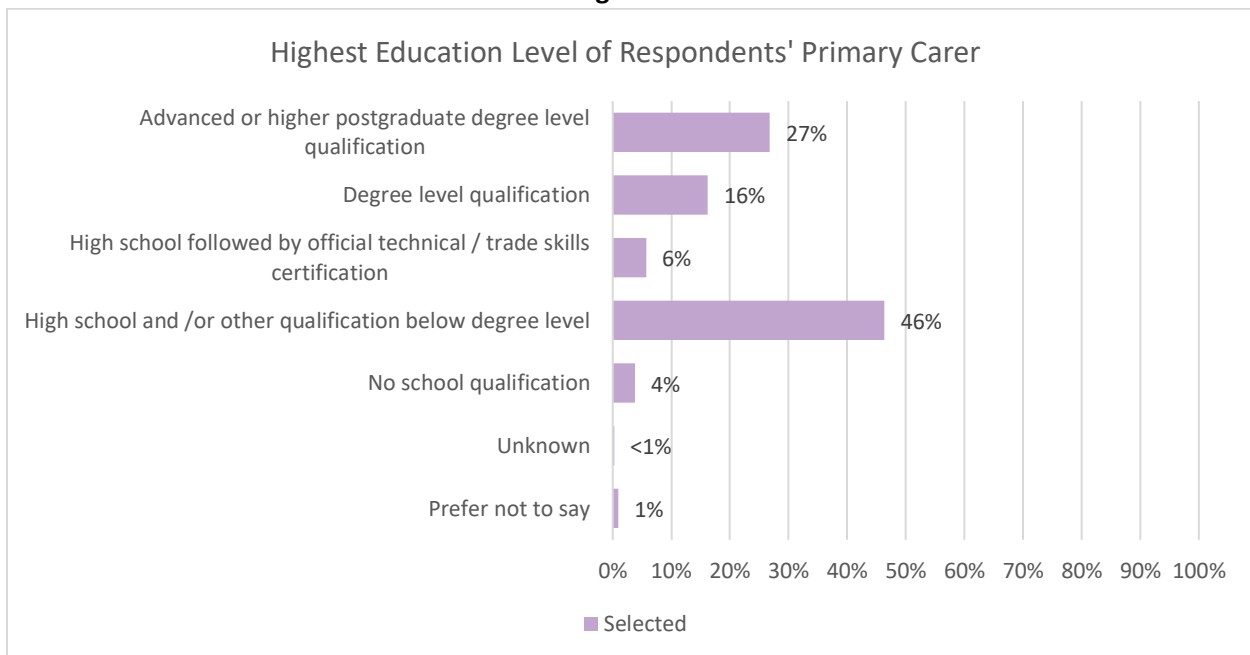
## Family Background

Respondents were asked to identify the highest level of education, skills training, or academic qualification achieved by their primary caregiver(s). The respondents were able to choose any or all of the items listed; however, we used only the highest listed option in the analysis. The following options were presented to the respondents:

- No school qualification
- High school and /or other qualification below degree level
- High school followed by official technical / trade skills certification (e.g., plumbing, carpentry, stone mason, horticulture, etc.)
- Degree level qualification
- Advanced or higher postgraduate degree level qualification (e.g., MSc, MA, MBA, MD, PhD etc.)
- Unknown
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 11** displays the responses.

**Figure 11**

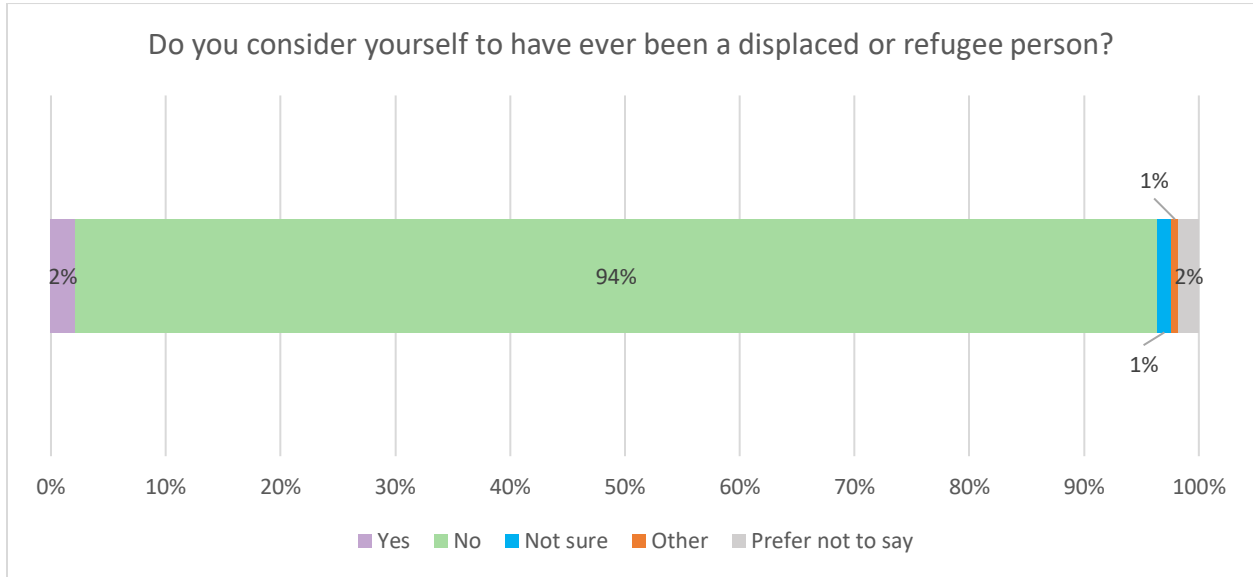


Respondents were asked to describe their socioeconomic backgrounds in a text box, relative to the living standards of their country. The questionnaire provided several examples to respondents including, “impoverished”, “working class”, “middle class”, “wealthy”, and “aristocracy.” Respondents used a text box to write in their answers rather than choosing from a list. We utilized a hierarchy to classify these responses and then manually reclassified where needed. The majority of respondents indicated that they came from middle class backgrounds; the next largest group indicated they were from working class backgrounds. A total of 1,307 respondents provided a response to this question.

### Special Considerations

Respondents were asked if they considered themselves to have ever been a displaced or refugee person. **Figure 12** displays the responses. The vast majority (94%) indicated they never considered themselves to be a displaced or refugee person.

**Figure 12**



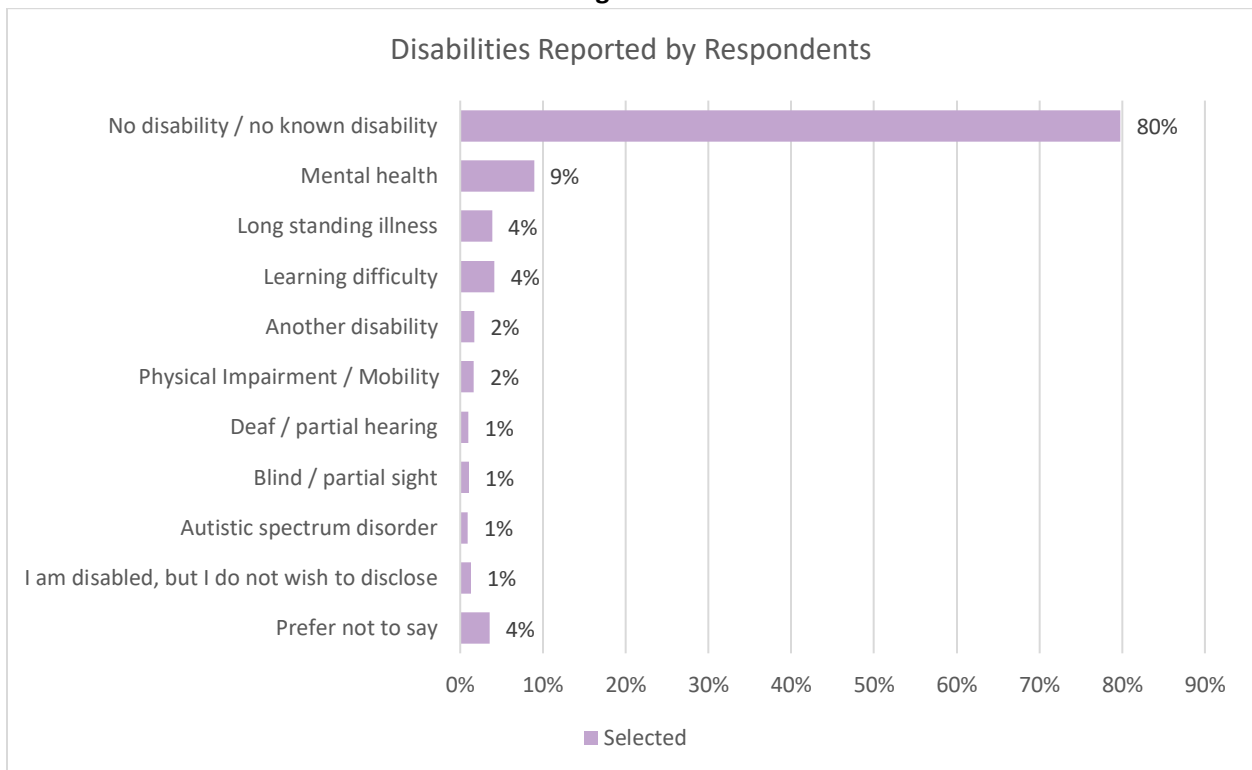
A total of 1,416 respondents provided an answer to this question.

Respondents were asked to identify any disabilities that they had. Respondents could select any or all of the following options:

- No disability / no known disability
- I am disabled, but I do not wish to disclose my specific disability / disabilities
- Autistic spectrum disorder: A diagnosed social / communication impairment
- Blind / partial sight: Blind or a serious visual impairment uncorrected by glasses
- Deaf / partial hearing: Deaf or a serious hearing impairment
- Long standing illness: A long-standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
- Mental health: A mental health condition, such as depression, anxiety disorder, or schizophrenia
- Learning difficulty: A specific learning difficulty such as dyslexia, dyspraxia or AD(H)D
- Physical Impairment / Mobility: A physical impairment or mobility issues, such as difficulty using arms or using a wheelchair or crutches
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 13** displays the responses.

**Figure 13**



A total of 1,400 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

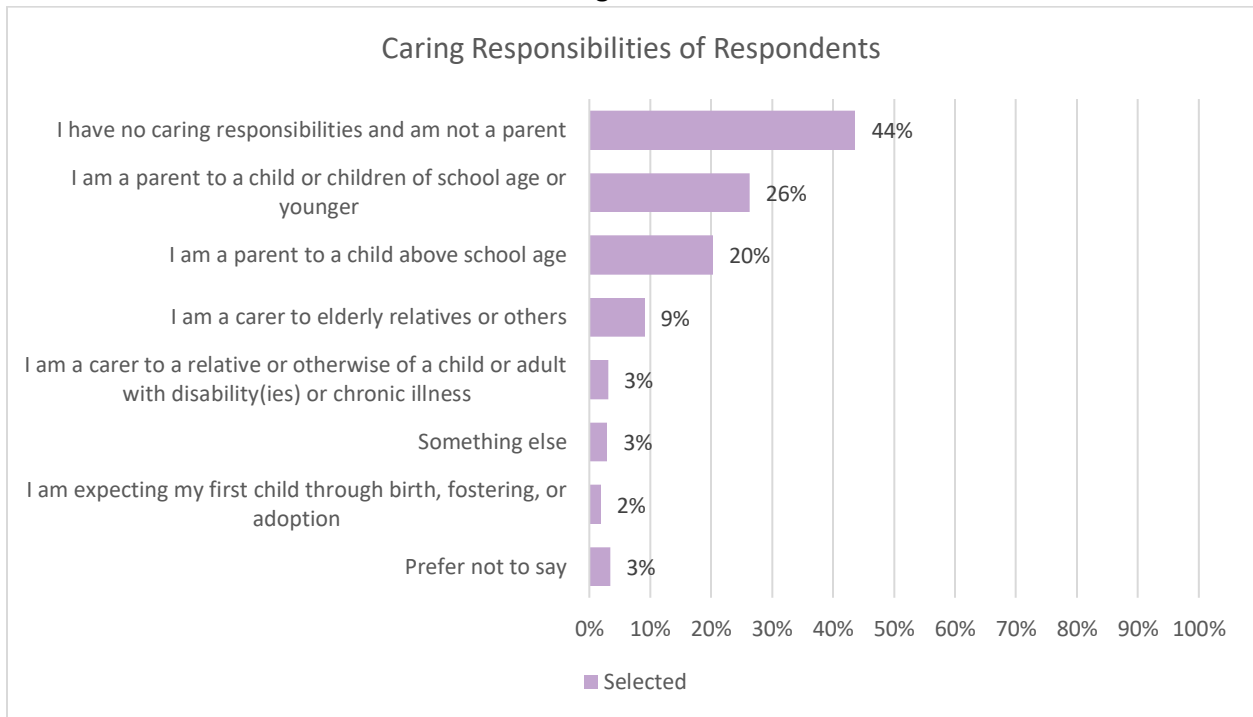


Respondents were also asked about their caregiving responsibilities. They could select any or all of the following options:

- I have no caring responsibilities and am not a parent
- I am expecting my first child through birth, fostering, or adoption
- I am a parent to a child or children of school age or younger
- I am a parent to a child above school age
- I am a carer to a relative or otherwise of a child or adult with disability(ies) or chronic illness
- I am a carer to elderly relatives or others
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 14** displays the answers of the respondents.

**Figure 14**



A total of 1,398 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

## Career Path

The career path section of the survey presented respondents with series of items related to their current employment, role, job history, and career pathway.

### Current Status, Role, and Employer

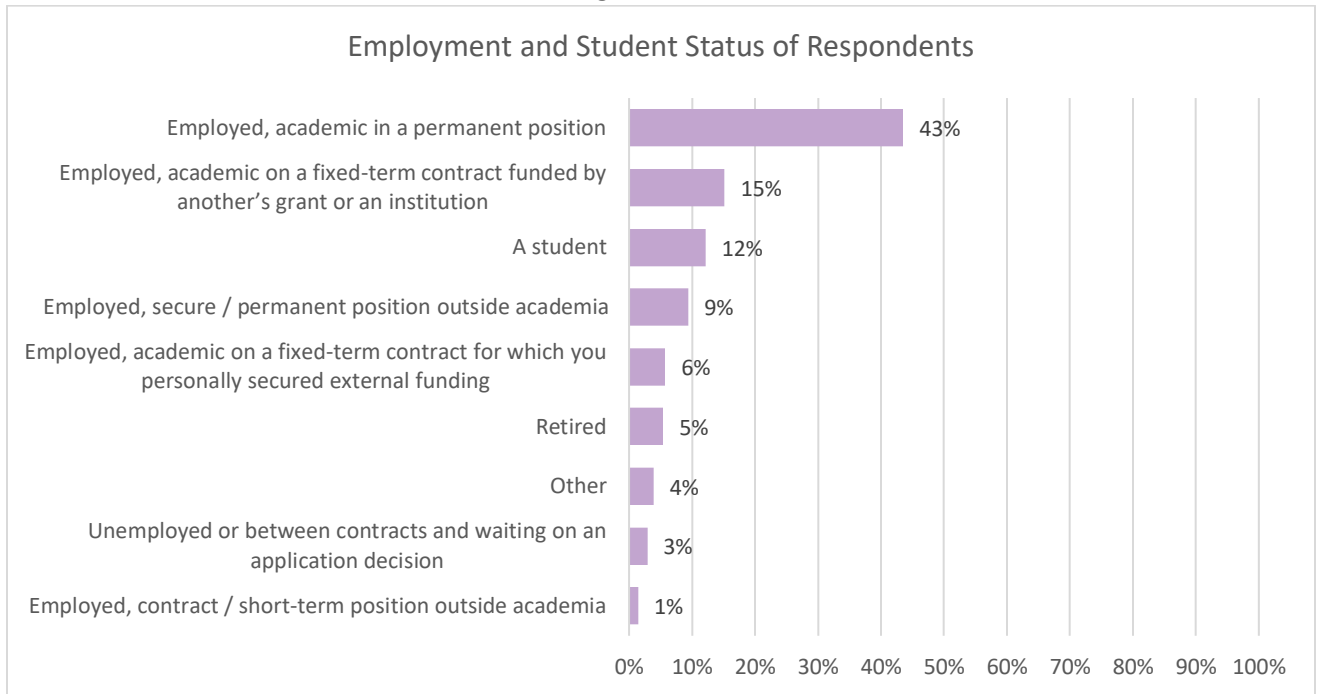
Respondents were asked to indicate their current employment or student status. They were presented with the following potential options:

- A student
- Employed, secure / permanent position outside academia
- Employed, contract / short-term position outside academia
- Employed, academic in a permanent position
- Employed, academic on a fixed-term contract funded by another's grant or an institution
- Employed, academic on a fixed-term contract for which you personally secured external funding
- Unemployed or between contracts and waiting on an application decision
- Other
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. Retired individuals often self-described their status on this and other questions. We used their write-in responses from several questions to identify retired respondents, and they are reclassified as such here.

**Figure 15** shows a full breakdown of the roles selected. The greatest number of respondents indicated that they were employed in academia, in a permanent position (43%). The next largest group was those who were employed in academia in a fixed-term contract funded by another's grant or institution (15%). A large majority of respondents were in some way involved in academia - either employed permanently or on fixed-term contract in academia (a total of 64%) or as a student (12%). Only slightly more than two in ten respondents (23%) were either working outside of academia, unemployed or in between contracts, retired, or in another position.

**Figure 15**



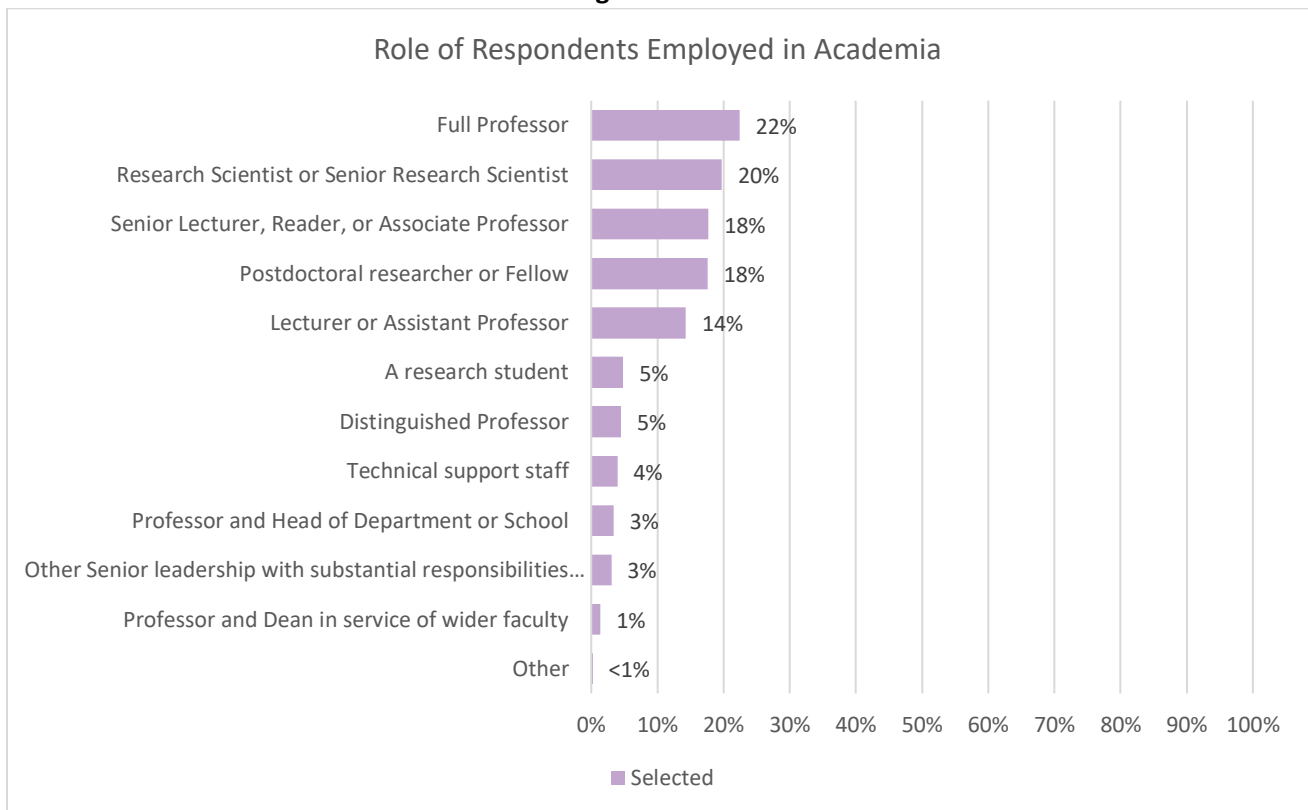
A total of 1,550 respondents provided an answer to this question. Less than 1% of respondents preferred not to respond to this question.

Respondents who were employed in academia were asked what their role or roles were at their institution. Respondents could select any or all of the following options:

- A research student
- Technical support staff
- Postdoctoral researcher or Fellow
- Research Scientist or Senior Research Scientist
- Lecturer or Assistant Professor
- Senior Lecturer, Reader, or Associate Professor
- Full Professor
- Distinguished Professor
- Professor and Head of Department or School
- Professor and Dean in service of wider faculty
- Other Senior leadership with substantial responsibilities and influence in your institution
- Prefer not to say

**Figure 16** shows the roles the respondents selected. The largest percentage of respondents indicated that they were full professors (22%), followed by research scientists (20%), senior lecturers, readers or associate professors (18%), or postdoctoral researchers or fellows (18%).

**Figure 16**



A total of 887 respondents provided an answer to this question; only those respondents employed in academia are included in this item. The total percentage does not add to 100% because respondents could select more than one option. Less than 1% of respondents preferred not to respond to this question.

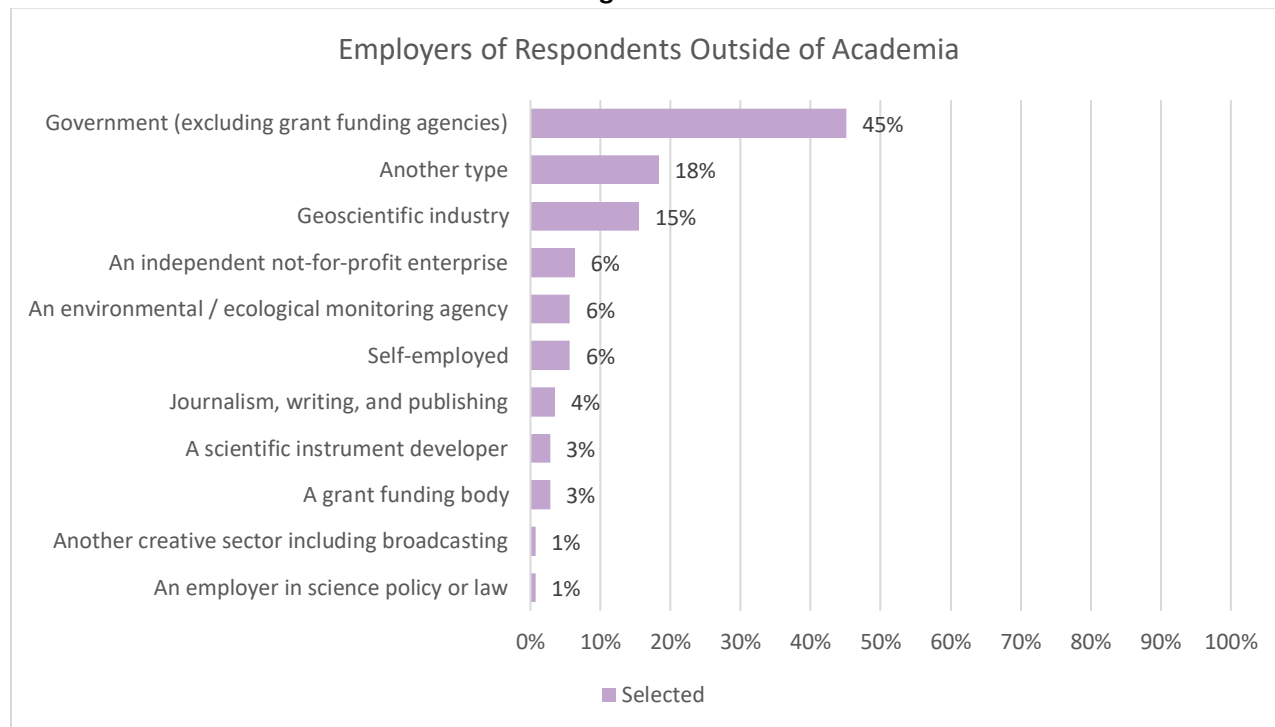
For those not employed in academia, respondents were asked to describe their employer and their role(s) at their current institution. For employers, respondents could select any or all of the following:

- Self-Employed
- Government (excluding grant funding agencies)
- A grant funding body
- A scientific instrument developer
- An independent not-for-profit enterprise
- An environmental / ecological monitoring agency
- An employer in science policy or law
- Geoscientific industry
- Journalism, writing, and publishing
- Another creative sector including broadcasting
- Other
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 17** shows the employers selected by respondents employed outside of academia.

Slightly less than half of the respondents indicated that they were employed by in government, excluding grant funding agencies (45%). The next largest groups indicated they were employed by another non-academic institution (18%) and the geoscientific industry (15%).

**Figure 17**



A total of 142 respondents provided an answer to this question; only those respondents employed in outside of academia are included in this item. The total percentage does not add to 100% because respondents could select more than one option.

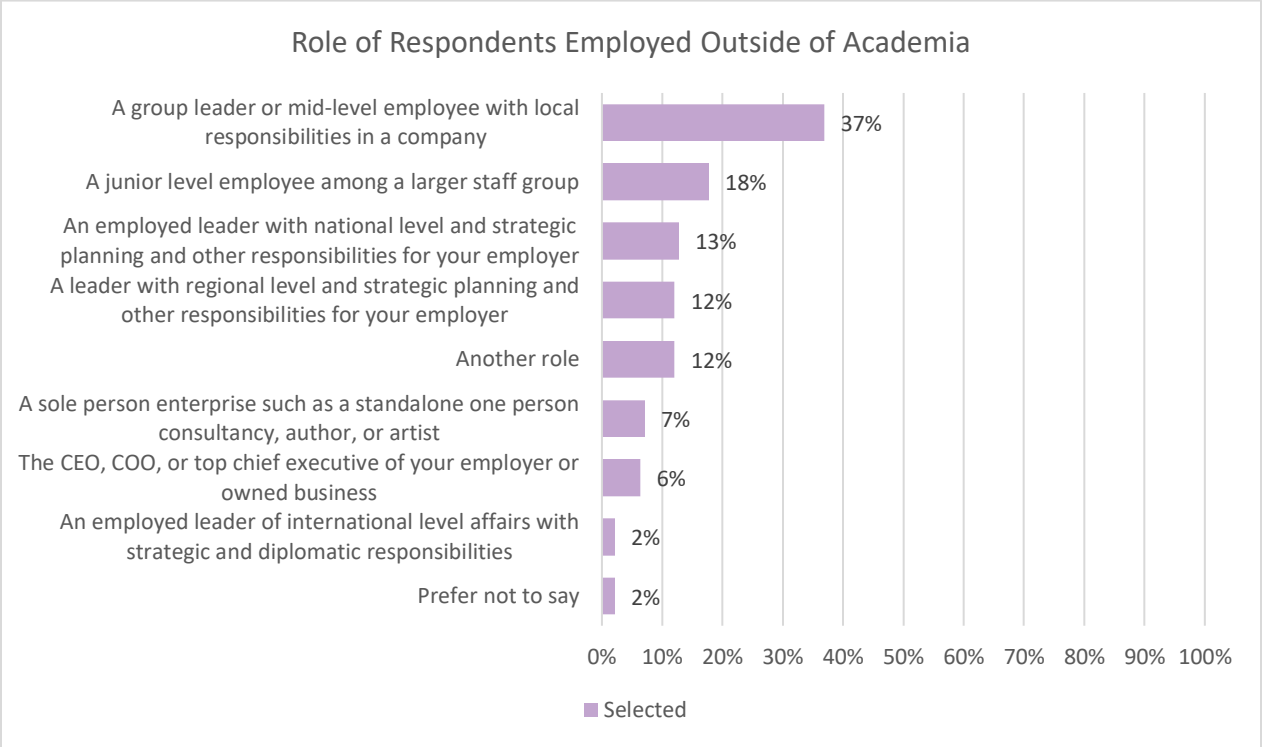
When those employed outside academia were asked to describe their role or roles at their current employer respondents could select any or all of the following options that described them:

- A sole person enterprise such as a standalone one person consultancy, author, or artist
- A junior level employee among a larger staff group
- A group leader or mid-level employee with local responsibilities in a company
- A leader with regional level and strategic planning and other responsibilities for your employer
- An employed leader with national level and strategic planning and other responsibilities for your employer
- An employed leader of international level affairs with strategic and diplomatic responsibilities
- The CEO, COO, or top chief executive of your employer or owned business
- Other
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred or did not find the above options applicable to them. **Figure 18** shows the roles selected by respondents employed outside of academia.

The largest group of respondents were group leaders or mid-level employees with local responsibilities in a company (37%). There were more than twice as many of these group leaders or mid-level employees than the next largest group, junior level employees among a larger staff group (18%).

**Figure 18**



A total of 141 respondents provided an answer to this question; only those respondents employed outside of academia are included in this item. The total percentage does not add to 100% because respondents could select more than one option.

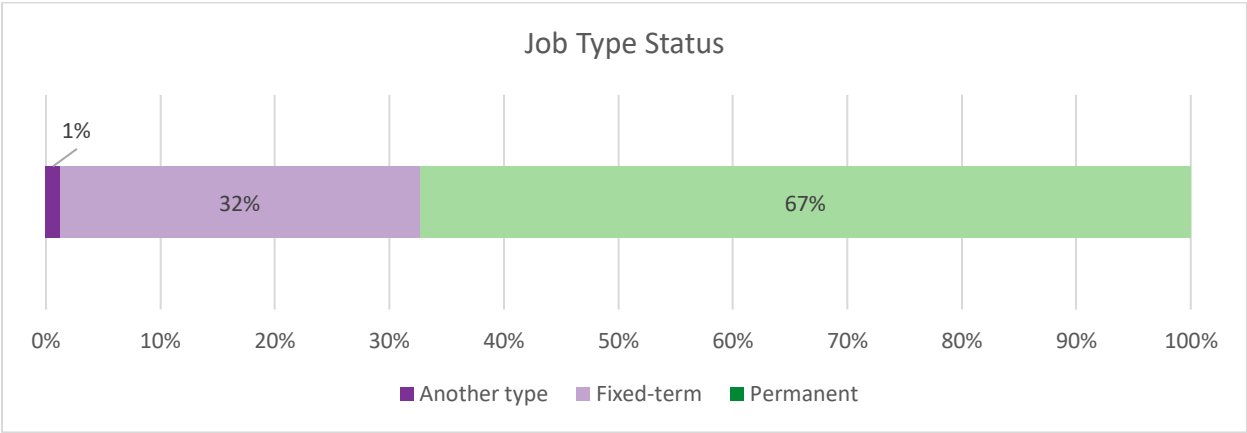
Employed respondents were asked whether their job was permanent or a fixed-term contract. Respondents were asked to choose one of the following options:

- Permanent
- Fixed-term
- Prefer not to say

Respondents could also choose to self-describe in a text box if they preferred.

About two-thirds (67%) indicated that their job type was permanent. Nearly all of the remainder indicated that their job was on a fixed term (32%). About 1% of respondents indicated they had a different job type status. **Figure 19** shows the breakdown of responses

**Figure 19**



A total of 1,078 respondents provided an answer to this question. Respondents who are students or retired persons are not included in this item. Less than 1% of respondents preferred not to respond to this question.

## Work History

Respondents were asked if their work history included international experience. Of those who responded to the question, more than three-quarters (77%) indicated that their work history included international experience. **Figure 20** displays the responses.

**Figure 20**



A total of 1,207 respondents provided an answer to this question; respondents who are students are not included in this item. Less than 1% of respondents preferred not to respond to this question.



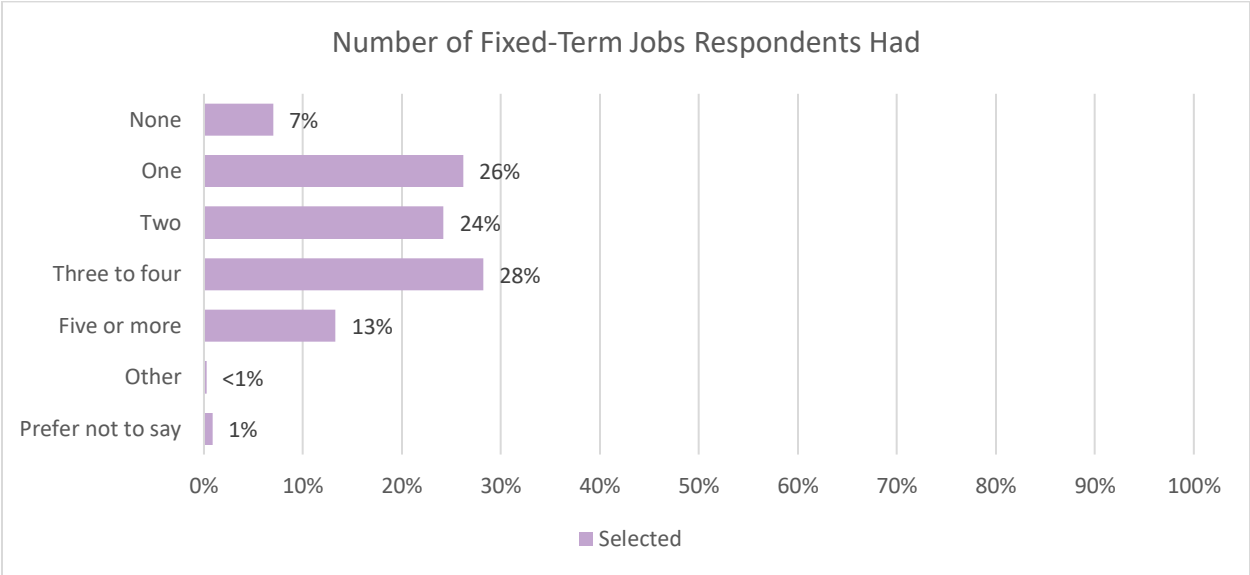
Respondents were asked how many fixed-term jobs they had; respondents were able to choose from the following options:

- None
- One
- Two
- Three to four
- Five or more
- Prefer not to say.

Respondents could also choose to indicate how many jobs they had in a text box if they preferred.

Nearly equal proportions of respondents (24%-28% each) reported they had worked at either one (26%), two (24%), or three to four fixed term jobs (28%). **Figure 21** displays the responses.

**Figure 21**



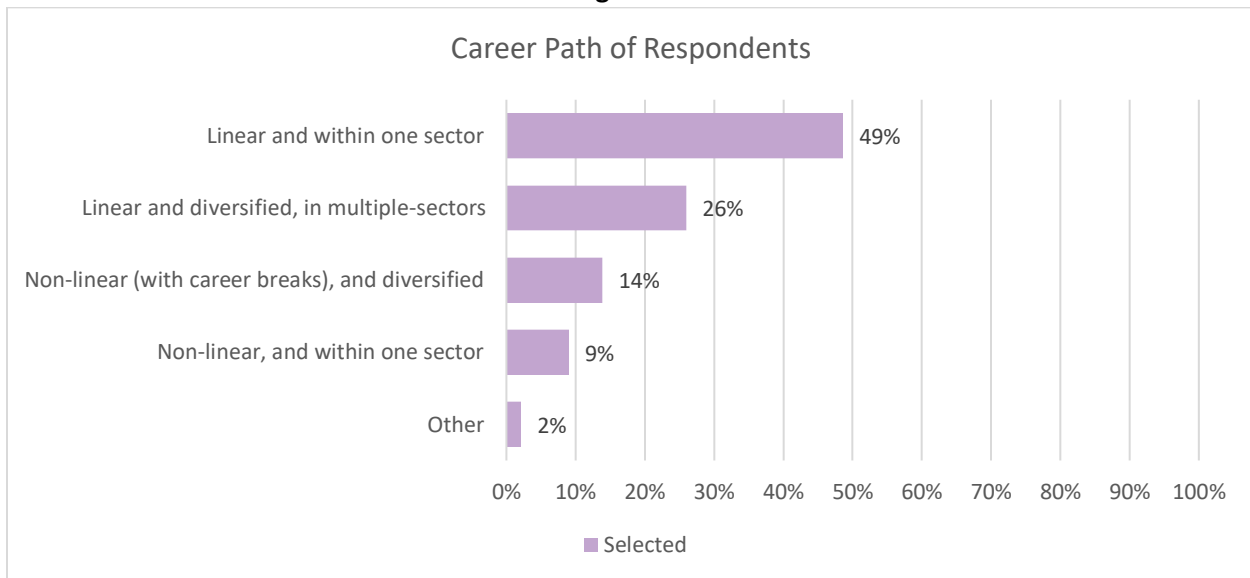
A total of 1,173 respondents provided an answer to this question; respondents who are students are not included in this item.

Respondents were asked to describe their career paths to date. They presented with the following options to choose from:

- Linear and within one sector
- Linear and diversified, in multiple-sectors
- Non-linear (where career breaks could have been for a variety of reasons), and within one sector
- Non-linear (with career breaks), and diversified
- Other
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. **Figure 22** displays the career paths of the respondents to date. Nearly half (49%) of respondents indicated that their career paths were linear and within one sector; an additional quarter of respondents (26%) indicated that their career was linear, but within multiple sectors.

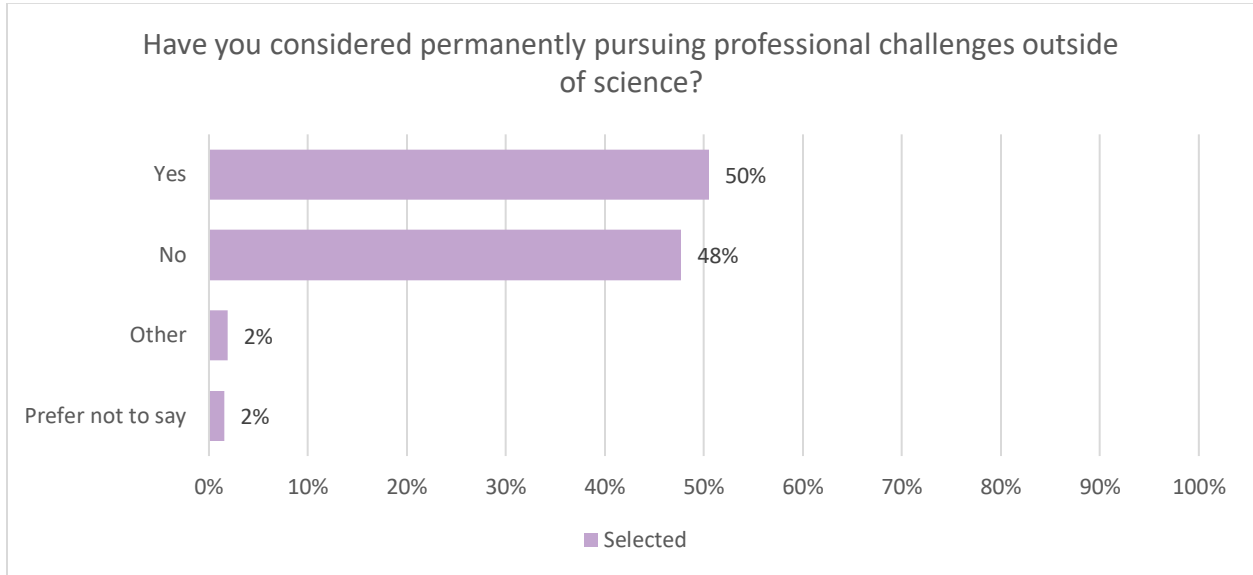
**Figure 22**



A total of 1,218 respondents provided an answer to this question; respondents who are students are not included in this item. Less than 1% of respondents preferred not to respond to this question.

Respondents were asked if they had considered permanently pursuing professional challenges outside of science. **Figure 23** shows the breakdown of responses. Roughly equal percentages of respondents indicated Yes or No (50% to 49%, respectively); however, about 2% of respondents selected “other.”

**Figure 23**



A total of 1,218 respondents provided an answer to this question; respondents who are students are not included in this item. The total percentage does not add to 100% because respondents could select more than one option.

## Community Condition

The questionnaire explored several topics related to work-life balance, mental health, workplace conditions, and harassment and safety.

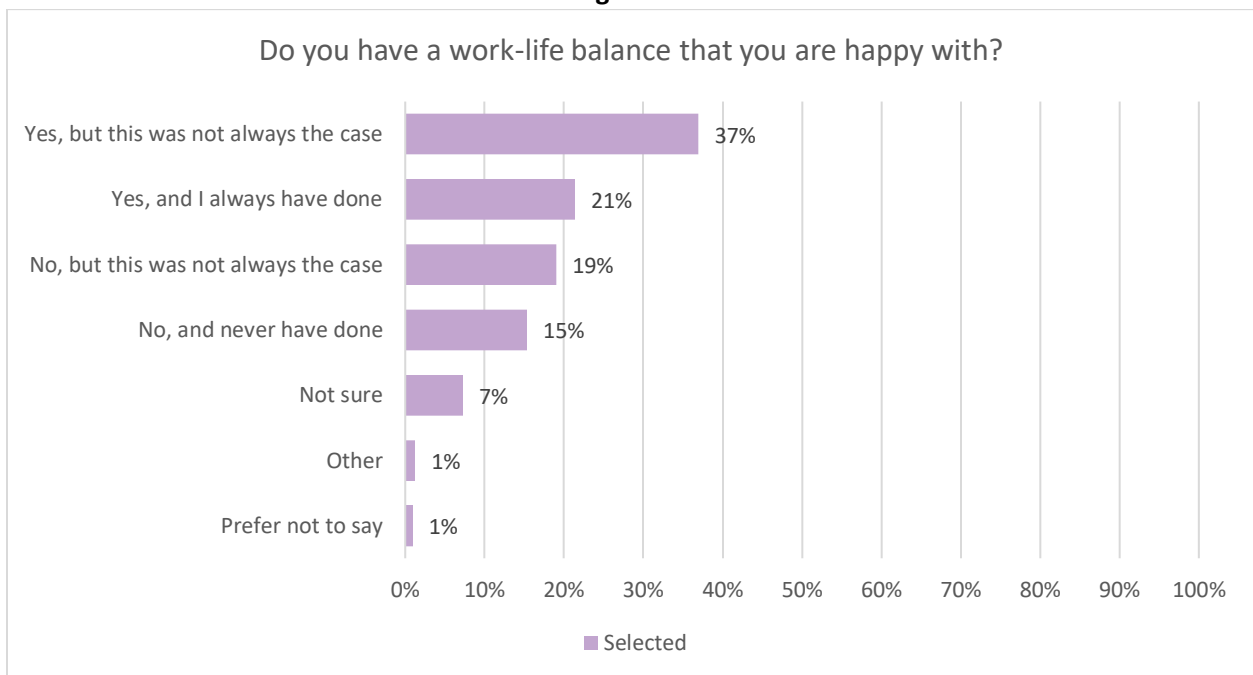
### Work-life Balance

The questionnaire presented respondents with several questions about their work-life balance. The first in this series asked respondents to report whether they had a work-life balance that they were happy with. Respondents could select any or all of the following options:

- Yes, and I always have done
- Yes, but this was not always the case
- No, and never have done
- No, but this was not always the case
- Not sure
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. **Figure 24** displays the respondents' answers. The largest group of respondents (37%) indicated that they are currently happy with their work-life balance, but it was not always the case.

**Figure 24**



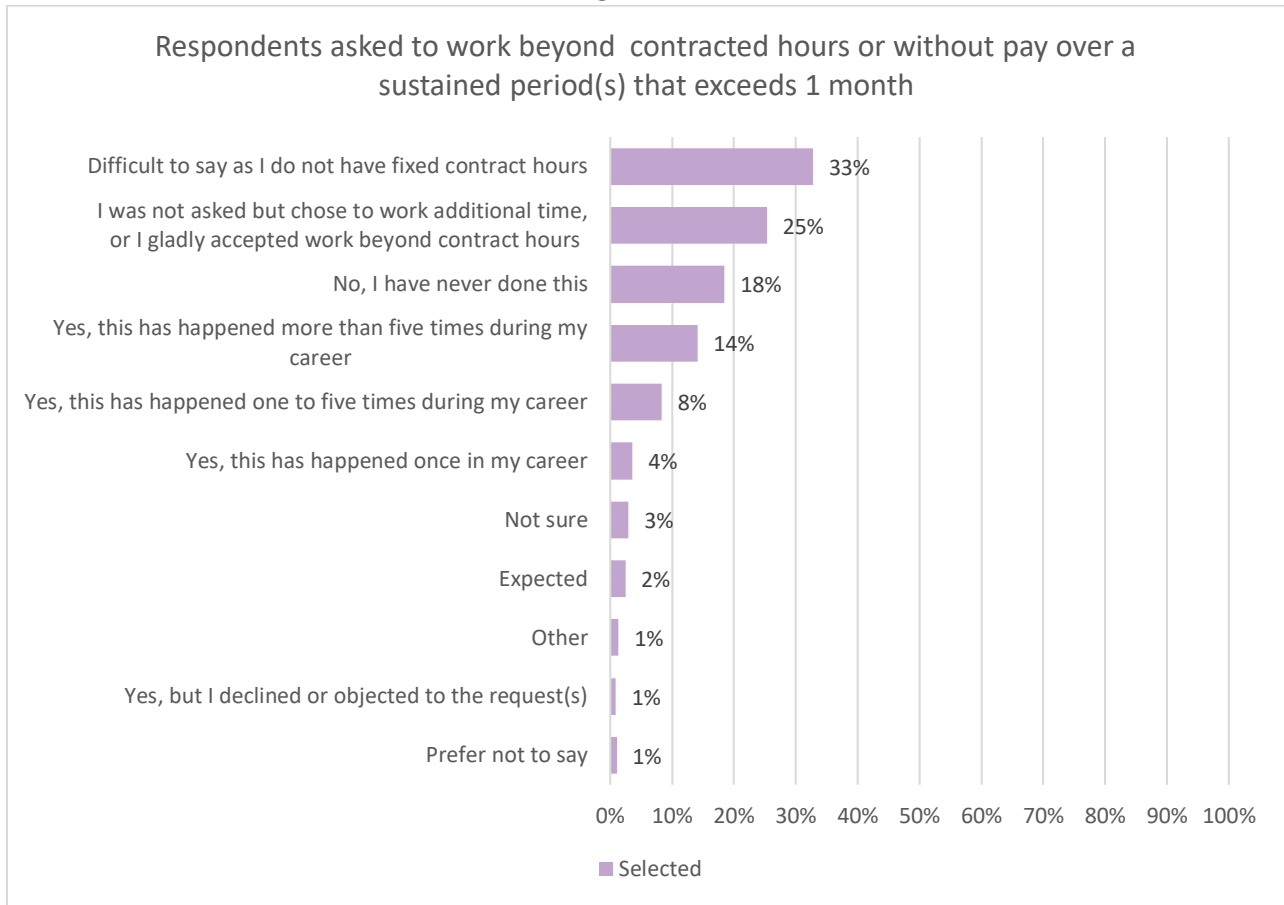
A total of 1,277 respondents provided an answer to this question; respondents who identified as retired are not included in this item. The total percentage does not add to 100% because respondents could select more than one option.

Next, respondents were asked to indicate if they were asked to work beyond their contracted hours or without pay for periods lasting more than one month. Respondents could select any or all of the following options:

- Difficult to say as I do not have fixed contract hours
- Yes, but I declined or objected to the request(s)
- Yes, this has happened once in my career
- Yes, this has happened one to five times during my career
- Yes, this has happened more than five times during my career
- I was not asked but chose to work additional time, or I gladly accepted work beyond contract hours
- No, I have never done this
- Not sure
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. **Figure 25** displays the responses. The largest group of respondents (33%) did not have fixed contract hours; one quarter of respondents (25%) indicated they were not asked to or gladly accepted additional work beyond their contracted hours or without pay for longer than a month. We reclassified a small group of respondents into an “expected” category if they indicated that working beyond their contracted hours or working without pay was an expected part of their contract.

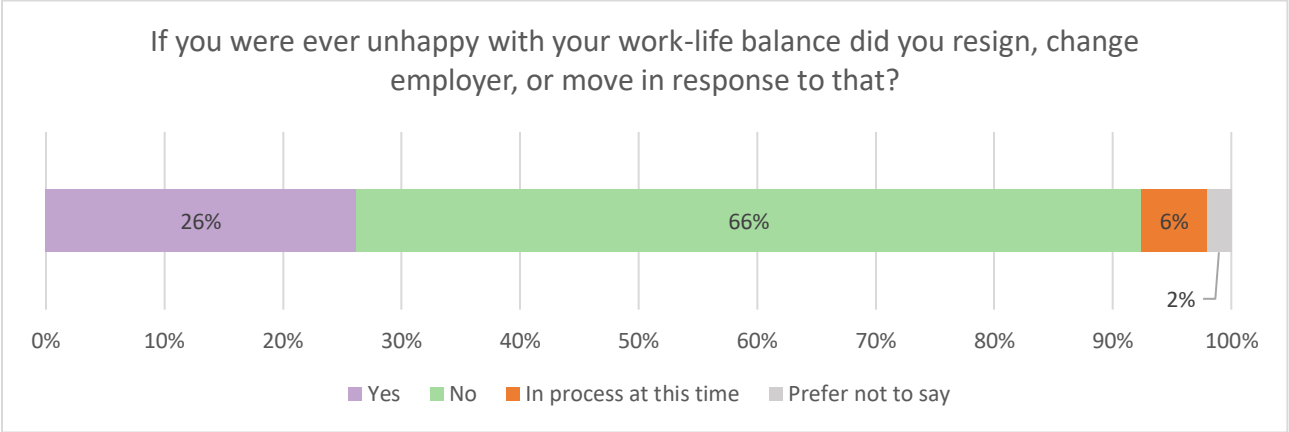
**Figure 25**



A total of 1,355 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

Respondents that indicated they were unhappy with their work-life balance at some point, were asked if they resigned, changed employers, or moved in response. **Figure 26** displays the breakdown of responses. More than half of respondents indicated that they did not resign, change employers, or move if they were unhappy with their work-life balance. Two respondents in ten (20%) indicated they had resigned, changed employers, or moved in response to being unhappy.

**Figure 26**



A total of 896 respondents provided an answer to this question. Respondents who reported they were happy with their work life balance and always had been are not included in this item.

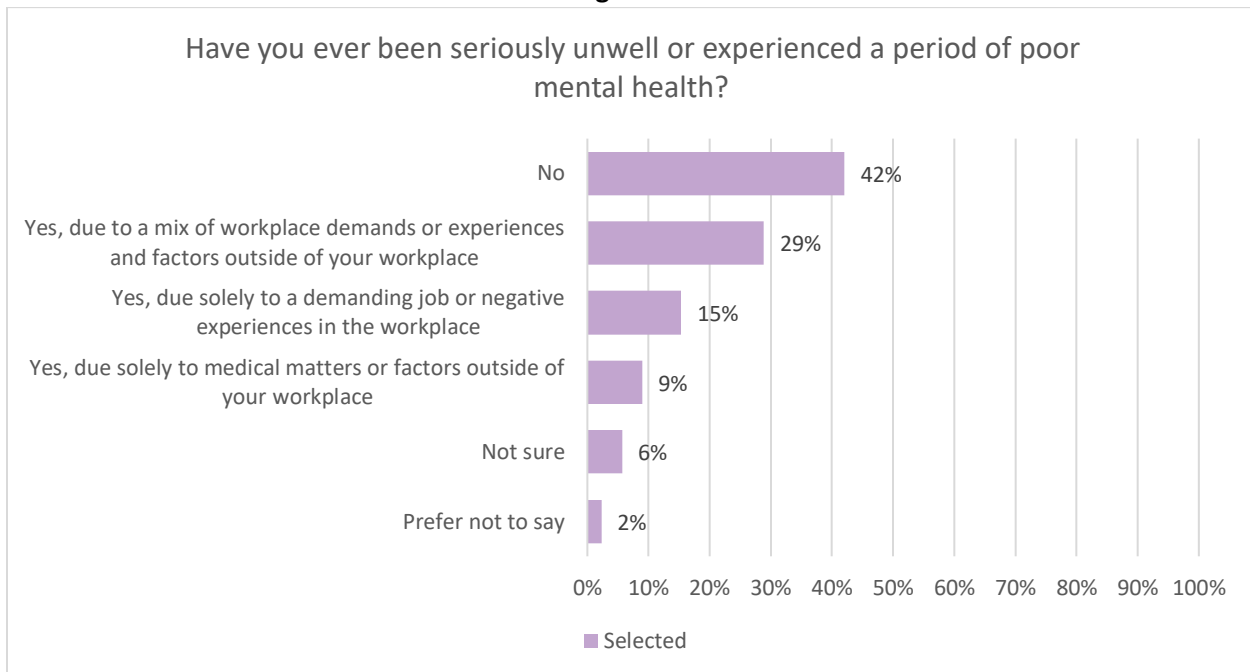
## Mental Health

Respondents were asked to indicate if they had experienced being seriously unwell or had a period of poor mental health. Respondents could select any or all of the following options:

- Yes, due solely to medical matters or factors outside of your workplace
- Yes, due solely to a demanding job or negative experiences in the workplace
- Yes, due to a mix of workplace demands or experiences and factors outside of your workplace
- No
- Not sure
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. **Figure 27** displays the responses. More than four respondents in ten (42%) indicated they had not ever been seriously unwell or experienced a period of poor mental health. However, a slightly larger percentage of respondents (44%) indicated that they had experienced a period of poor mental health or were seriously unwell where workplace demands (15%) and experiences outside the workplace (29%) were contributing factors.

**Figure 27**

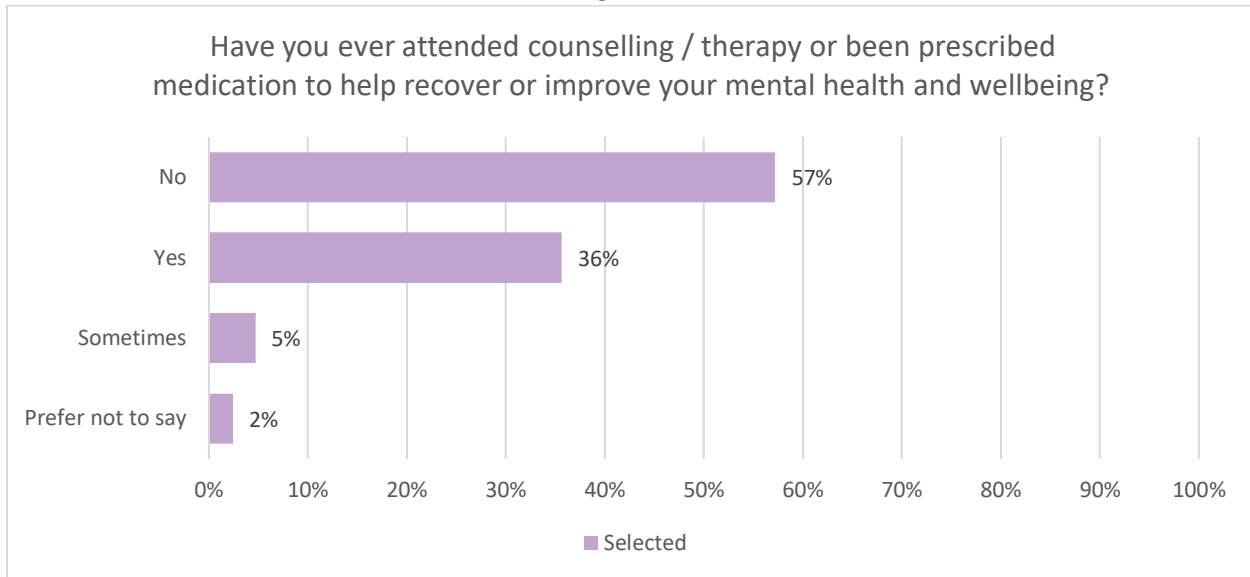


A total of 1,356 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.



Respondents were asked whether they had ever attended counseling, therapy, or been prescribed medication to help recover or improve their mental health and wellbeing. **Figure 28** displays the responses. More than three respondents in ten (36%) indicated that they had attended counseling, therapy, or been prescribed medication to help recover or improve their mental health and wellbeing.

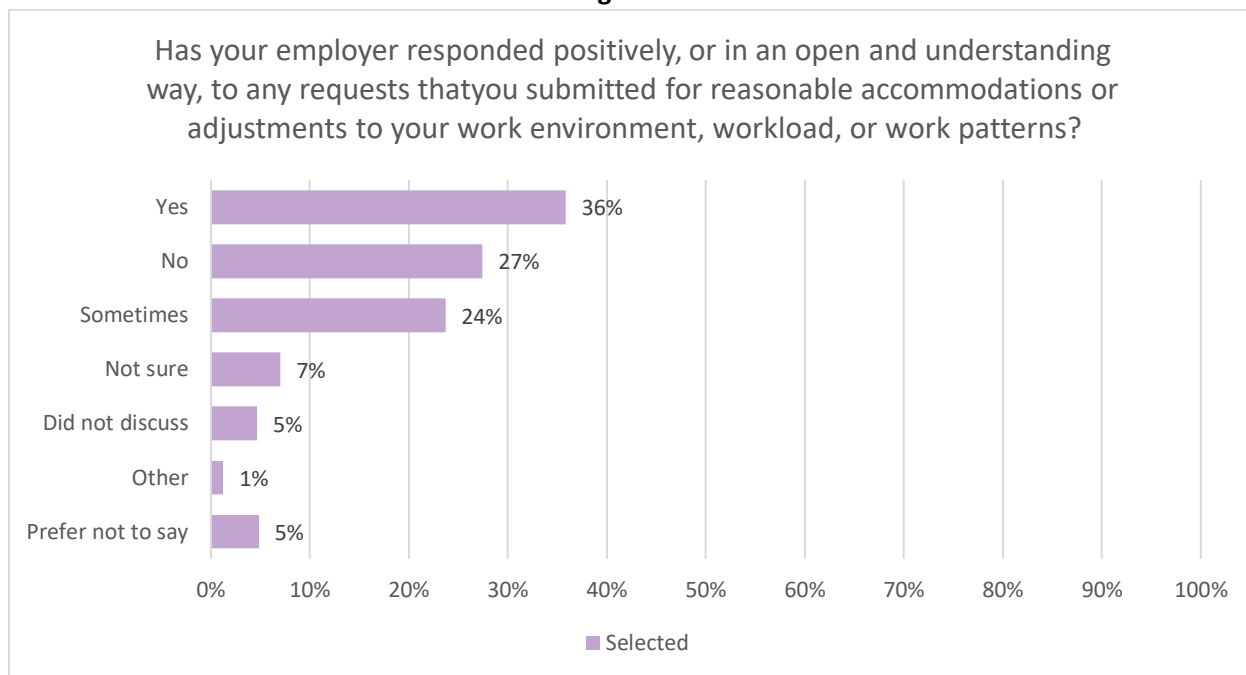
**Figure 28**



A total of 1,192 respondents provided an answer to this question.

Respondents who reported (1) a disability or who (2) experienced a period of being unwell or poor mental health, or (3) attended counseling or therapy or were prescribed medication to increase mental health were invited to indicate if their employer responded positively to any requests for accommodations. More than three respondents in ten (36%) indicated that their employer responded positively; however, more than a quarter indicated their employer had not (27%). **Figure 29** displays the responses.

**Figure 29**



A total of 642 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

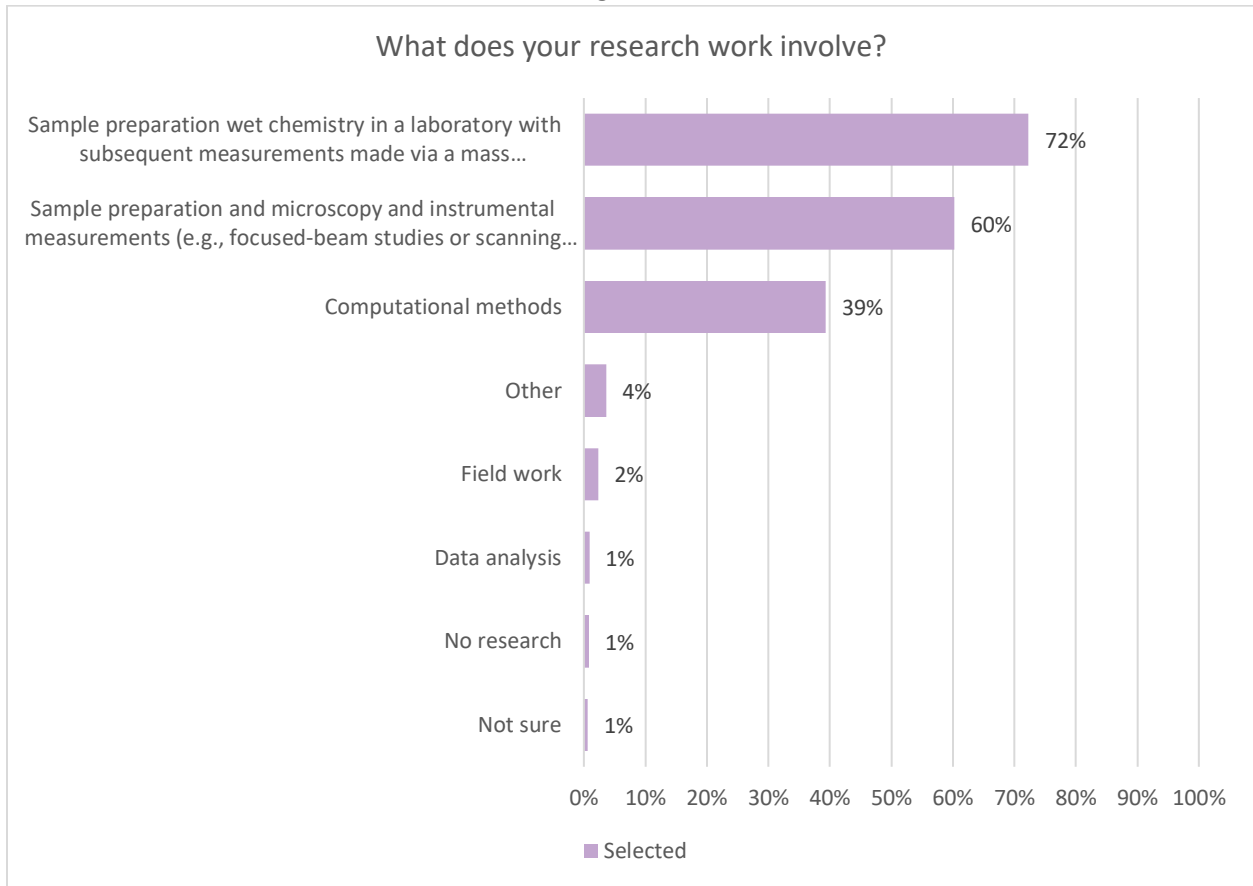
### Workplace Conditions

Respondents were asked to indicate what their research work involved. Respondents could select that their research work involved any or all of the options. They were presented with the following:

- Computational methods
- Sample preparation and microscopy and instrumental measurements (e.g., focused-beam studies or scanning analysis without wet chemistry, but +/- experimental approaches)
- Sample preparation wet chemistry in a laboratory with subsequent measurements made via a mass spectrometer(s) (+/- experimental study approaches)
- Not sure
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. **Figure 30** displays the responses. More than seven-in-ten respondents (72%) indicated that their research work involved sample preparation wet chemistry in a laboratory with subsequent measurements made via a mass spectrometer(s) (+/- experimental study approaches). Additionally, six-in-ten respondents (60%) indicated that their research involved sample preparation and microscopy and instrumental measurements (e.g., focused-beam studies or scanning analysis without wet chemistry, but +/- experimental approaches). About four-in-ten respondents (39%) indicated their research work involved computational methods. We reclassified respondents into several extra categories: field work, data analysis, or no research (including management), depending on their responses when writing in additional options.

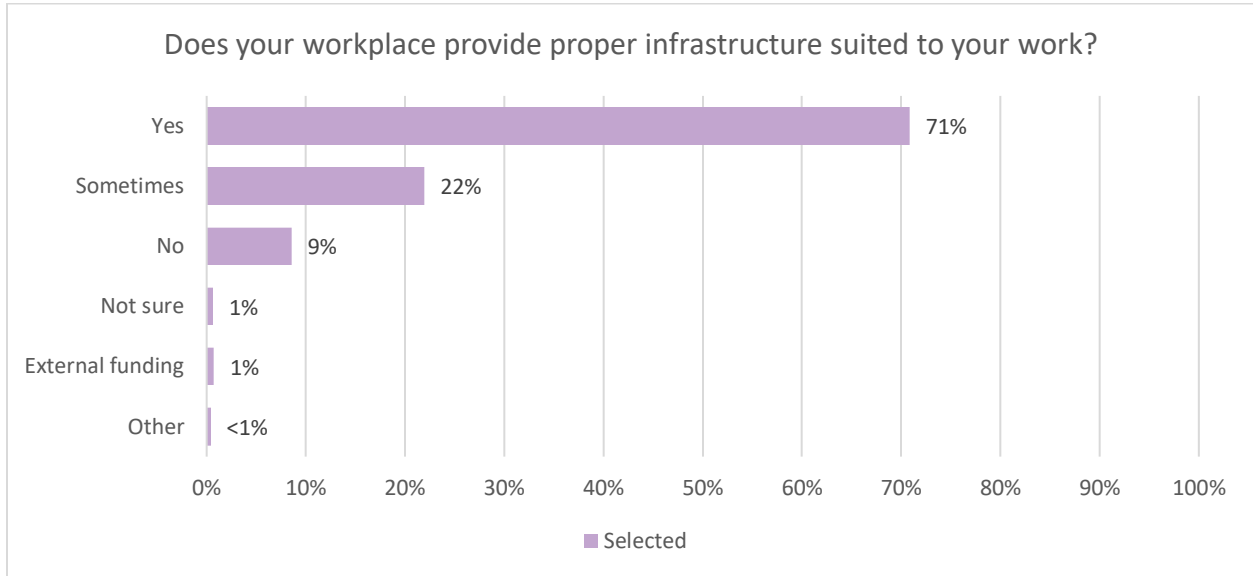
**Figure 30**



A total of 1,228 respondents provided an answer to this question; respondents who identified as retired persons are not included in this item. Less than <1% of respondents indicated that they preferred not to respond. The total percentage does not add to 100% because respondents could select more than one option.

Respondents were asked to indicate whether their workplace provided proper infrastructure, such as instruments, materials, office space, and internet, suited to their work. **Figure 31** displays the responses. More than seven-in-ten respondents (71%) indicated that they had proper infrastructure provided. Less than one in ten respondents (9%) indicated they did not have proper infrastructure. A small number of respondents were reclassified when they noted they used external funds for infrastructure, instrumentation, etc.

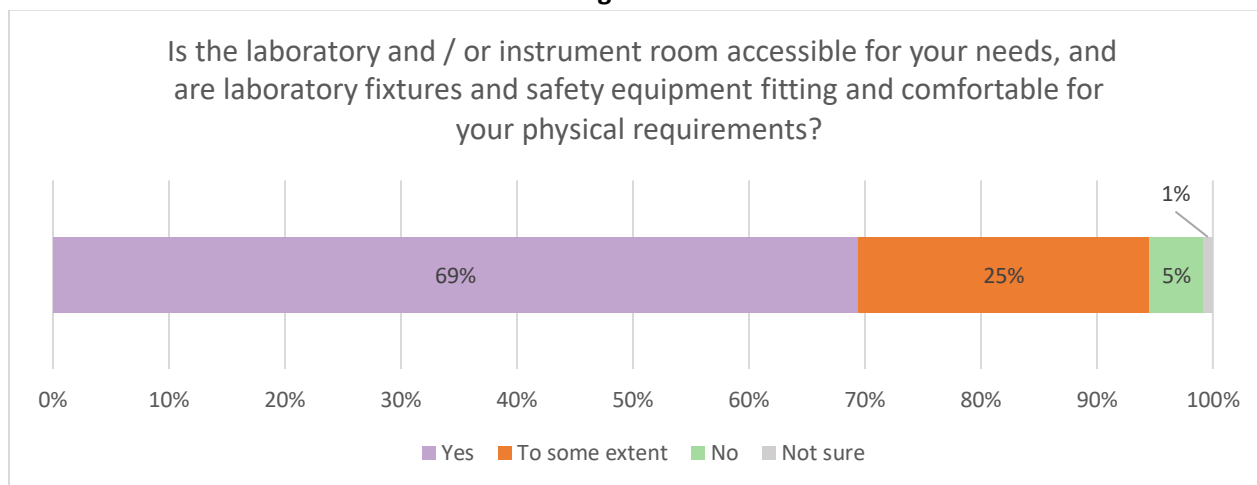
**Figure 31**



A total of 1,227 respondents provided an answer to this question; respondents who identified as retired are not included in this item. Less than 1% of respondents indicated they preferred not to respond. The total percentage does not add to 100% because respondents could select more than one option.

The questionnaire asked respondents to indicate whether their laboratory or instrument room was accessible and the equipment was comfortable for them physically. **Figure 32** displays the responses. Slightly less than seven-in-ten (69%) of respondents indicated that their laboratory or instrument room was accessible and the laboratory fixtures and safety equipment met their physical requirements; A quarter of respondents (25%) indicated their needs were met to some extent. One respondent in twenty (5%) indicated their needs were not being met.

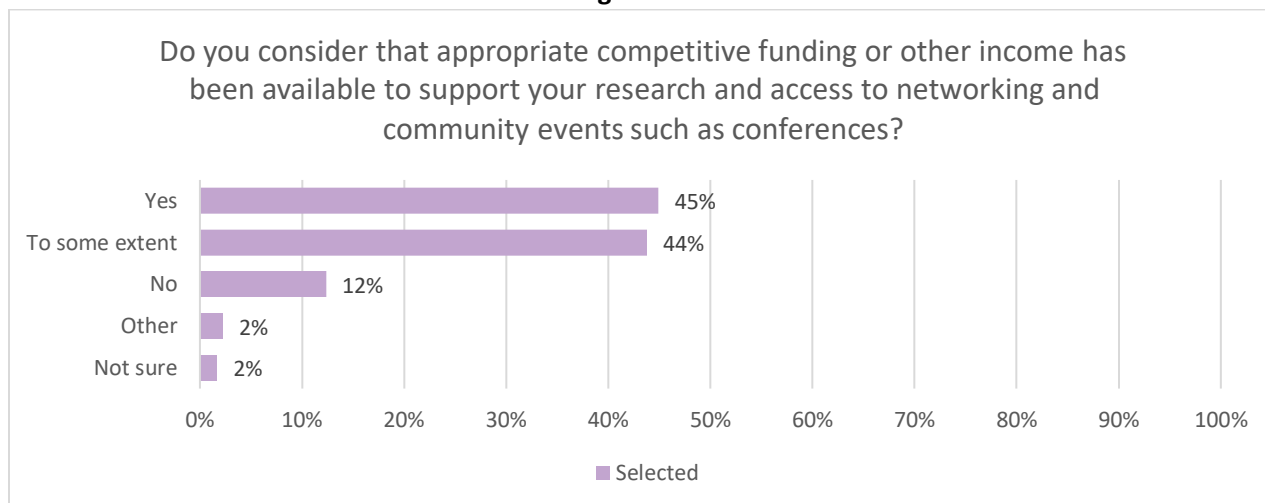
**Figure 32**



A total of 1,156 respondents provided an answer to this question; respondents who identified as retired are not included in this item. Less than 1% of respondents preferred not to respond to this question.

Respondents were asked if they considered that appropriate competitive funding was available to support their research and access to networking and community events, such as conferences. Roughly equal percentages of respondents said either, “yes” (45%) or “to some extent” (44%). **Figure 33** displays the responses.

**Figure 33**

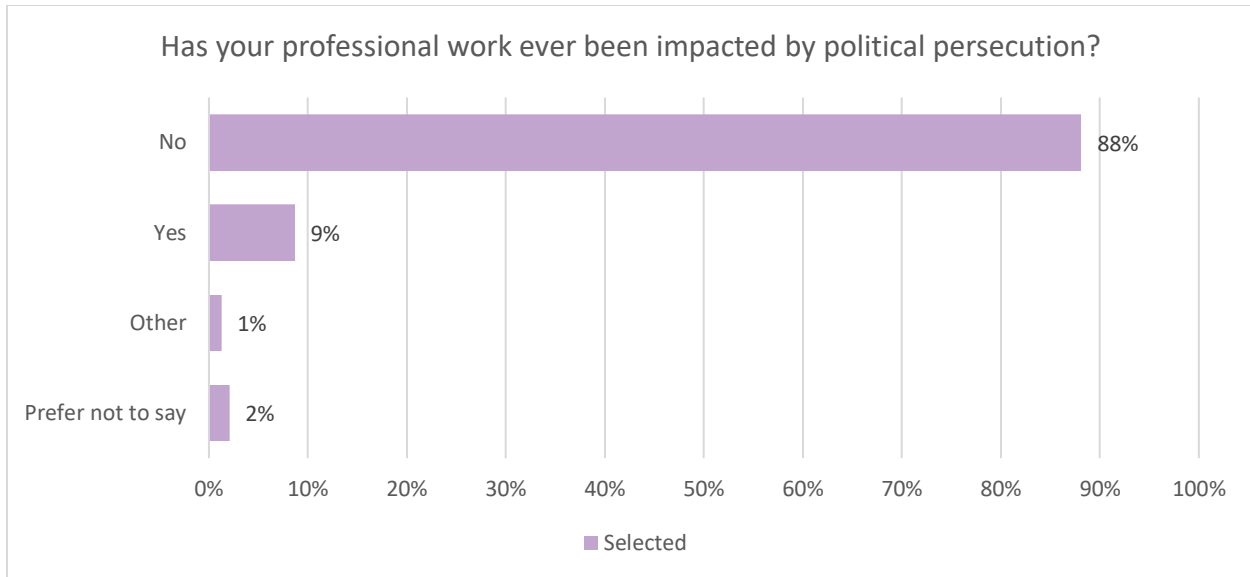


A total of 1,238 respondents provided an answer to this question. Less than 1% of respondents preferred not to respond to this question. The total percentage does not add to 100% because respondents could select more than one option.

## Harassment and Safety

Respondents were asked if their work had ever been impacted by political persecution. **Figure 34** displays their responses; the vast majority (88%) had not had their professional work impacted by political persecution.

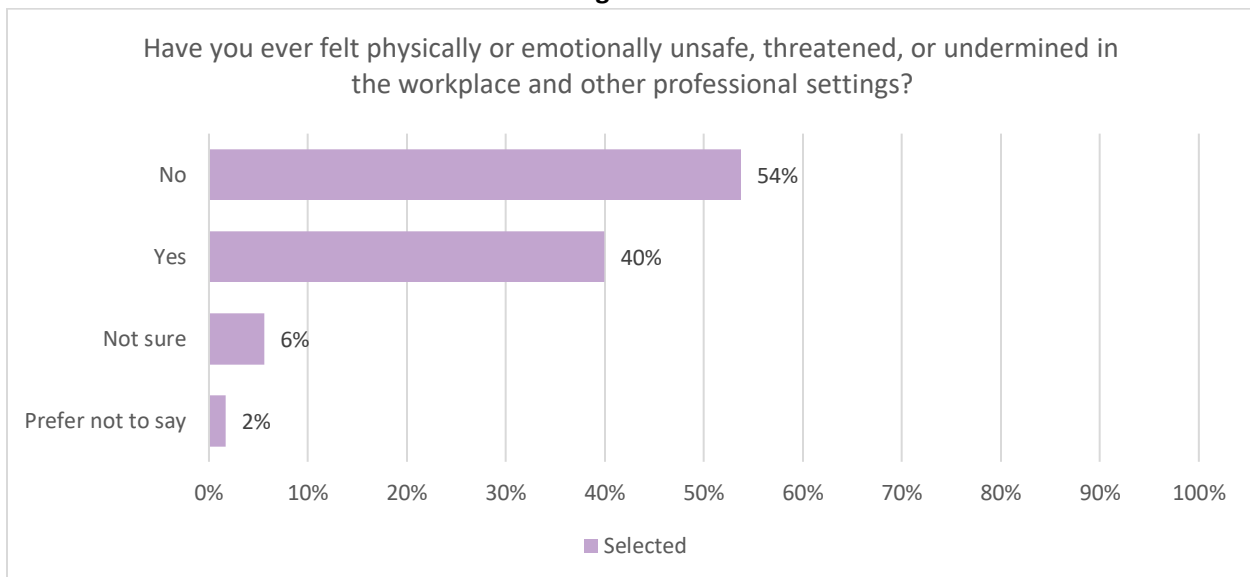
**Figure 34**



A total of 1,351 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

Respondents were asked if they had ever felt unsafe (physically or emotionally), threatened, or undermined in the workplace or professional settings. More than half (54%) indicated they had not felt unsafe, threatened, or undermined; however, four respondents in ten (40%) indicated they had. **Figure 35** displays the responses.

**Figure 35**



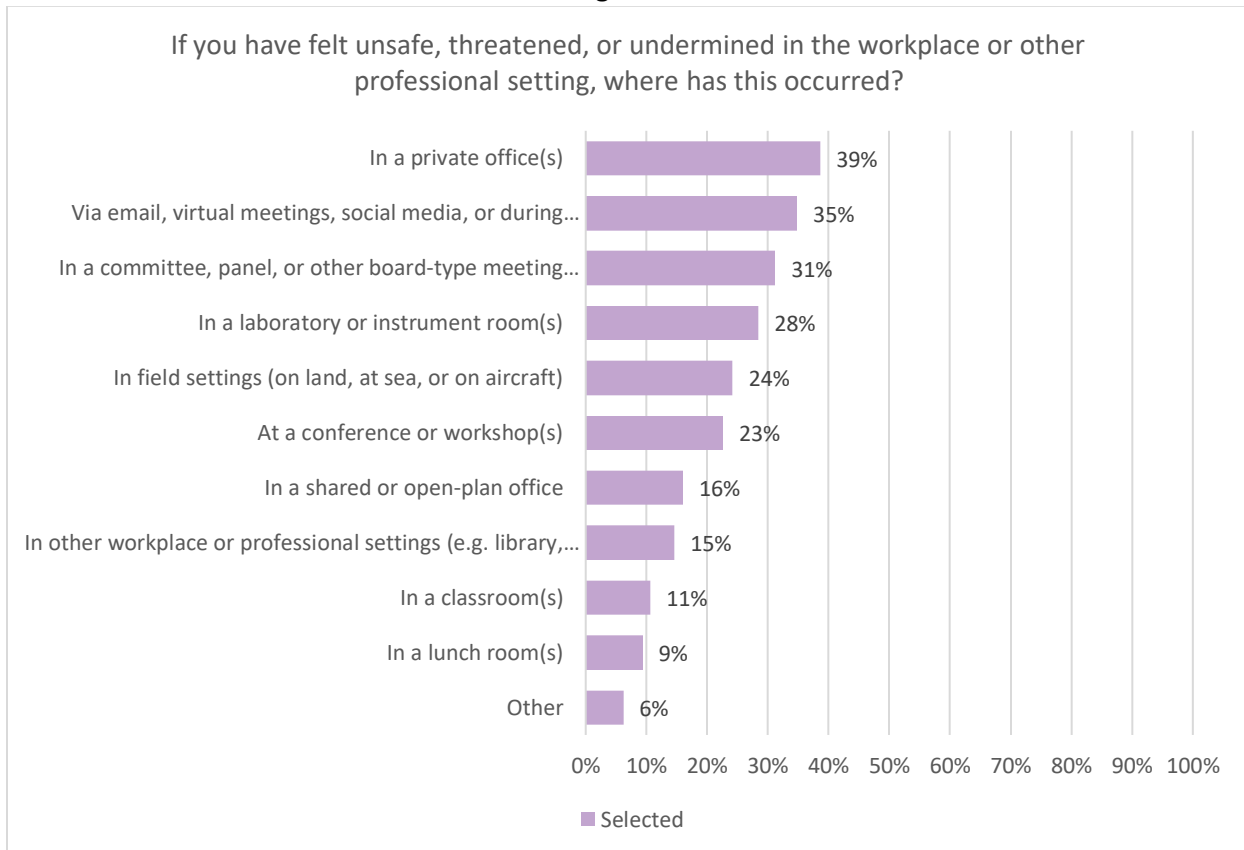
A total of 1,301 respondents provided an answer to this question. The total percentage does not add to 100% because respondents could select more than one option.

For those respondents who had reported being physically or emotionally unsafe, threatened, or undermined in the workplace or other professional settings, the questionnaire invited them to indicate where the behavior took place. Respondents could select any or all of the options. They were presented with the following locations:

- In a classroom(s)
- In a shared or open-plan office
- In a private office(s)
- In a laboratory or instrument room(s)
- In a lunch room(s)
- In a committee, panel, or other board-type meeting setting(s)
- At a conference or workshop(s)
- In field settings (on land, at sea, or on aircraft)
- In other workplace or professional settings (e.g. library, at an outreach event)
- Via email, virtual meetings, social media, or during phone calls

Respondents could also choose to write in their own answer in a provided text box. **Figure 36** displays the responses. The most frequently reported place where the behaviors occurred was in a private office or offices (39%).

**Figure 36**



A total of 500 respondents provided an answer to this question; only those who indicated they felt physically or emotionally unsafe, threatened, or undermined in the workplace and other professional settings are included in this item. The total percentage does not add to 100% because respondents could select more than one option.

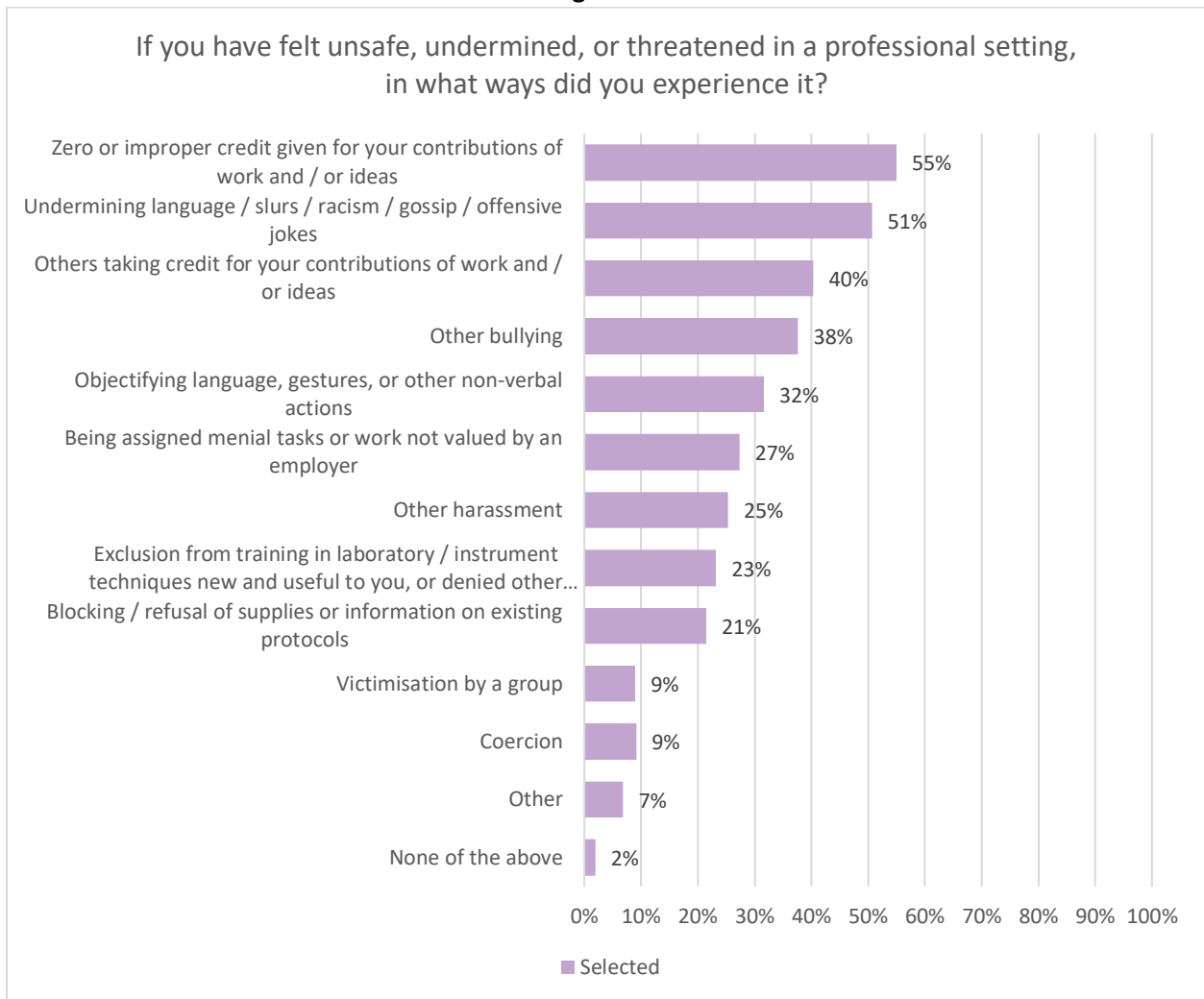
Respondents also had the opportunity to indicate how they felt unsafe, threatened, or undermined in professional settings. Respondents could select any or all of the options. They were presented with the following options:

- Blocking / refusal of supplies or information on existing protocols
- Objectifying language, gestures, or other non-verbal actions
- Undermining language / slurs / racism / gossip / offensive jokes
- Being assigned menial tasks or work not valued by an employer
- Zero or improper credit given for your contributions of work and / or ideas
- Others taking credit for your contributions of work and / or ideas
- Exclusion from training in laboratory / instrument techniques new and useful to you, or denied other professional opportunities
- Coercion
- Other harassment
- Other bullying
- Victimization by a group
- None of the above
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. People who wrote in an answer related to sexual harassment were coded with “other harassment.” **Figure 37** displays the responses. The most common way exclusionary behavior was experienced was not being given credit for their ideas or work – indicated by more than half of the respondents (55%). The next most common way exclusionary behavior was experienced--undermining language (slurs, racism, gossip, or offensive jokes)--was chosen by more than half of respondents (51%).



**Figure 37**



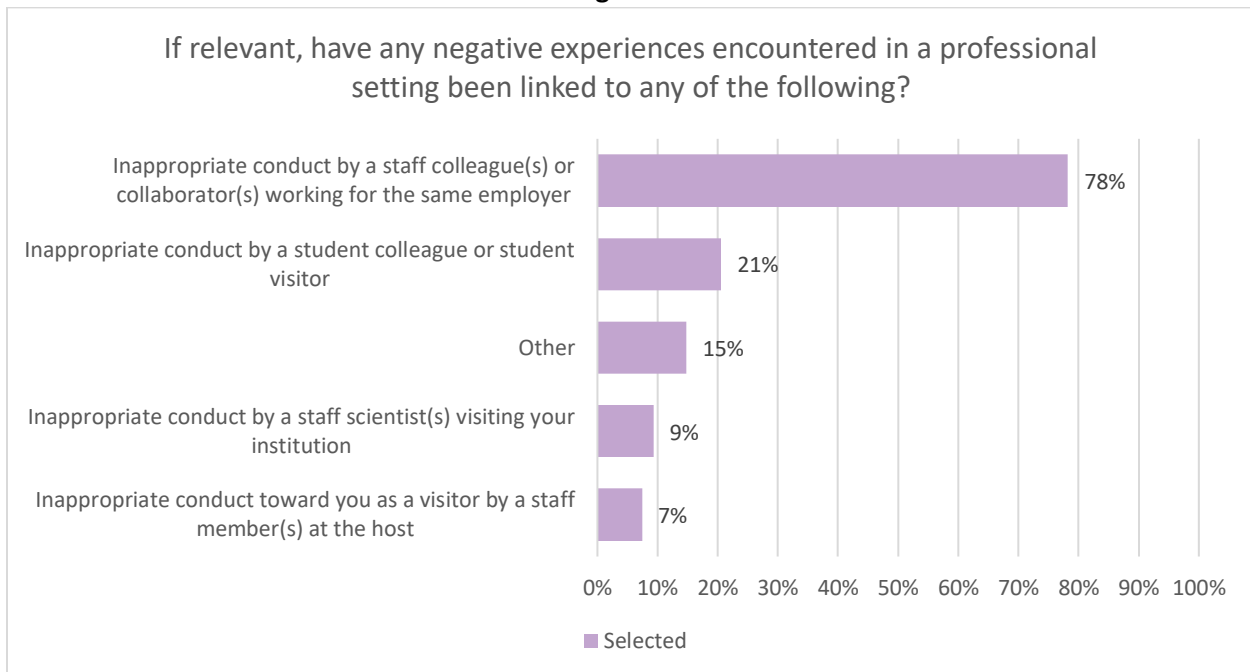
A total of 513 respondents provided an answer to this question; only those who indicated they felt physically or emotionally unsafe, threatened, or undermined in the workplace and other professional settings are included in this item. The total percentage does not add to 100% because respondents could select more than one option.

Additionally, respondents were asked if they had any negative experiences that they encountered in a professional setting that were related to any of the following:

- Inappropriate conduct by a student colleague or student visitor
- Inappropriate conduct by a staff colleague(s) or collaborator(s) working for the same employer
- Inappropriate conduct by a staff scientist(s) visiting your institution
- Inappropriate conduct toward you as a visitor by a staff member(s) at the host
- Other
- Prefer not to say

Respondents could select any or all of the options. More than three-quarters of respondents (78%) indicated that they had experienced inappropriate conduct by a colleague or collaborator working for the same employer. **Figure 38** displays the responses.

**Figure 38**



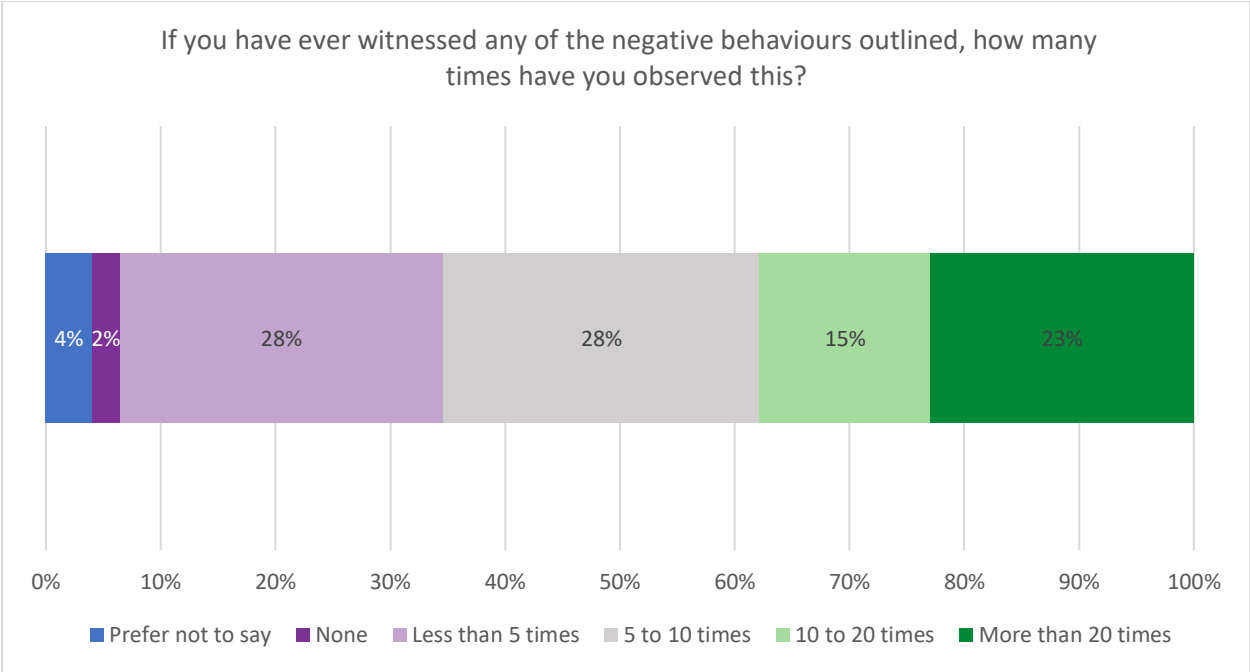
A total of 418 respondents provided an answer to this question; only those who indicated they felt physically or emotionally unsafe, threatened, or undermined in the workplace and other professional settings are included in this item. The total percentage does not add to 100% because respondents could select more than one option.

Respondents were offered the opportunity to follow up with how often they have witnessed the inappropriate behaviors. Respondents were asked to choose from the following options:

- None
- Less than 5 times
- 5 to 10 times
- 10 to 20 times
- More than 20 times
- Prefer not to say

**Figure 39** displays the responses. Roughly half the respondents said either less than five times (28%) or five to ten times (28%). Slightly more than two respondents in ten (23%) indicated they witnessed the behavior more than twenty times.

**Figure 39**



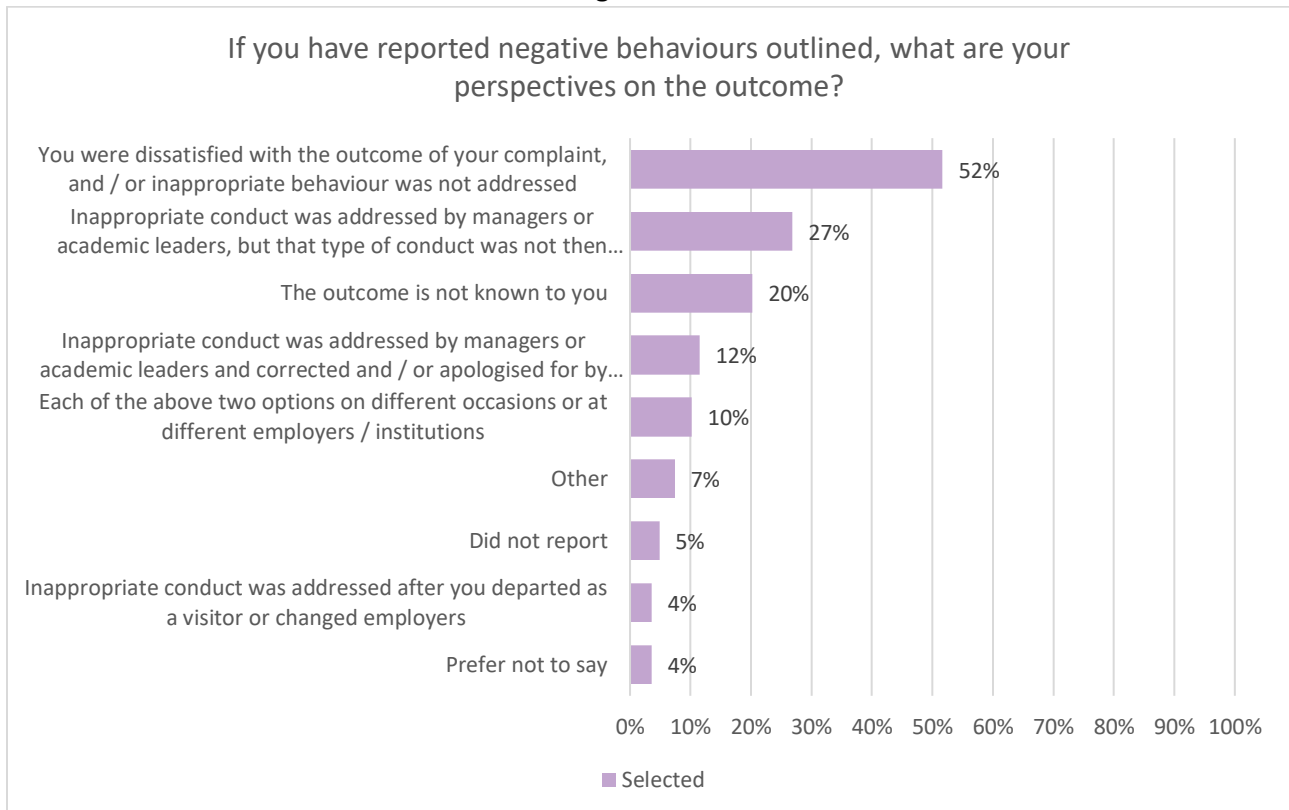
A total of 497 respondents provided an answer to this question; only those who indicated they felt physically or emotionally unsafe, threatened, or undermined in the workplace and other professional settings are included in this item.

The respondents were then asked to provide their thoughts on the outcome if they reported the negative behaviors. Respondents could select any or all of the options; they were presented with the following:

- Inappropriate conduct was addressed by managers or academic leaders and corrected and / or apologised for by the perpetrator with no recurrence
- Inappropriate conduct was addressed by managers or academic leaders, but that type of conduct was not then apologised for or corrected by the perpetrator
- Each of the above two options on different occasions or at different employers / institutions
- Inappropriate conduct was addressed after you departed as a visitor or changed employers
- You were dissatisfied with the outcome of your complaint, and / or inappropriate behaviour was not addressed
- The outcome is not known to you
- Other
- Prefer not to say

Respondents could also choose to write in their own answer in a provided text box. Several respondents wrote in that they did not report the behavior, so we added a category for that. **Figure 40** displays the responses. In the majority of cases (52%), the respondents were not satisfied with the outcome of their complaints and / or the inappropriate behavior was not addressed.

**Figure 40**



A total of 391 respondents provided an answer to this question; only those who indicated they felt physically or emotionally unsafe, threatened, or undermined in the workplace and other professional settings are included in this item. The total percentage does not add to 100% because respondents could select more than one option.