STEM WOMEN

# STEM Women Whitepaper

Understanding the gender imbalance in STEM.

By Pam McGee

www.stemwomen.com

# Contents

# Key Findings

## FROM THIS YEAR'S RESEARCH

**80%** of respondents said they have been **encouraged to study and work in STEM**, with only 20% saying they had been discouraged to some extent, or lacked support. The report highlights the strong sense of belonging in STEM for women at university level.

**65%** of respondents said that their career decisions had been impacted by the **Covid-19 pandemic**, highlighting the ongoing effect of this global event on the lives of students and recent graduates.
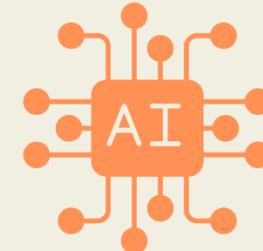
**71%** was the average score for **career confidence** indicated by respondents. STEM Women's research reveals steady levels of confidence, optimism and resilience amongst this cohort of students and recent graduates.

**66%** of respondents expect **AI** to have a positive impact on their career and saw it as a benefit rather than a threat.

**84%** felt their career decisions would be affected by the UK **cost of living crisis**. The report reveals student and graduates' anxiety over the labour market and the perceived shortage of jobs, meaning that many are considering accepting any role that pays a high enough salary.

**52%** of respondents expect to see significant positive change in the representation of **women in STEM** over the next 10 years (the highest level of positive response to this question in four years) , with 44% expecting moderate positive change. None of the respondents expect to see a decrease in the number of women working in STEM-related industries in the future.
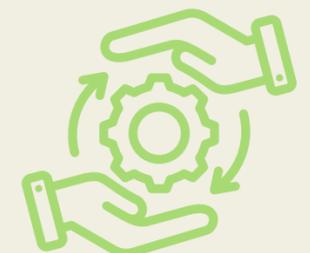
# Introduction

At STEM Women, we introduce employers from across a range of STEM-related industries to our communities of current students and recent graduates. Our networking and recruitment events, research, job boards and digital marketing services serve to raise aspirations, create new connections and grow a community with shared experience. We are proud to contribute to fostering a more diverse and inclusive STEM workforce by helping to inspire students and graduates – particularly women and underrepresented groups – to consider careers in STEM-related industries.

Currently, women make up just 26% of the STEM workforce in the UK (Office for Statistics). In technology professions, women hold only 19% of positions, a figure which has increased by just 5% since 2009, and in engineering roles, women make up just 12% of the workforce. Our events and research are key to creating a step-change in representation within these industries, by creating a supportive community of women, identifying role models, and developing a pipeline of diverse talent.

As part of our mission to address the gender imbalance in STEM, for the last five years we have compiled a whitepaper report which aims to foster a better understanding of the underrepresentation of women in industries like science, technology, and engineering. Our report offers an insight into how our STEM Women community visualise their future careers in STEM, and explores their attitudes towards working in these industries. In addition to STEM-related and gender-focused topics, the data investigates attitudes towards equality and diversity initiatives, belongingness in STEM, expectations for the future world of work, and perceived barriers to success.

26%
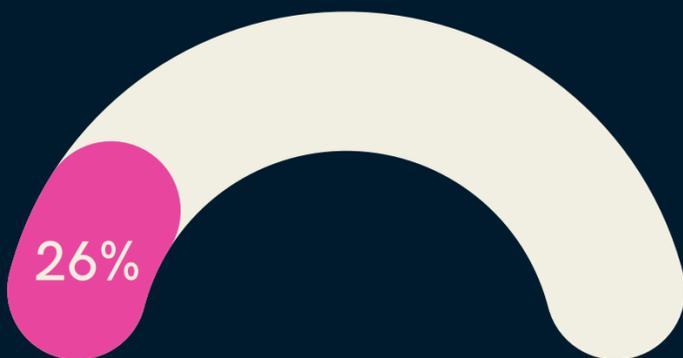
Currently, women make up just 26% of the STEM workforce in the UK (UK Government Census Data on Occupations).

www.stemwomen.com

# About our respondents

## STEM WOMEN EVENT ATTENDEES BY DEGREE SUBJECT:

### 32% COMPUTER SCIENCE, DATA AND MATHEMATICS

Computer Science
Software Engineering
Information Systems
Computer Gaming
Artificial Intelligence
Mathematics
Statistics
Data Sciences
Other IT and Mathematical
Sciences

### 17% ENGINEERING

Civil & Structural Engineering
Chemical Engineering
Electronic & Electrical
Engineering
Aerospace & Automotive
Engineering
Mechanical Engineering
Other Engineering

### 15% EARTH AND LIFE SCIENCES

Pharmaceutical Sciences
Bio-sciences
Geology
Environmental Sciences
Other Earth and Life Sciences

### 16% PHYSICAL SCIENCES AND OTHER

Chemistry
Physics
Materials Science
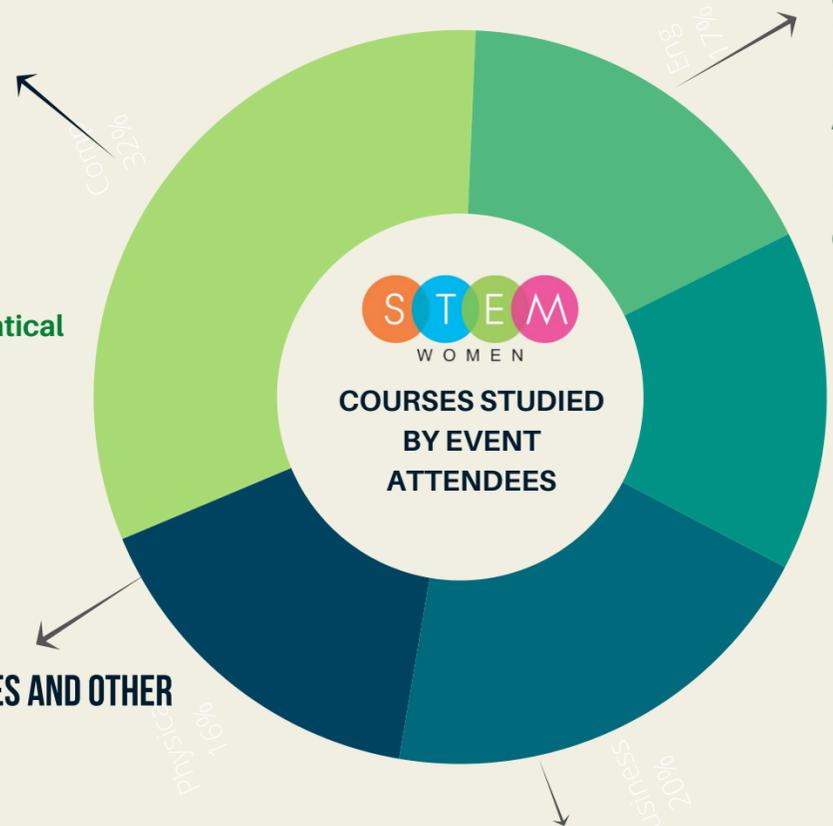Other Physical Sciences

### 20% BUSINESS, FINANCE

Finance and Accounting
Economics
Banking
Management
Business Analytics

**COURSES STUDIED BY EVENT ATTENDEES**

#### STUDY LEVEL
BACHELORS 42%
MASTERS 51%
PHD 4%
OTHER 3%

#### GRADUATION YEAR SPLIT
38% FINAL YEAR
35% PENULTIMATE YEAR
18% EARLIER YEARS
9% ALREADY GRADUATED

From 2019 - 2023, we have surveyed people who identify as women or non-binary, studying a range of STEM subjects at universities across the UK and Ireland. Over four years we have now collected data from:

## 1,243 respondents

In 2019, we collected data from 176 respondents. In 2020 there were 89 respondents; in 2021 we surveyed 292 respondents; in 2022 we collected responses from 301 respondents; and in 2023 our survey received 385 responses.

To conduct our research, we surveyed a cross-section of students who took part in our 2019 - 2023 events. The respondents were currently at university, or had recently graduated, and were actively looking to start their careers within a STEM-related industry. The adjacent diagram shows the course, graduation year and study level splits of the students who signed up for a STEM Women event in 2023.

In the surveys, we asked respondents a range of questions surrounding diversity in the workplace and their expectations for their transition into graduate employment. As well as multiple choice questions, we allowed respondents to add qualitative commentary to explain their views. We have included a range of these comments throughout this report.

The questions we ask respondents vary slightly from year to year. We have removed certain questions and introduced new themes to reflect the jobs market, and cultural and societal themes.
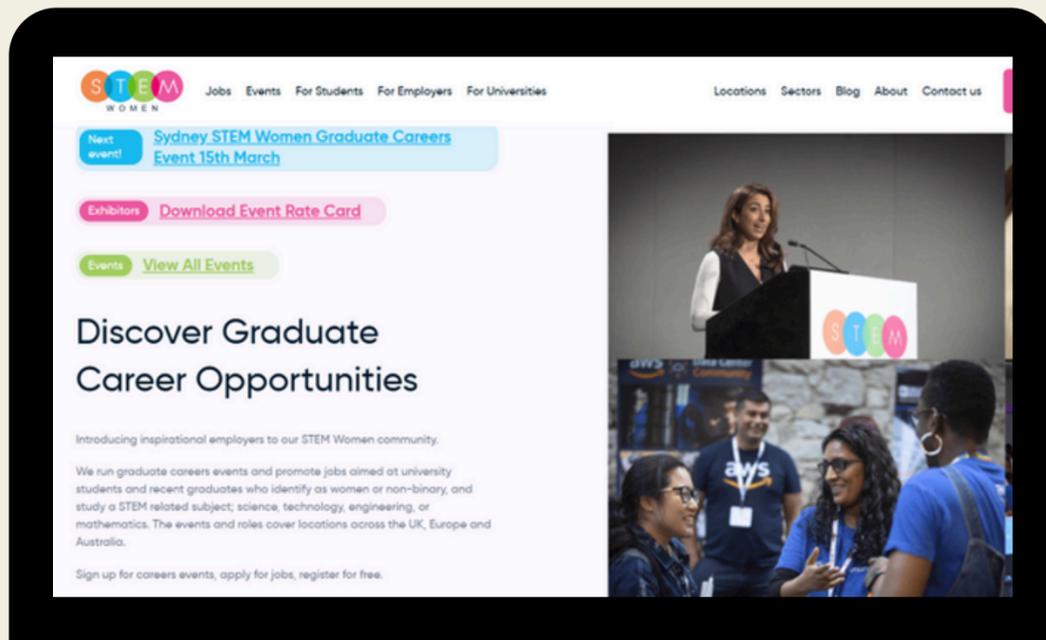
# About STEM Women



We run graduate careers events and promote jobs aimed at university students and recent graduates who identify as women or non-binary, and study a STEM-related subject; science, technology, engineering, or mathematics. The events and roles cover locations across the UK, Europe, and Australia.

Our graduate events allow students and recent graduates to network with a range of top employers, hear talks from a range of representatives working in STEM, and be inspired to follow in their footsteps.

Alongside our general STEM career events, we run industry specific events, and bespoke career events for companies who are looking to recruit more diverse candidates. We also offer employers access to a year-round job board and provide recruitment services.
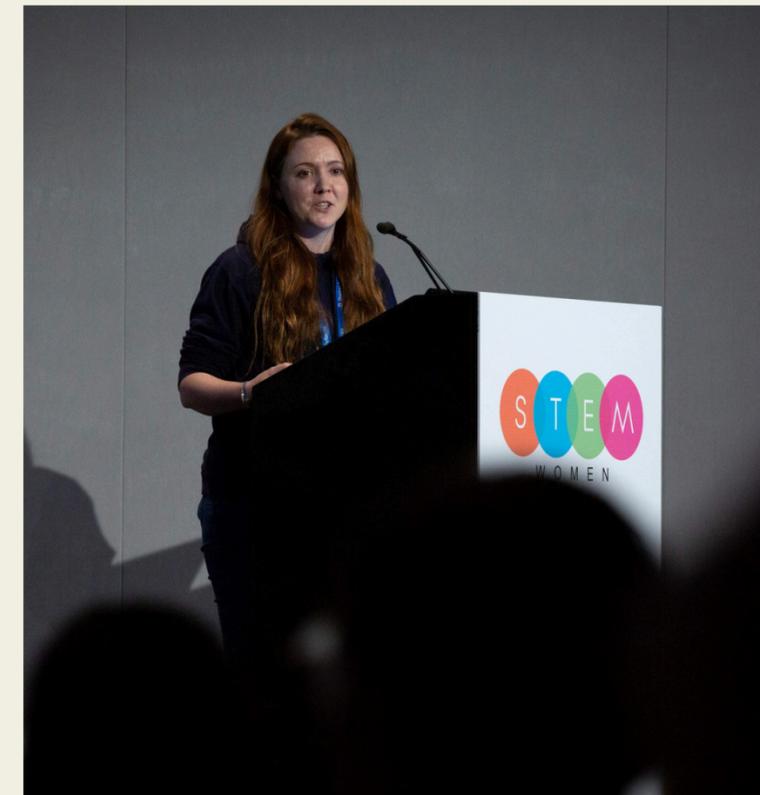
**800+**
Employers have exhibited with us since February 2018.

**90+**
Events held across UK, Ireland, Europe and Australia since 2018

**60,000+**
Students have registered for an event since autumn 2020.

**100,000+**
Page followers across our social media accounts.

# Equality and Diversity in STEM

From 2019 to 2022, we asked respondents to state how important they found diversity initiatives on a scale of 'Not at all important' to 'Extremely important'.

**Over 4 years, an average of 83% of respondents said that diversity initiatives are either 'Extremely important' or 'Important'.**

When we consider the current gender and racial disparities in the STEM workforce, it's no surprise that initiatives which support diversity in the workplace are important to underrepresented groups. Comments from respondents clearly demonstrated the need for diversity initiatives to be authentic and not simply 'tick box' exercises.

For those respondents who said that diversity initiatives were only 'somewhat important', (11% in 2022), many highlighted issues surrounding the integrity of diversity initiatives and raised concerns over tokenism.

"I think diversity is very important but sometimes these initiatives can come across slightly fake and as more of a PR stunt than a genuine desire for a diverse workplace."

- Emma, MChem Chemistry with Industrial Training, University of Bath.

This suggested that it was not the notion of diversity initiatives that respondents found unimportant, but the way in which companies go about promoting these 'initiatives' and whether they are genuinely intended to create lasting change.

In 2023, reflecting on this, we changed the question to ask respondents about the importance of showing a genuine commitment to EDI.

Thinking about organisations that demonstrate a commitment to Equality and Diversity, how important or unimportant is this when you are considering your future employer?

**1%**
Not at all important
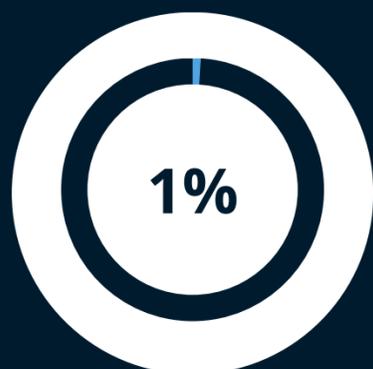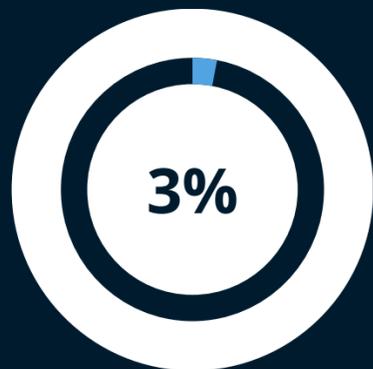
**3%**
Neither important not unimportant

**41%**
Important
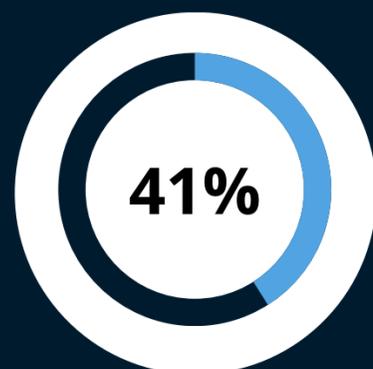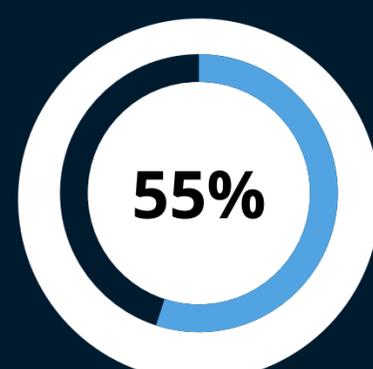
**55%**
Extremely important

## Key point

With **96%** of respondents telling us that a commitment to diversity is either important or very important to them, this underscores the idea that the next generation of STEM graduates expects equality and diversity to be embedded in the workplace by the time they arrive there – it's now 'business as usual' and not a 'nice to have'.

# Equality and Diversity in STEM

Respondents in 2023 told us that a genuine commitment to diversity would reassure them of being valued by their employer, particularly when it comes to sharing their ideas, and having opportunities to progress and develop new skills. They also recognised that companies with a more diverse workforce are often more successful, demonstrating a depth of knowledge on the subject. A number of responses used the word 'comfortable' to describe how they wanted to feel in work. In some cases, this was directly related to negative experiences related to gender.

*"Throughout school, I often felt that my male counterparts would disregard my intelligence, no matter how hard I worked, and I wouldn't want to feel like this is a job too."*

## Ethnicity in STEM

Our research shows that authentic EDI is particularly important for the Global Ethnic Majority (GEM). This is unsurprising, considering the underrepresentation of black women in STEM.

*"As a black woman, I want to feel like I belong."*

*"As a person of colour I would like to feel included and valued for my skill and performance rather than undervalued due to my background ."*

*"As a black woman it is important for me to work somewhere I feel comfortable and appreciated."*

## The Importance of Being Authentic

As in previous years, for the small number of respondents who said that EDI is not important, this was because they did not want to be seen as a 'diversity hire' or the 'token woman':

*"Organisations need to demonstrate EDI through actions (not just words). I'd like to be valued on my achievements rather than seem like an equality hire."*

*"Employers should consider skills and attitude of a person rather than place of birth or colour of skin."*

*"There's a fine balance between genuine gender diversity versus hiring for the sake of numbers and marketing."*

## Gender Pay Gap

This year, we removed question about gender pay gap reporting, as a varying number of students were aware of it, and this tended to depend on media representation. Responses underscored that female students and graduates of course want to be treated equally and paid fairly, however they are unable to effect this change themselves and many feel they have to accept the status quo, at least in the short term.

# Gender balance in the workplace

Over five years, we asked STEM students and graduates if the gender balance of an organisation would be an influencing factor when deciding to accept a job offer.
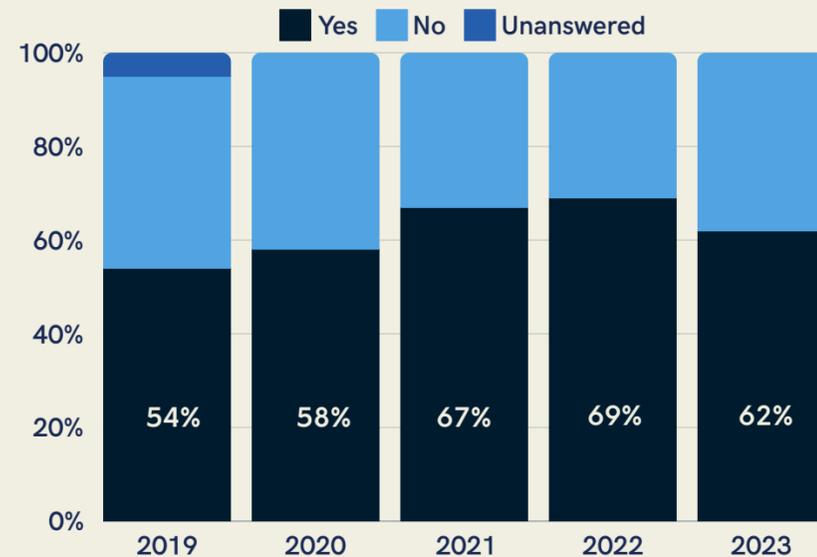


From 2019 to 2022 the number of respondents answering 'yes' to this question rose from 54% to 69% - an increase of 15%.

In 2023 we saw a modest decrease in the percentage of respondents who felt that a gender imbalance within an organisation could lead them to turn down an offer of employment, many noting that it would impact their sense of confidence and belonging.

*"If I feel that my opinion will be invalidated because of my gender, I will not take the job."*

*"I am less likely to be considered as a valuable candidate due to my gender so I tend to apply to organisations who take a bit more effort to encourage women to apply in their job description."*

## Key point

*Female STEM students want to see diversity in the workforce, and if choosing between two jobs, this could be an influencing factor. However, recognising the current underrepresentation in STEM, and their fears of not getting a job may mean they feel they cannot afford to take this stance.*

Again, the word 'comfortable' was used by many respondents, who indicated that they would feel intimidated or awkward in a male-dominated workplace and felt they would not be 'heard'. Many referenced negative experiences:

"It makes me feel out of place and not good enough. It also gives the vibe that I will need to work twice as hard to make an impact."

"Having worked in male-dominated jobs, I have felt undervalued and unseen, or seen as a secretary rather than a peer."

Some respondents caveated their response, saying that gender balance would only be a factor if choosing between two very similar jobs, or in specific sectors such as construction or engineering where women tend to be underrepresented to a greater extent.

Some respondents mentioned specifics which they would find helpful, such as having a woman on the interview panel.

For those who answered 'No', this was often in recognition of the current imbalance in STEM, and that 'every company has to start somewhere', particularly in specific industries or smaller organisations. Others saw joining a male-dominated organisation as an opportunity to make a change:

"As a female in STEM, we still make up only 26% of the numbers – sometimes we just take the opportunity and try to improve things after."

"My major is Computer Science, so there are more males in most companies or departments. I plan on being the one to improve gender equality."

Others referenced their perception of the job market:

"I know it should be an influencing factor, but it's difficult to be a woman in tech and get your first job. Maybe later in my career it would be more of a deal-breaker."
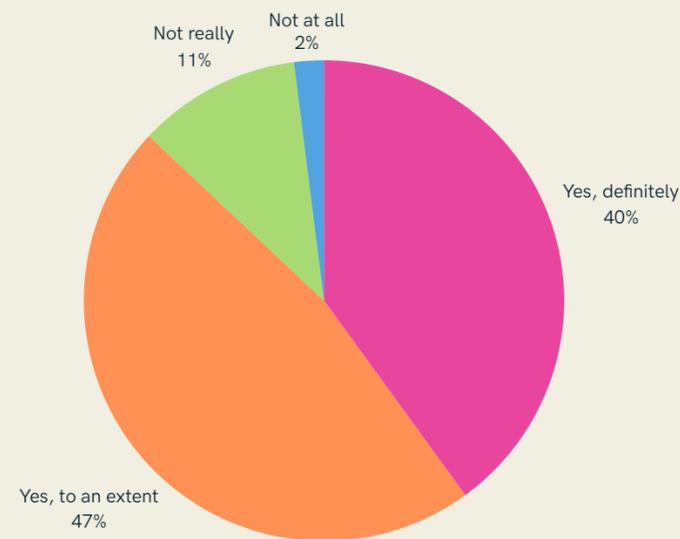
"If I only have one job offer, I'll take it no matter what."

# Belonging in STEM

In 2023 we removed a question about 'Imposter Syndrome' which puts the onus on the individual rather than their environment.

Instead, we asked students and graduates whether they felt a sense of belonging in STEM via two new questions.

Not really 11%
Not at all 2%
Yes, definitely 40%
Yes, to an extent 47%

The majority of respondents indicated that they felt a sense of belonging in STEM, and this was often related to equal representation on their course. In many cases, respondents felt valued despite being a minority:

"Even though my course has more male students than female, everyone is very welcoming."

"Even though there are only 2 girls on my course, and this is 10% of the group, I don't feel uncomfortable ."

In some cases, respondents felt they had to 'push themselves' to fit in, and others reported negative experiences including 'micro-aggressions' such as being undermined, or dismissed, whilst others reported outright discrimination:

"I get comments like 'why would beautiful girl like you choose to study mathematics' – like it matters!"

"Computer Science is very male-dominated. I have experienced mansplaining and condescending behaviour."
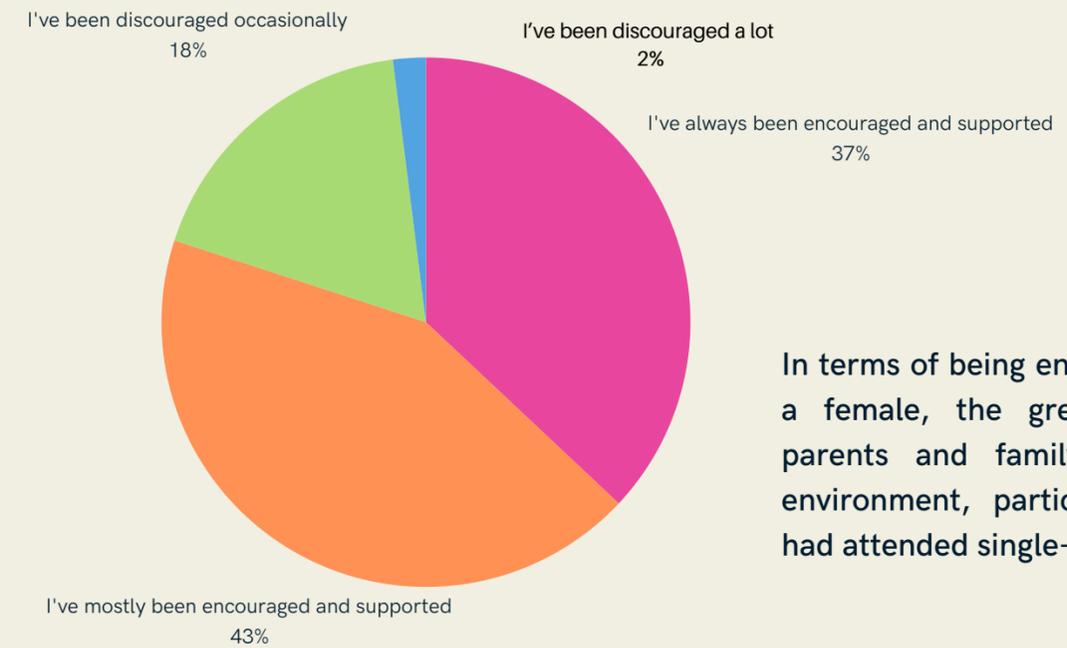
In many cases this negative experience was related to underrepresentation and a sense of being different:

"It's difficult to fit in if everyone is different to you (ratio: 1:10) and they are all together."

"My course (Engineering) is just 20% girls out of 151 people."

"There are barely any girls on my course (Cyber Security)."

**Have you ever felt discouraged from studying or working in STEM?**



I've been discouraged occasionally 18%
I've been discouraged a lot 2%
I've always been encouraged and supported 37%
I've mostly been encouraged and supported 43%

In terms of being encouraged to study STEM as a female, the greatest impact came from parents and family, followed by academic environment, particularly where respondents had attended single-sex schools.

"I went to an all girl's secondary school and had access to STEM subjects (Chemistry, Maths, Biology, Applied Maths)."

For those who felt they had been discouraged (occasionally or to a greater extent), explanations included:

-A lack of study options in school
-Lack of role models in the media
-Lack of family support
-Feeling like 'an outsider' because of the lack of women on their course.

Some respondents also reported incidents of discrimination - notably, during recruitment processes:

"During an interview I was told that, as a woman, I might be a distraction."

Key point: The majority of respondents have a good sense of belonging in STEM, However, it is worth remembering that all the respondents are current STEM students or graduates and so are more likely to have received support and encouragement to work in STEM, as opposed to those who have been disadvantaged in this area and are therefore studying or working in other sectors. This is particularly prevalent where gender intersects with other characteristics such as race and socio-economic background.

# Workplace Expectations

We asked respondents two questions about their expectations and preferences for working arrangements in their first or next graduate role.

## Do you think that your first job after university will be hybrid, in-office or fully remote?
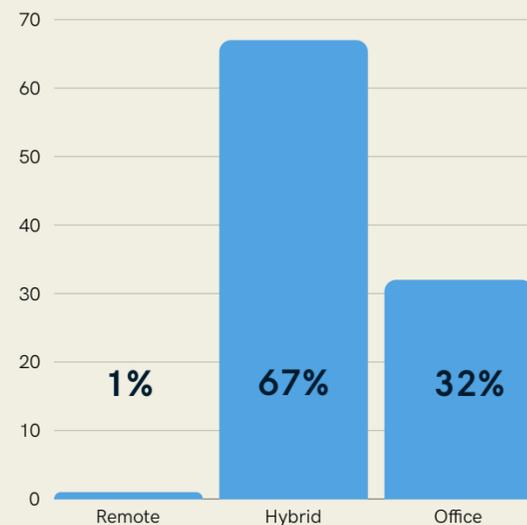


Only 32% of respondents expected to be working in the office full time.

Some respondents noted that many jobs in STEM require in-person activity (e.g. lab work).

We also asked respondents which working arrangement they would prefer, given the choice.



Even fewer respondents want to work in the office full time, with a higher percentage preferring remote work.

Some respondents stated that they would not take a job that was fully in-person.

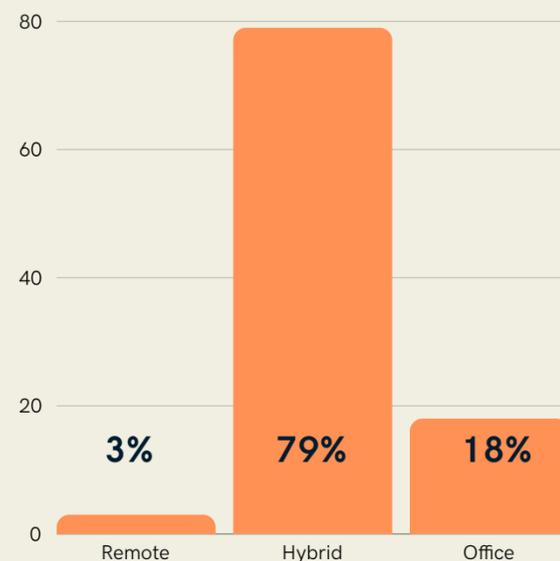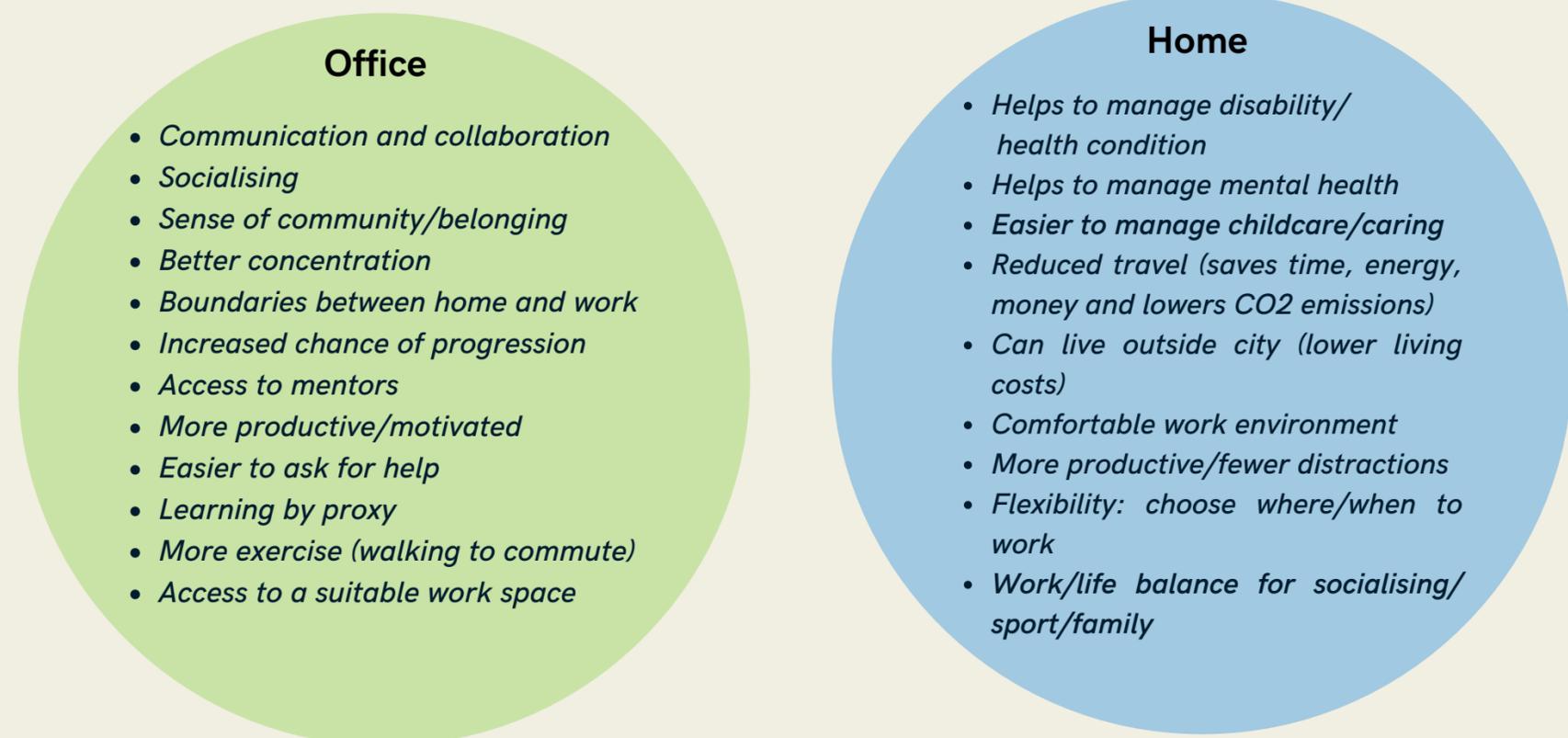Many assumed that 'hybrid' would also mean 'flexible' giving them the option to choose where and when to work, rather than having set days in an office.

Respondents were vocal and informed on this subject, contributing a wealth of qualitative responses on the pros and cons of remote vs office:

### Office

- *Communication and collaboration*
- *Socialising*
- *Sense of community/belonging*
- *Better concentration*
- *Boundaries between home and work*
- *Increased chance of progression*
- *Access to mentors*
- *More productive/motivated*
- *Easier to ask for help*
- *Learning by proxy*
- *More exercise (walking to commute)*
- *Access to a suitable work space*

### Home

- *Helps to manage disability/ health condition*
- *Helps to manage mental health*
- *Easier to manage childcare/caring*
- *Reduced travel (saves time, energy, money and lowers CO2 emissions)*
- *Can live outside city (lower living costs)*
- *Comfortable work environment*
- *More productive/fewer distractions*
- *Flexibility: choose where/when to work*
- *Work/life balance for socialising/ sport/family*

Hybrid working was seen as the 'best of both', combining the positives listed above into one:

*"At home, I can work on problems that can be solved alone; in the office, people can solve problems which need coordination and cooperation."*

*"At home I can feel more comfortable and that encourages my efficiency and creativity. But occasionally going to the office and meeting colleagues face-to-face would be a good chance for deeper understandings for teamwork."*

Key point: recruiters and line managers should be prepared for incoming hires wanting to work from home, at least for part of the working week, or following their initial induction. Setting expectations around this at an early stage is crucial, ensuring that new hires understand and experience the benefit of coming into the office, whilst considering the impact which hybrid and flexible working arrangements have in fostering inclusivity.

11

# Barriers to success

The last few years have seen unprecedented disruption in both Higher Education and the labour market. The Covid-19 pandemic, industrial action, the cost-of-living crisis, and political unrest have created never-before-seen barriers for students and graduates entering the job market, particularly for those who are underrepresented.

## Impact of the Pandemic

Have your career plans been impacted by the pandemic?

| Response | % |
|---|---|
| A lot | 30% |
| To an extent | 35% |
| No | 28% |
| Don't know | 7% |

0%  5%  10%  15%  20%  25%  30%  35%
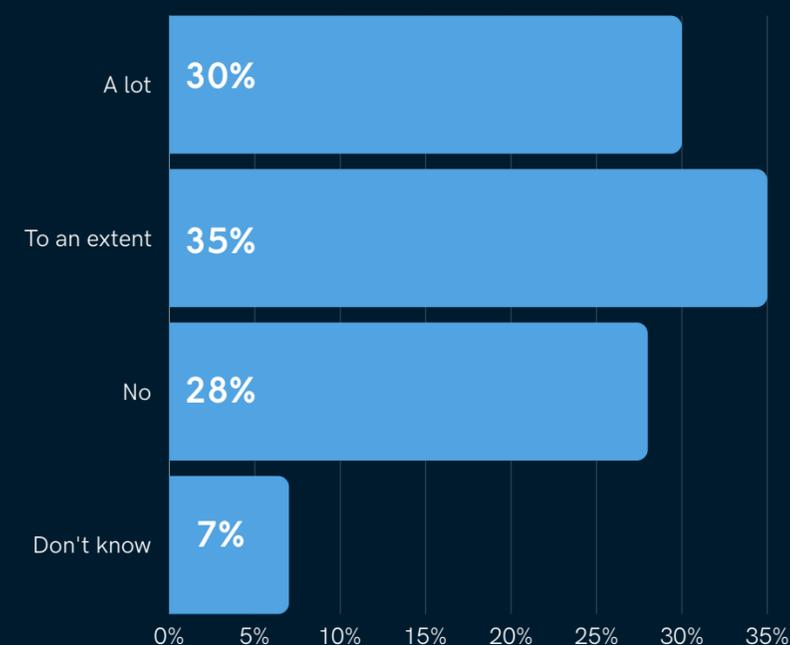
The responses demonstrate that, with 65% of respondents feeling their future career has been impacted to some extent, there is a lasting impact stemming from lost opportunities. Respondents reported having to delay further study, being unable to get work experience, and struggling with online teaching or lack of practical learning, which affected their grades. Other mentioned a detrimental impact on their mental health, or simply feeling lost and directionless during lockdown.

Those seeking employment at this time found a higher rate of redundancy and a reduction in hiring.

On a positive note, some respondents felt that lockdown had given them more time to think and plan their career, or encouraged them to retrain.
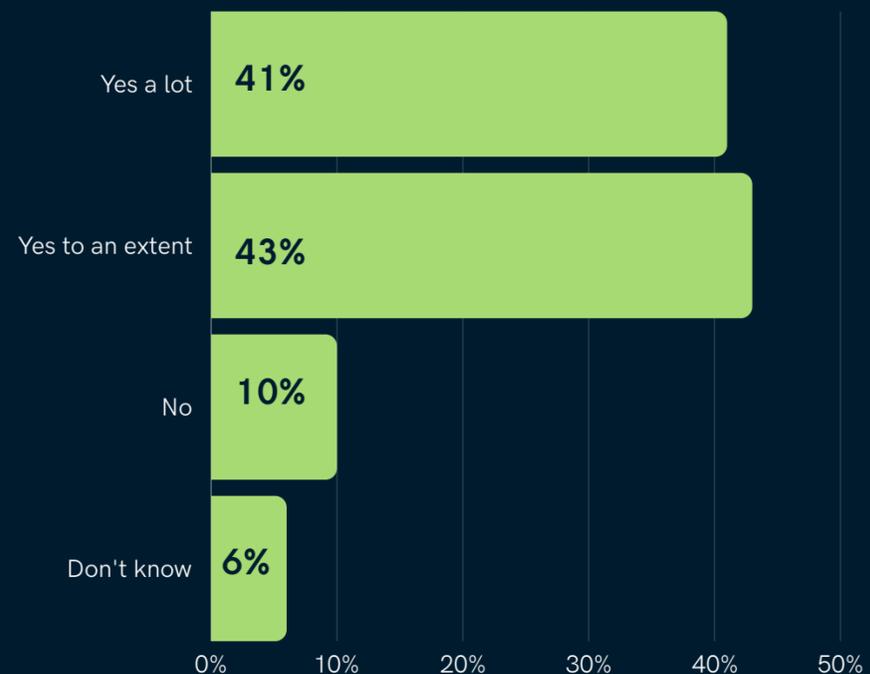
*"I initially had no idea what I wanted to do but my experience in a pharmacy during COVID got me interested in drug development"*

*"I knew I wanted to work in a business environment, primarily as a financial analyst, but Covid steered me towards Data Science which was a broader aspect of analytics."*

Others welcome the increased number of remote jobs, with remote or hybrid working becoming normalised.

## The Cost-of Living-Crisis

We asked respondents whether they thought the cost-of-living crisis in the UK would affect their career decisions.

| Response | % |
|---|---|
| Yes a lot | 41% |
| Yes to an extent | 43% |
| No | 10% |
| Don't know | 6% |

0%  10%  20%  30%  40%  50%

With 84% of respondents noting that the cost-of-living crisis is impacting their career decisions to some extent, it's clear that recruiters will need to be mindful of this factor.

By far the greatest impact was seen in respondents attitudes to job satisfaction versus salary, with many stating that salary would now be their number one consideration, far outweighing finding a job they enjoy.

*"Whereas before it was all about my career, now unfortunately, pay matters a lot."*

*"I would choose a higher paying job over a lower paying job I would enjoy more."*

In some cases this impacted their choice of sector or industry, with respondents stating they had changed career paths in the hope of making more money. Other respondents stated feeling that they needed take any job they were offered, including low-skilled jobs.

Some responses included feeling an increased pressure to get a job quickly, and an increased likelihood of moving abroad.

Location was also a factor highlighted by this question, with many respondents stating they could not afford to relocate, particularly to more expensive locations such as major cities, making long commutes and travel expenses a concern. Linked to this, many were planning to stay living with their families to avoid the expense of moving out.

"It narrows down my career options as I cannot afford to move to a different city."

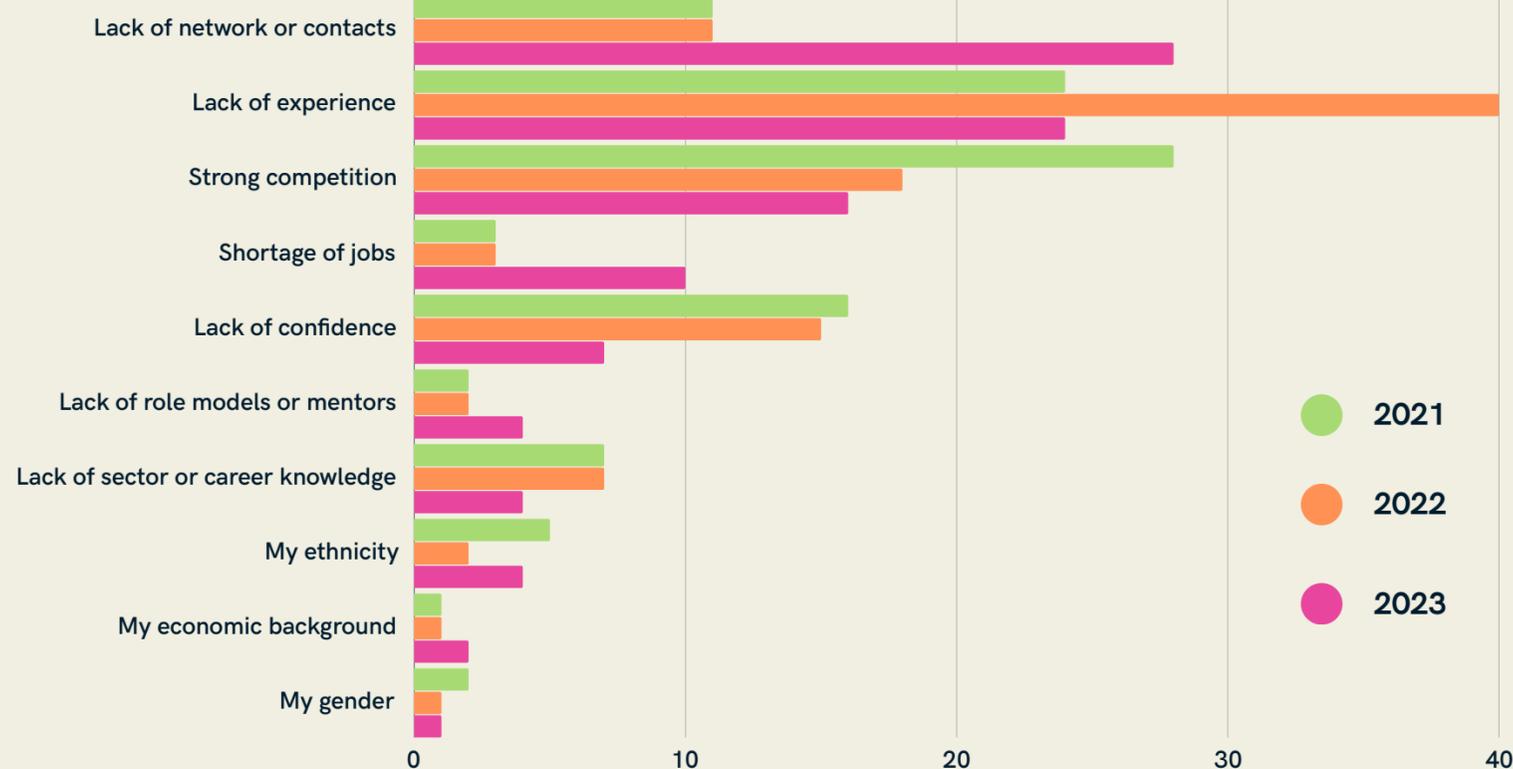"I am restricted in where I can apply because I must consider how I'll commute there."

"I don't think I can afford to take roles in London."

# Barriers to success

We asked respondents to identify the biggest barrier they felt could prevent them from pursuing their chosen career path. We gave respondents a variety of 'barriers', of which they could only choose one.

## Main barrier to success

**What do you think is the biggest barrier to overcome if you would like to pursue any career path you wish?**



Legend:
- 2021
- 2022
- 2023

Categories (top to bottom):
- Lack of network or contacts
- Lack of experience
- Strong competition
- Shortage of jobs
- Lack of confidence
- Lack of role models or mentors
- Lack of sector or career knowledge
- My ethnicity
- My economic background
- My gender

Inn 2023 respondents placed the highest value on social capital, with a lack networks and contacts perceived to be the greatest barrier to success, followed by the regular themes of lack of experience and strong competition.

When considering 'lack of experience', respondents noted that some job descriptions require several years' work experience:

*"Many jobs I'm interested in require 2 years' experience alongside a degree. This makes it difficult as a recent graduate."*

*"I'm a new graduate, so the only practical experience I have is from my research project."*

It is interesting to note, however, that 'lack of confidence' has dropped to 7% and is no longer seen as a prevalent barrier for this cohort. Other barriers which respondents added included: lack of visa sponsorship, age, mental health and disability.

# Career Confidence

We wanted to understand more about the confidence students and recent graduates have when entering into the world of work after leaving university.

For the past three years we have asked respondents to measure their confidence on a scale of 0-100.

**On a scale of 0-100, how confident are you that you will have a successful career after graduation?**



- **67%** 2021
- **70%** 2022
- **71%** 2023
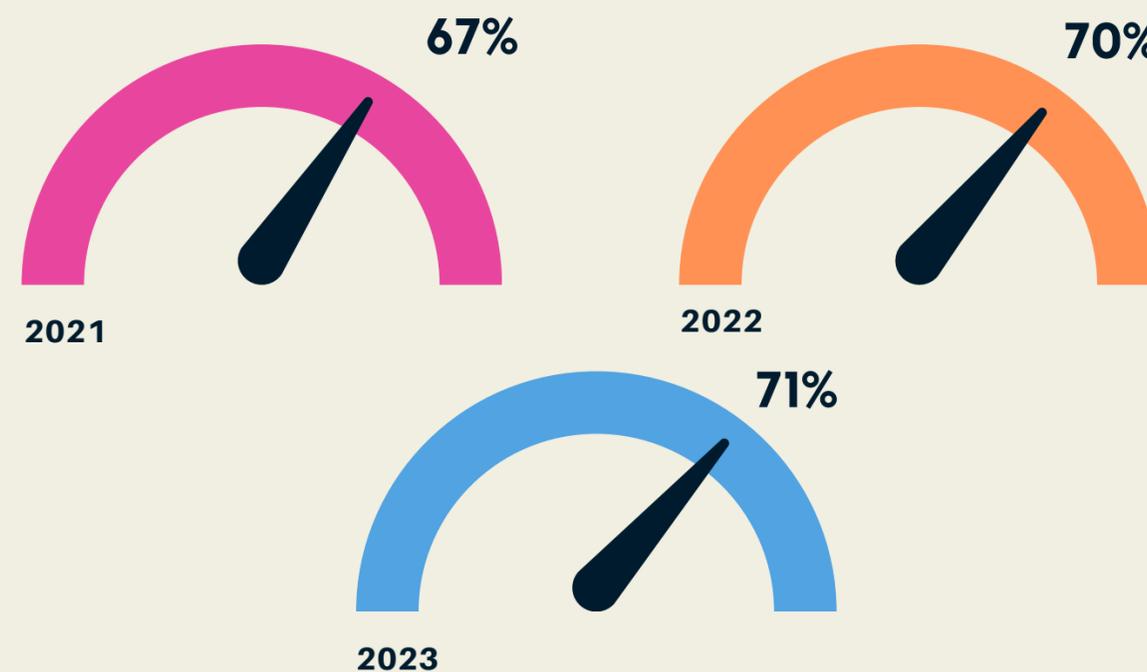
In summary, confidence levels amongst this cohort are reasonably high, and continue to increase post-pandemic. The often-repeated idea that women need to be more confident to succeed in the workplace is not supported by this data. Instead, we see an increasingly confident and optimistic talent pool.

*"It may not be the perfect first role but I will figure out what success means to me and develop skills over time."*

*"If I don't believe, no one else will."*

# The Impact of AI

## What are your thoughts on AI affecting the world of work?
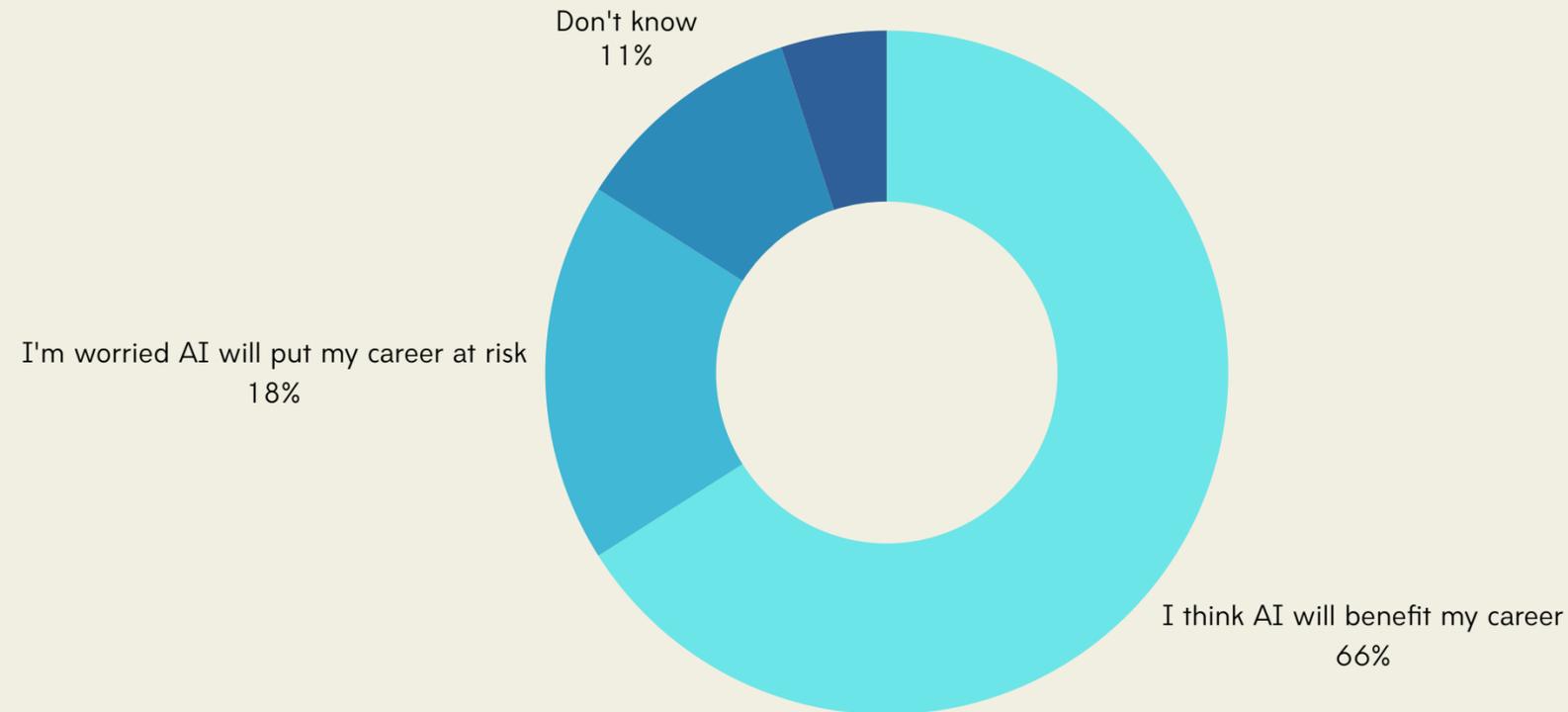
Don't know
11%

I'm worried AI will put my career at risk
18%

I think AI will benefit my career
66%

"AI used in the right way can aid, supplement and make processes faster."

"AI will make more things possible, but isn't yet at the level where it can replace jobs."

"It's like the introduction of the camera; nothing bad happened, we just adapted."

With the rapid developments in generative AI and its impact on the workplace, we wanted to gauge how students perceived these changes and the potential impact on their future careers. Positive benefits included assistive technology, increased efficiency, the removal of more mundane tasks,  and assistance with language skills. Some respondents were studying AI and expected that they would therefore have a career working in this field.

The majority of respondents saw AI as having a positive impact on their career, with 66% saying it would benefit them. Only 18% thought that AI was likely to put their career at risk. Respondents studying in areas such as Chemical Engineering and Environmental Science felt that AI would not have the capability to replace their roles. Others believed that AI could not replace the 'human' elements of jobs, particularly those requiring high levels of empathy or understanding of human behaviour.

11% of respondents were unsure of the possible impacts of AI, or noted that its impact is dependent on how it is used.

# Careers events

All of the survey respondents had attended at least one recruitment at networking event hosted by STEM Women. We asked them how they had found these events and whether attending had provided them with new insights into possible career paths.
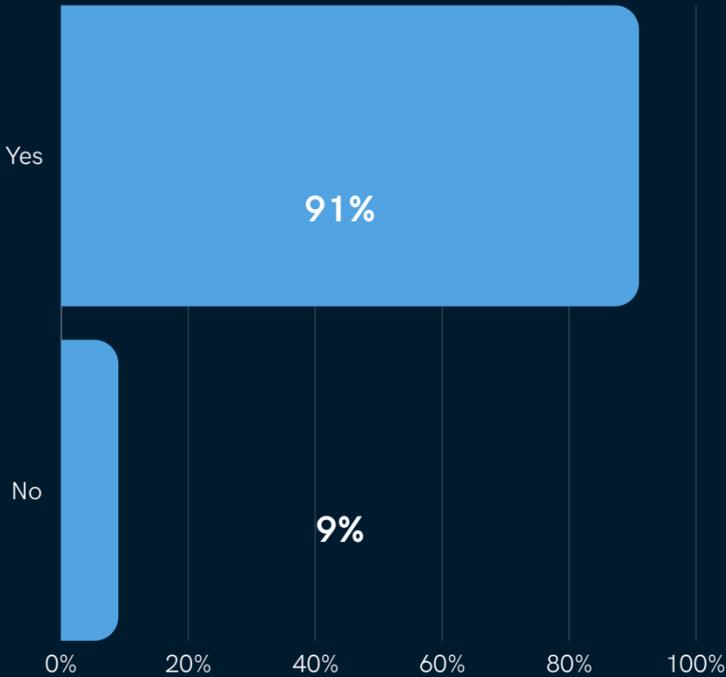
Respondents highlighted the interesting discussions and the wide range of exhibiting companies as important elements of the events, as this introduced them to companies they had not heard of and helped them to make new professional contacts. Attendees also felt that employers were demonstrating a genuine interest in inclusive recruitment by attending the event.

**Yes** 91%

**No** 9%

0% 20% 40% 60% 80% 100%

*"I love to see companies that believe in women"*

*"Involvement in events like this one shows that the company genuinely wants to make an impact and cares about diversity and equality."*

For the small number who told us that the events had not introduced them to new career options, this was generally because they already had a fixed career path in mind. They attended the event with a plan and knew which company representatives they wanted to speak to.

Since 2019, we have asked respondents to indicate how listening to an insight talk from a company affected their view of that company.

## Are you more likely to apply to a company that you heard present at a careers event?

**70%** 2019   **77%** 2021   **73%** 2022   **92%** 2023

Respondents told us that insight talks helped them to understand an organisation's values and ethics, company benefits, and hiring journey. They enjoyed hearing authentic career journeys and getting to know the people behind the brand, noting that the talks are 'personal and real'.

*"It helps to hear from people working at the organisation rather than reading off a website."*

### Key Point
Careers events like STEM Women's, which focus on diversity, raising aspirations, and increasing confidence by showcasing role models, help to engage and attract STEM students and graduates through authenticity and knowledge-sharing. The increasing number of respondents who are influenced by meeting employers at events aligns with the idea of new hires wanting to see the real organisation beyond the organisational website. In 2023, genuine connections were more important than ever, and we expect this trend to continue in 2024.

**28%** of respondents told us that a lack of networks or contacts was their biggest barrier to career success.

# The Future for Women in STEM

IT and Engineering industries have some of the lowest diversity statistics out of all of the STEM-related sectors, with women making up just 12% of engineering professions and 19% of IT professionals. Over five years, we asked students and graduates how they think the gender imbalance will changed over the next 10 years.

## In 10 years time, do you think the gender balance will have improved in IT and Engineering industries?

**2019**

Stay the same
1%

Yes, significantly
42%

Yes, moderately
57%

**2021**

Stay the same
3%

Yes, significantly
35%

Yes, moderately
62%

**2022**

Stay the same
5%

Yes, significantly
39%

Yes, moderately
56%

**2023**

Stay the same
4%

Yes, moderately
44%

Yes, significantly
52%

From 2019 – 2022, an average of 39% of respondents expected to see a significant increase, with 58% expecting a moderate increase and 3% expecting the balance to remain unchanged.

In 2023 we see a greater optimism, with 52% of respondents expecting significant and 44% expecting moderate change.

Reasons for this optimism included a greater visibility of initiatives which take positive action in encouraging and supporting women into STEM, and a general societal acceptance of the need for equality.

*"There are more opportunities such as events and networks that boost knowledge, confidence and interpersonal skills."*

*"As society is becoming more accepting of women in STEM, I believe there will be more opportunities opening for us."*

*"Initiatives like STEM Women's events are encouraging more women into STEM."*

Those who expected a more moderate rate of change recognised the ongoing challenges in this area, including the general perception that men are better suited to STEM jobs, the lack of women in leadership, and the effect of bias in recruitment processes.

It is interesting to note that not a single respondent expected the number of women in STEM to decrease.

### Key Point

The next generation of women in STEM are optimistic about their future in these industries – the question is whether their optimism is reflected within the workplaces they will go into, or whether they will face exclusion and bias leaving them disheartened and seeking careers elsewhere.
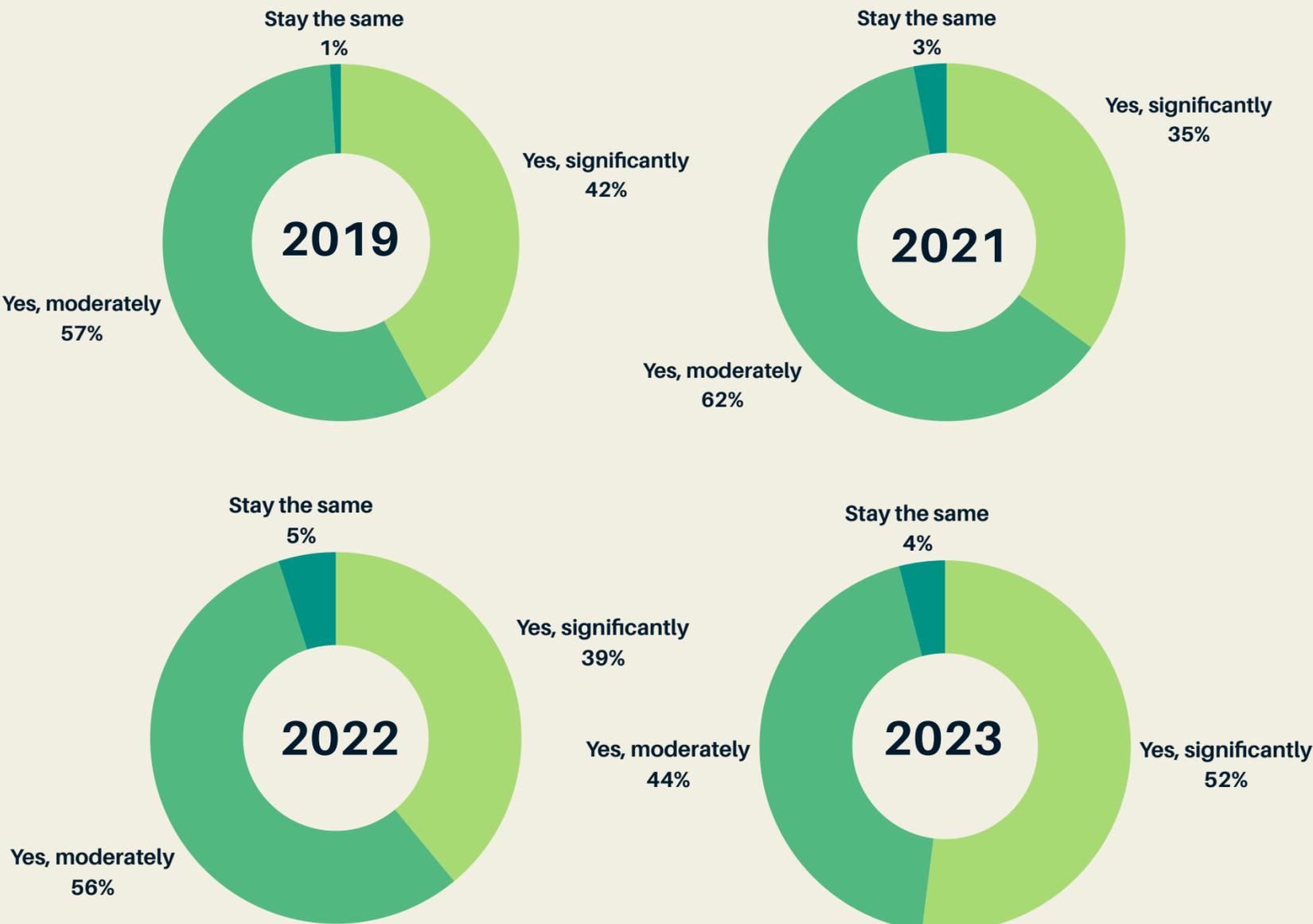
# Conclusion

This report offers an insight into how the STEM Women community feel about their future careers in STEM. It explores the results of STEM Women's research into students' and graduates' attitudes towards Diversity, Equality and Inclusion (DEI) campaigns, representation in STEM, and gender balance in the workplace.

Key themes and insights:

- Diversity, Equality, Inclusion and Belonging in STEM
- Expectations for the new world of work
- Perceived barriers to success
- The future outlook

The report highlights the importance of addressing the slow rate of change in the representation of women in STEM, which remains at 26%. Despite many efforts to address the 'leaky pipeline' of female talent in fields such as technology and engineering, a more focussed and practical approach is needed in order to create a step-change.

Responses to this research demonstrate that diversity initiatives are still a key part of this work, and are not only welcomed, but *expected* by students and graduates. 62% of respondents indicated that the gender balance of a company could even influence their decision to accept a job offer, particularly those who had experienced negativity, micro-aggressions or outright discrimination in their academic and career journeys As we saw in previous years, it is the authenticity of DEI initiatives which has the greatest impact, with respondents telling us they wanted to be valued for their skills and achievements.

Families, teachers, and educational opportunities played an essential role in fostering a sense of belonging in STEM, with 87% of respondents telling us they felt that they 'fit in' on their STEM course at university and 80% feeling they had been encouraged to study or work in STEM. This is caveated as the respondents, being current STEM students and graduates, are more likely to have received support. Some respondents also reported negative experiences and discrimination at stages throughout their studies and careers.

Next, we wanted to explore the transition into the workplace for female students and graduates in STEM. One of the major changes post-pandemic is the move to hybrid or remote work, with many diverging views on the pros and cons of these changes, and predictions for the future world of work. 67% of respondents expect to be working within a hybrid arrangement in their first job post-university, with only 1% expecting to be fully remote, and only 32% expecting to work in an office full time (or other on-site environment e.g. a lab).

When it comes to what they *want*, 79% of respondents told us they would prefer a hybrid approach, with only 3% looking for fully remote roles and only 18% wanting to work full-time on-site. Respondents were vocal and informed on the many benefits of hybrid working, and looked forward to a level of flexibility in their working day. Many of the positives of hybrid working reflected the needs of underrepresented groups such as carers, parents, disabled or neurodiverse people, and those managing physical or mental health conditions. This is a key point for recruiters and line managers to consider when planning recruitment campaigns and onboarding for women in STEM.

With the rapid developments in generative AI and its impact on the workplace, we wanted to gauge how students perceived these changes and the potential impact on their future careers. Positive benefits included assistive technology, increased efficiency, the removal of more mundane tasks, and assistance with language skills. The majority of respondents saw AI as having a positive impact on their career, with 66% saying it would benefit them. Only 18% thought that AI was likely to put their career at risk. 11% of respondents were unsure of the possible impacts of AI, or noted that its impact is dependent on how it is used.

The report also sought to gauge the impact of the Covid-19 pandemic and the cost of living crisis. 65% of respondents said that their future career has been impacted to some extent by the Covid-19 pandemic, with consequences including delay to further study, being unable to get work experience, higher rates of redundancy and reduction in hiring. 84% of respondents noted that the cost-of-living crisis is impacting their career decisions, placing increased importance on salary levels and the location of job opportunities.

We asked respondents to consider the barriers which might hinder their career success, seeking to identify the most prevalent concerns for this cohort. Whilst earlier versions of this report have highlighted 'lack of confidence' as a major factor for women in STEM, in recent years this has been less of a concern, replaced by other factors such as 'shortage of jobs' (the main concern for 10% of respondents), strong competition (16%) and lack of experience (24%). In 2023, 28% of respondents chose 'lack of network or contacts' as the biggest perceived barrier to success, making it the most prevalent concern. This is an increase of 17% from 2022, showing the increasing focus on social capital and connections for career development.

On the subject of career confidence, we asked respondents to measure their confidence on a scale of 0-100. For all respondents that answered, the average score was 71%, an increase of 1% from 2022. This positive increase, although gradual, underpins the sense that this cohort of female STEM students are self-confident and have an optimistic outlook for the future. This challenges the often-stated idea that 'women in STEM need to be more confident'.

Similarly, respondents expected to see positive change within the representation of women in STEM, with 52% expecting significant change in the next ten years, and 44% expecting moderate change.

Next, we investigated the impact of careers events and how they can influence the future career paths of graduates. From 2019 to 2022, the percentage of respondents who said that a STEM Women event had introduced them to new career paths grew from 58% to 78%. In 2023, this positive response grew to 91%. We saw a similar increase in the number of respondents who said that they are more likely to apply to a company that they had heard present at a careers event: 92% of respondents answered yes to this question, an increase of 19% from 2022.

In conclusion, attendees at STEM Women's 2023 events demonstrated high levels of confidence and optimism towards their future careers in STEM, underpinned by a strong sense of belonging developed through their university experience. It is essential that this confidence is maintained and developed as candidates transition into the workplace, through authentic approaches to inclusivity in the recruitment, progression and retention of women in STEM.

# 2024 Events

DUBLIN STEM WOMEN GRADUATE CAREERS EVENT: 14TH JUNE 2024

LONDON STEM WOMEN GRADUATE CAREERS EVENT: 19TH JUNE 2024

EDINBURGH STEM WOMEN GRADUATE CAREERS FAIR: 1ST OCTOBER 2024

LONDON STEM WOMEN GRADUATE CAREERS EVENT: 9TH OCTOBER 2024

MANCHESTER STEM WOMEN GRADUATE CAREERS FAIR: 16TH OCTOBER 2024

GLASGOW STEM WOMEN GRADUATE CAREERS FAIR: 17TH OCTOBER 2024

AMSTERDAM STEM WOMEN GRADUATE CAREERS EVENT: 21ST OCTOBER 2024

BIRMINGHAM STEM WOMEN GRADUATE CAREERS FAIR: 23RD OCTOBER 2024

NEWCASTLE STEM WOMEN GRADUATE CAREERS FAIR: 29TH OCTOBER 2024

LEEDS STEM WOMEN GRADUATE CAREERS FAIR: 30TH OCTOBER 2024

DUBLIN STEM WOMEN GRADUATE  CAREERS FAIR: 5TH NOVEMBER 2024

BRISTOL STEM WOMEN GRADUATE CAREERS CAREERS FAIR: 6TH NOVEMBER 2024

LONDON STEM WOMEN GRADUATE CAREERS EVEN: 13TH NOVEMBER 2024

# Contact



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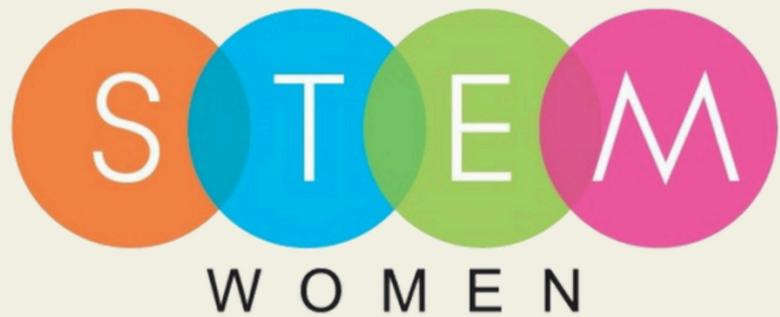
@stemwomenevents

Thank you to everyone who took part in the research and contributed to this report.

Please get in touch if you would like to exhibit at a future STEM Women event.