

BCS DIVERSITY REPORT 2020

PART 1 / 2

BCS, The Chartered Institute for IT

25 May 2020

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Making IT good for society

Established in 1957, BCS, The Chartered Institute for IT, is the leading body for those working in IT. With a worldwide membership now of more than 55,000 members in over 100 countries, BCS is the qualifying body for Chartered IT Professionals (CITP).

BCS was incorporated by Royal Charter in 1984. Its objectives are to promote the study and practice of computing and to advance knowledge of and education in, IT for the benefit of the public. BCS is also a registered charity.

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INTRODUCTION

This 2020 update by BCS, The Chartered Institute of IT, on its diversity research has put more focus on asking respondents for practical suggestions, what they've seen that is good and what works.

This report (part 1 of 2) covers BCS original research. Part 2 features an analysis of the latest ONS figures on gender, age, ethnicity and disability in the IT industry.

For the BCS section, the top line results do not make for rosy reading. Only 13% of respondents consider that their organisation makes it a high priority to have a diverse team, with 31% feeling it is relegated to a low priority status. That perception does not fit very well with the well-known benefits of developing with diverse teams — also reflected in this survey — where 49% considered that teams who lack diversity would build AI applications with biased decision-making (only 14% thought this wasn't a problem).

Gender and age are perceived to be the main diversity barriers to getting a first job in IT, but when it comes to progressing a career gender comes out as a clear leader.

Worryingly, 36% of respondents consider themselves to have been the victim of prejudice or discrimination in their workplace in the last 12 months. When taken with the fact that a full third of respondents have received no diversity training of any kind, that is maybe unsurprising. And, when looking from the outside in, 44% consider that they have witnessed another person as a victim.

1 OVERVIEW

1.1 Which groups are most at risk of bias with non-diverse development teams?

As BCS always does, we asked several questions requiring verbatim answers. Whilst not, by definition, quantitative, these questions are a good way to see some of the feeling behind the numbers.

Some answers to the above question were what would certainly be expected — that anybody other than reasonably affluent white males, with higher education and often connected to so-called tech bro culture would probably be at a disadvantage with non-diverse teams.

And there were some nicely turned expressions that could function as rules of thumb when doing development work: ‘those not in the room,’ for example, is a good catch-all principle. An interesting nuance on that was this remark: ‘the minorities in the AI development location (may suffer from lack of representation) because we know there are more foreign cultures in London than Chester, for example, so the likelihood of bias in London will be lesser.’

And taking the discussion into a broader realm is this answer: ‘anyone whose philosophical beliefs might affect their use or interpretation of a solution.’

As always, there are considerations far beyond the specificities of code — for example, what happens to people’s representation if English is their second language? One responder also said this: ‘Simple stuff! I didn’t believe it when I read that Alexa was tested largely on male voices, but if she doesn’t respond the first time, I lower my voice a couple of tones and “hey presto!”’

In developing applications for certain groups, experience of the issue being addressed was noted as being important — along with its attendant complexity. What if there is a lack of sufferers of chronic health conditions on teams building medical AIs, for example?

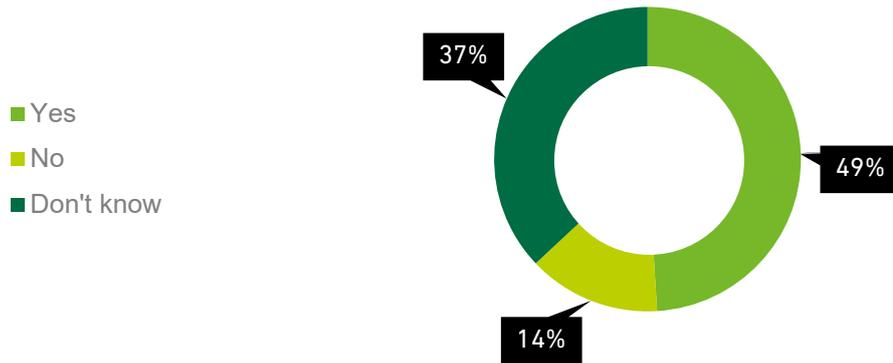
One member writes:

‘anyone with a chronic health condition knows how important it is to explain very precisely to a doctor what issue you are currently facing and what has changed recently; otherwise they’ll focus on your chronic condition and effectively deny you treatment.

‘An opaque AI system won’t have such an interface to let you make such subtle distinctions by default. The effect will be to deny a lot of people with chronic conditions healthcare for anything but their chronic condition.

‘Any context that today requires you to make a careful, sequential explanation to another human being has a risk of just being denied without rationale by a non-diverse AI team.’

IN YOUR VIEW, ARE TEAMS WHO LACK DIVERSITY MORE LIKELY TO BUILD ARTIFICIAL INTELLIGENCE (AI) APPLICATIONS THAT DISPLAY BIAS IN THE DECISION-MAKING?



Source: BCS

Virtually half (49%) feel that teams who lack diversity are more likely to build AI applications that display bias in their decision making.

1.2 The benefits of diverse teams

To take the more positive angle, we also asked members to talk about the benefits of diverse teams. Inherent in some of those answers is an expectation that we start from some awareness of team limitations. For example, one member talks of 'broad life experience, specialist knowledge of cultural experience.' This member goes on to suggest that we need to find ways of exposing biases much closer to the 'creation of an app, rather than persisting till testing. This is about the importance of noticing unstated assumptions.'

As another respondent points out:

'THERE ARE SO MANY OTHER POINTS OF VIEW THAT NEED INCORPORATING THAT THE CURRENT DEVELOPER PROFILE WILL SELDOM THINK OF.'

Clearly this is no easy task, with some of the view that getting a fully diverse team is almost impossible without, as one respondent said, diversity being 'mandated with further mitigation of user testing within non-included groups. Unconscious bias is extremely difficult to identify and eradicate.'

Another commenter alludes to bias as a management style issue:

'BIAS ALSO DEPENDS ON THE DATA THAT IS BEING USED FOR THE TRAINING AND THE TYPE OF AI SYSTEM. IF THE DATA IS FLAWED OR OVERTLY DIRECTED BY A SINGLE PERSON OR GROUP OF PEOPLE THE AI SYSTEM WILL BE FLAWED, REGARDLESS OF THE TEAM DYNAMIC.'

BCS recently interviewed Rupert MacNeil, the government's Chief People Officer (see The Gem of all Mechanisms podcast), who looks after around 4,500 people in government HR. He has very robust views of the requirements for diversity in teams.

'Ten, 20, 30 years ahead, what type of people do we need, for example, to deal with the cyber environment with a backdrop of climate change and burgeoning automation?' he asked.

‘DIVERSITY IN ALL ITS FORMS IS GOOD FOR DECISION-MAKING. SOME JOBS ARE BETTER DONE BY CERTAIN NEUROTYPES. IN FACT, I’D RATHER SAY IT IS A WORLD OF MULTIPLE NEUROTYPES THAN THAT A PERSON IS NEUROTYPICAL OR NON-NEUROTYPICAL.’

‘Actively recruiting for people on the autism spectrum and not just in IT type roles but data analysis — is interesting for the working life of the UK.’ McNeil also mentioned that at the civil service, they populate internships with certain neurotypes in mind. They also pursue such tactics as non-live video interviewing to enhance diverse applicant inputs.

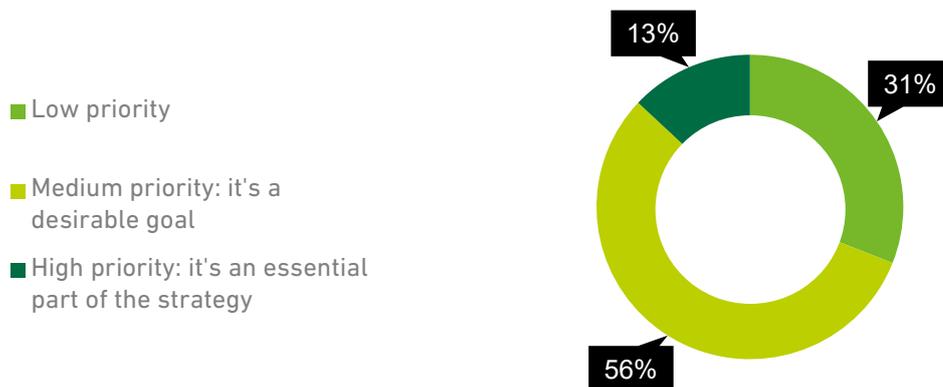
As an interesting aside, McNeil mentioned that even very basic issues, such as office environment, can either help or hinder diversity efforts. He discussed lighting, temperature, oxygen levels, ambient noise, environmental colour choices. Here it can get somewhat complicated — some people need low noise visual environments, whereas, for example, those with early stage Alzheimer’s may need more visual cues. As McNeil said: ‘this makes HR an interesting and challenging area.’

In June 2020 issue of ITNOW BCS President Rebecca George draws attention to the ongoing difficulty in attaining something approaching gender balance in IT roles.

In discussing what can be done in a practical sense, Rebecca commented, ‘I’ve been working to promote women in IT now since the mid-1990s. We have made progress, there’s no question. But it is snail-like in its progress. I still think it’s multi-faceted. There’s still more to do to make the curriculum more inspirational to girls but also to enable girls to participate more fully in the classroom. There’s more to do around role models so that girls can see successful women in the IT industry and in the other STEM industries and aspire to those sorts of jobs.

‘There’s more to do, not possibly at the apprentice or graduate recruitment stages of peoples’ careers — I know from my practical experience that we and our clients do well with ethnic minorities and women in early years of careers — but we don’t do well enough at retaining those people through the middle years of their career and into the senior levels. I think some sort of more radical approach is probably required.’

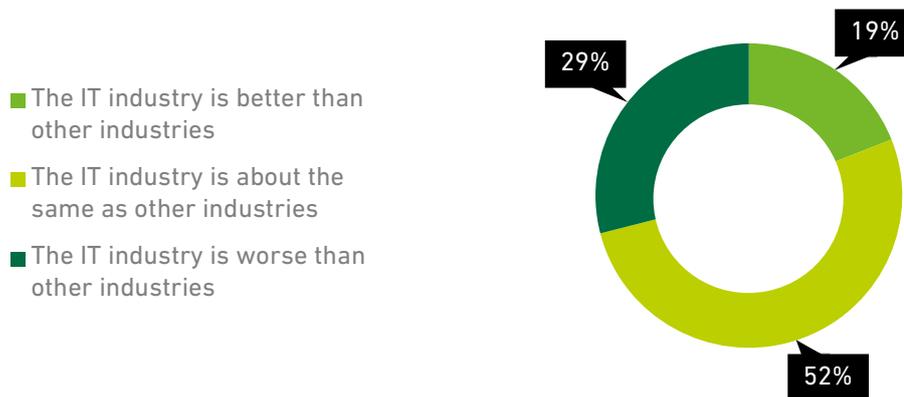
WHAT PRIORITY DO YOU THINK IT ORGANISATIONS IN GENERAL GIVE TO HAVING A DIVERSE TEAM?



Source: BCS

Only 13% of participants think that IT organisations make it a high priority to have a diverse team. 56% rate it as a medium priority and 31% feel it is a low priority.

HOW DO YOU THINK THE IT INDUSTRY'S APPROACH TO DIVERSITY ISSUES COMPARES WITH OTHER INDUSTRIES?



Source: BCS

Just over half of respondents (52%) think that the IT industry is about the same as other industries regarding its approach to diversity issues. 19% believe the IT industry to be better and 29% feel it is worse.

1.3 Tips for improving diversity

With the problems well publicised, what can be done practically at a large scale? The following are suggestions from survey respondents:

- > 'Measure your diversity progress.'
- > 'It's about training: do not always hire people who are currently experts or have the correct experience, this continues the homogeneity.'
- > 'Pursue a philosophy that accepts that experience does not equal ability.'
- > 'Collect work-based data on diversity measures to create an evidence base for improvement.'
- > 'Record your case studies, both to show how pervasive unconscious bias is, how it works against equality of opportunity and also to show examples of where conscious welcoming of diversity has improved outcomes.'
- > 'Embed diversity training in all roles and inclusiveness training in line with the Equality Act.'
- > 'Encourage the idea that a tech career is for anyone.'
- > 'Take personal responsibility: call out and address bias in others.'
- > 'Try reverse mentoring.'
- > 'Anonymise CV and application profiles.'
- > 'Champion meritocracy over favouritism.'

Some members gave longer views encompassing some of these issues. For example, with the underlying message of educating ourselves on how some people may be affected by things not relevant to job performance, one member writes, 'maybe some older people have fallen behind technology or practice, but others haven't. It's the currency that matters, not the age. Encourage consideration of diversity in team-building and social activities.'

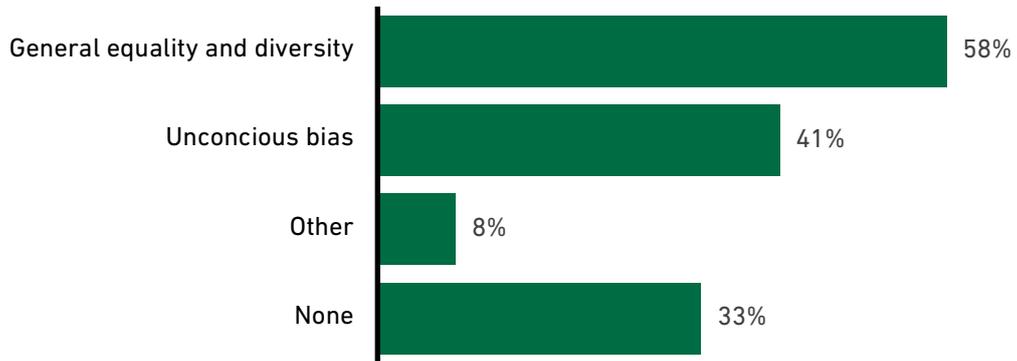
'My experience is that these have been universally loud and brash (bad for those on the autism spectrum) and have centred around alcohol (bad for those who cannot, or choose not to, drink).'

'Another example is the fashion for stand-up meetings — a challenge for those who cannot comfortably stand for long periods. Encourage practices that do not exclude those with hidden disabilities.'

In the same vein, is this simple advice: 'read Tomas Chamorro-Premuzic's book.'

'Address the real problem: ageism', writes another member, 'stop all the nonsense about a STEM shortage — there isn't one. What there is, is a shortage of (cheap!) young graduates. Companies need to invest far, far more in their older workers, of all backgrounds, through more training.'

WITH YOUR CURRENT EMPLOYER, WHAT KIND OF DIVERSITY TRAINING HAVE YOU RECEIVED, IF ANY?



Source: BCS

67% of participants have received some form of diversity training from their current employer.

1.4 Some experiences from organisations with good inclusivity policies

Some members related interesting and positive personal experiences:

- > 'One small group at an organisation with more than 28,000 staff hired someone to come in and perform a secret shopper style review of their interview and engagement processes,' writes one.
- > Another discusses being interviewed by three women for a job. 'Novel and the best interview experience — not intimidating but more of a conversation,' writes the member.
- > 'I recommend the government success profiles,' said one member, 'it helped me get my next job! The application process was time consuming but allowed me to be assessed based on my experience in areas essential to the role, rather than someone making judgement based on my CV.'
- > 'I visited an organisation where a senior research manager lived with Tourette's syndrome,' wrote another. 'He explained his condition at the beginning of our meeting — in a purely factual and non-apologetic way — and then the meeting proceeded perfectly normally, with no-one actually noticing the manifestations of his condition. It was really heartening.'
- > 'I worked for one of the largest software vendors on the planet and they had many practical means to engage with diverse groups for the purposes of inclusivity,' writes another responder. 'This includes a lady I worked with being appointed as a champion for minority groups in the local region and having entire conferences around diversity and inclusion, not to mention focused strategies.'
- > 'I've also worked for and alongside small consulting firms that, even without those resources, are still able to provide a place for "difference" by simply being human enough to understand and promote the unique capabilities of the individual and make allowances for that. It came down to experiential relationships — i.e. relations that are based on intimate shared experience over time.'
- > 'I now work privately for my own small firm and one of the best compliments I received was a young Arab Muslim IT consultant I had worked with for some time asking me if he could pray in a corner of the room, while I was there. As a white Christian South African male who assented without the slightest hesitation, I was glad he felt free enough to do so.'

1.5 Examples of good inclusivity

BCS asked for examples of good workplace inclusivity. Responses included:

- > 'Create workplace groups to represent different groups, Yammer groups.'
- > 'Provide breastfeeding rooms.'
- > 'Use an external agency to de-bias recruitment ads.'
- > 'Appoint an inclusion officer.'
- > 'Make resources available for different groups, endorsed and encouraged by management.'
- > 'Undertake name-blind recruiting.'
- > 'Encourage autism awareness training.'
- > 'Implement location-neutral policies.'

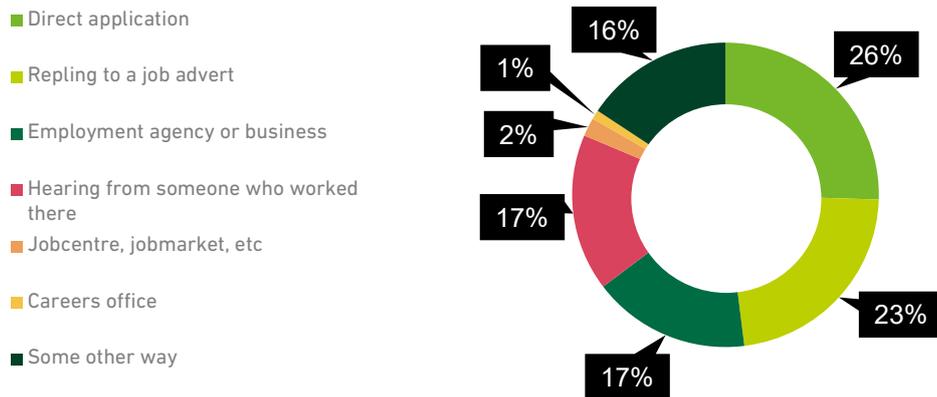
1.6 Work culture

BCS received a number of comments on the effect of work culture.

- > 'We need flexible working, remote working, shorter hours, job sharing, better diversity and unconscious bias training, better support for staff (especially for staff retention), reduction in support for contract culture, visible push back on lad culture, visible push back on xenophobia (especially given the increase since Brexit, not just against non-Caucasians, but against Europeans in general). Stop putting the focus on getting more diversity in and do something about the phenomenal attrition rates. (You don't really expect women to advocate for more women when those in the industry are getting battered).'
- > 'I previously worked in a very male-dominated environment with lots of prejudice, particularly around parenthood but also about gender. My current employer has high level female management and it makes a big difference to attracting new staff. However, the overall attitude is also much better for everyone. Based on my experience, representation matters at a high level of management to attract the next generation along.'
- > 'Unionise. Engineers need to do the right thing and take responsibility for their actions, but when they say "no" they also need someone who will stand behind them and support them.'
- > 'My workplace is great for people with family commitments — there's a strong precedent of people taking time off and working funny hours around childcare and other dependencies and a culture of supporting each other. Precedents were set by the founders early on and it's stuck. Also, we're a fully remote organisation so everyone works from home, which is great for balancing work with family commitments!'
- > 'One manager I have been mentored by ensures that he checks with all attendees to meetings that they have no additional requirements. It led him to have all his team meetings by web conference and everyone has their face on screen because one team member is deaf and lip reads. This is something that is now being taken up by the company and they support this being the meeting type of choice to ensure more people are included in the meetings properly.'
- > 'What would help? Flexible working, no dress code, independent HR complaint services, contracts that do not contain clauses that impose secrecy.'
- > 'My management informed co-workers of an employee undergoing gender transition, in a sensitive way coordinated with the employee. Management routinely advised all staff of the start of Ramadan, reminding us to be sensitive to those fasting.'

2 BCS DIVERSITY SURVEY ANALYSIS

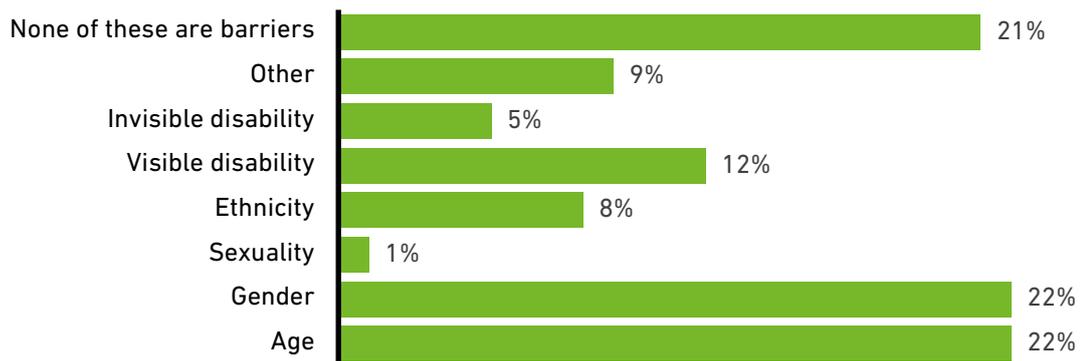
HOW DID YOU OBTAIN YOUR CURRENT (OR MOST RECENT) JOB? (PLEASE TICK ONE BOX ONLY)



Source: BCS

Nearly half of participants obtained their current job either by direct application (26%) or replying to a job advertisement (23%).

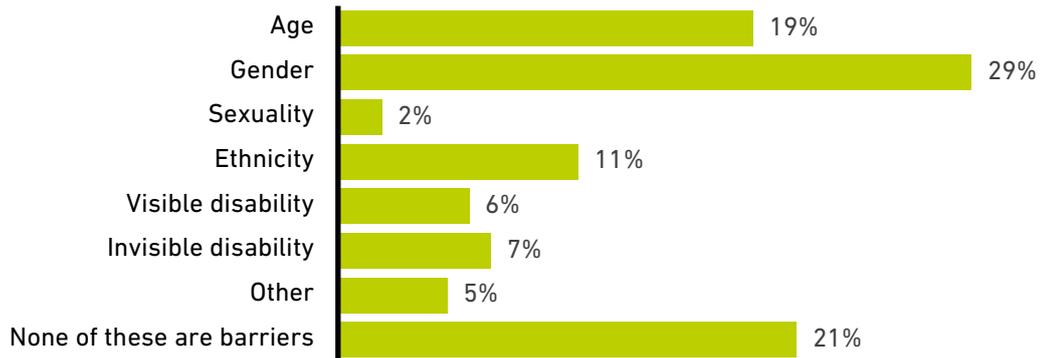
IN YOUR VIEW, WHICH OF THESE, IF ANY, IS THE BIGGEST DIVERSITY BARRIER TO GETTING A FIRST JOB IN IT? (PLEASE TICK ONE BOX ONLY)



Source: BCS

Age and gender (both 22%) are believed to be the top two diversity barriers to getting a first job in IT.

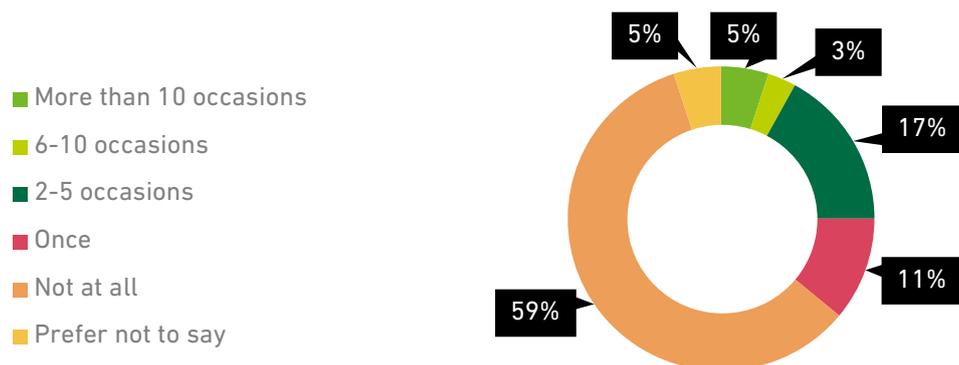
IN YOUR VIEW, WHICH OF THESE, IF ANY, IS THE BIGGEST DIVERSITY BARRIER TO PROGRESSING A CAREER IN IT (I.E. PROMOTION)? (PLEASE TICK ONE BOX ONLY)



Source: BCS

When it comes to progressing a career in IT, gender is clearly perceived as the biggest diversity barrier (29%) followed by age (19%) and ethnicity (11%).

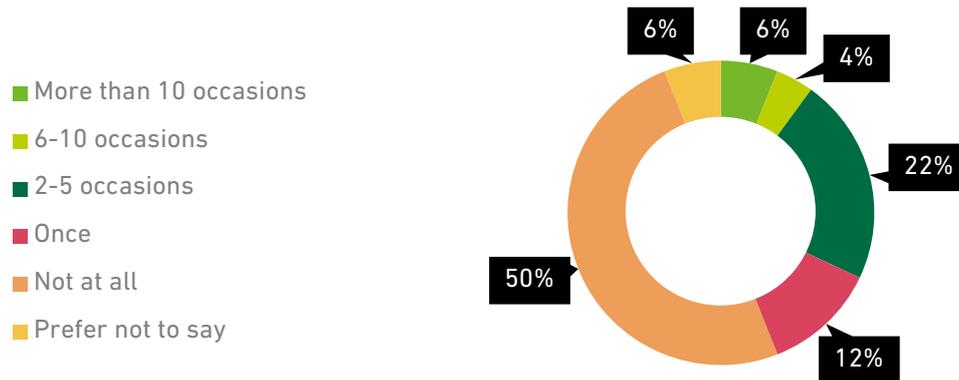
IN THE LAST 12 MONTHS, HOW FREQUENTLY HAVE YOU BEEN THE VICTIM OF WHAT YOU WOULD CONSIDER PREJUDICE OR DISCRIMINATION WITHIN YOUR WORKPLACE?



Source: BCS

36% of respondents claim to have been a victim of prejudice or discrimination in their workplace in the past 12 months.

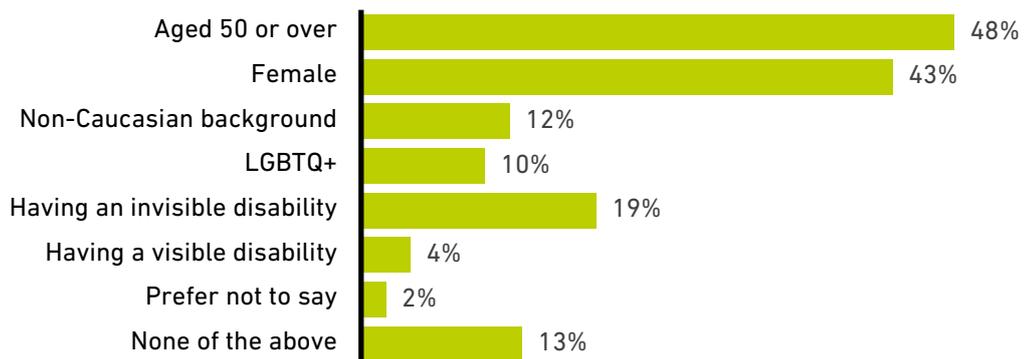
IN THE LAST 12 MONTHS, HOW FREQUENTLY HAVE YOU WITNESSED ANOTHER PERSON BE THE VICTIM OF WHAT YOU WOULD CONSIDER PREJUDICE OR DISCRIMINATION WITHIN YOUR WORKPLACE?



Source: BCS

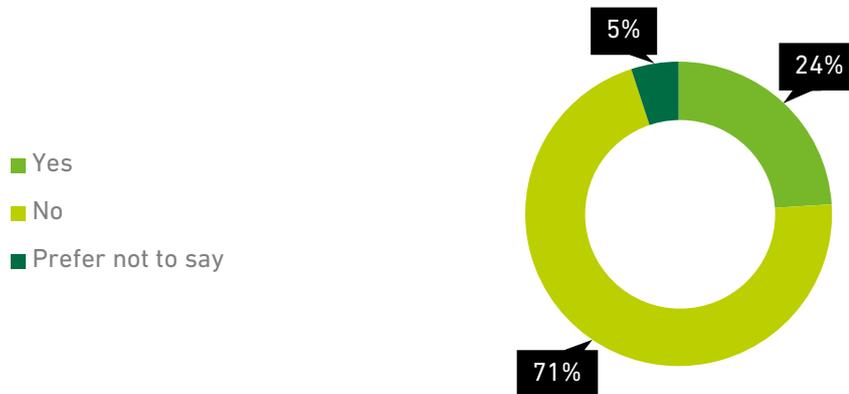
44% of respondents claim to have witnessed another person be the victim of prejudice or discrimination in their workplace in the past 12 months.

WE ARE RESEARCHING SPECIFIC TRENDS WITHIN SOME CATEGORIES OF WORKERS – DO YOU SELF-IDENTIFY WITH ANY OF THE FOLLOWING? (PLEASE TICK ALL THAT APPLY)



Source: BCS

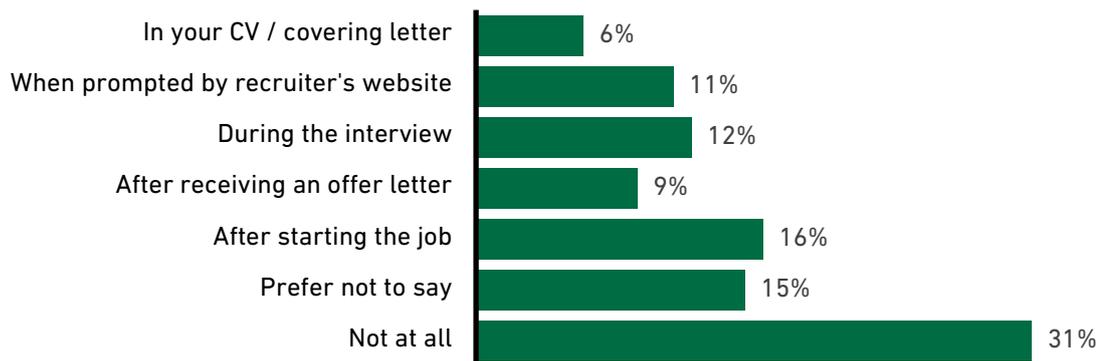
DO YOU FEEL TRAPPED IN YOUR CURRENT JOB?



Source: BCS. Base: all self-identifying with one or more of aged 50+, female, visible or invisible disability, LGBTQ+, or non-Caucasian background (n=365)

Among those who self-identified with one of the areas we are researching, 24% indicated that they feel trapped in their current job. 71% claim they are not trapped whereas 5% preferred not to say.

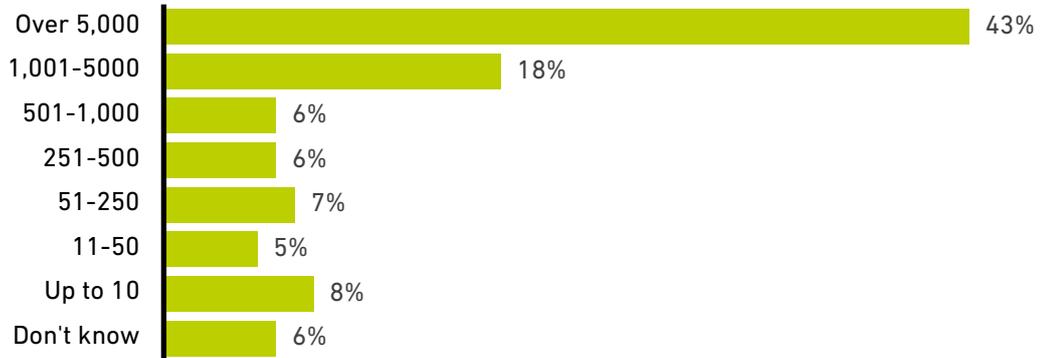
AT WHAT POINT IN THE RECRUITMENT PROCESS DO YOU DISCLOSE YOUR DISABILITY? (TICK ONE BOX ONLY)



Source: BCS. Base: all with visible or invisible disability (n=94)

Among those with a disability (visible or invisible), 31% do not disclose their disability at all during the recruitment process. 16% disclose it after they have started the job and only 12% mention it during the interview.

HOW MANY PEOPLE ARE CURRENTLY EMPLOYED BY YOUR ORGANISATION WORLDWIDE?



Source: BCS

2.1 Technical notes

The survey was conducted online by BCS. A total of 461 respondents completed or partially completed this questionnaire during the period 25 February to 17 March. The survey was promoted via a number of means including a direct email invitation to c6,000 BCS members based in the UK of working age (excluding student members), the weekly newsletter, social media channels and basecamp.