



National Cyber  
Security Centre  
a part of GCHQ



# Decrypting Diversity


Diversity and Inclusion in Cyber Security

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2020

The right mix of minds  
**makes anything possible**





"There are massive challenges in talent across every industry, cyber security being just one. It's vital that the industry further diversifies and encourages a broad base of talent at all levels. It's really easy to build a team of people that look and feel like you, but if you do, you won't get a team that's truly seen and heard. If everyone's the same, chances are their opinions are the same, and you'll lose out on the great ideas that diverse perspectives can bring."

**Martha Lane Fox CBE, Entrepreneur  
and Crossbench Peer**



## Why you should read this report

Decrypting Diversity 2020 is a joint report between the National Cyber Security Centre (NCSC) and KPMG UK, supported by Professor Nick Jennings, Vice-Provost (Research and Enterprise) of Imperial College London. It is the first in an annual series that will benchmark and track levels of diversity and inclusion in the cyber security industry.

The report's aim is to help drive a more diverse and inclusive culture in the UK cyber security industry. It provides valuable information that we hope will catalyse organisations to challenge their assumptions and take evidence-based actions. To compile this data the report draws on a survey of 1,252 cyber security professionals, designed to understand diversity in the industry and experiences of inclusion and discrimination in places of work or study.

Digital systems are a part of our critical national infrastructure, and keeping them secure and resilient is more vital than ever. Improving diversity and inclusion will be crucial to the cyber security industry's ability to address its well-documented skills gap. We expect this report, and those that follow it, to have a positive impact on that process.



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"This report on diversity and inclusion in the UK's cyber security industry couldn't be more timely. Diversity in the sector is growing but these findings shed light on the discrimination still faced by marginalised groups in the workplace. If diversity is to be impactful and sustainable, it needs to be built on an inclusive culture. The creation of a benchmark will highlight how we can ensure that everyone feels confident and safe at work, which I welcome."

**Jacqueline de Rojas CBE, President, techUK**



**Ciaran Martin**  
CEO, NCSC

# Forewords

The NCSC is committed to transforming the cyber security industry into an exemplar of best practice for diversity and inclusion. This isn't just because the industry thrives on a mix of minds and fresh perspectives, although that is of course important. It is because we have a moral duty to do so.

The findings of this report are far from straightforward and will need careful consideration. In some respects, there is cause for encouragement. In terms of diversity, it finds that the representation of some minority groups in the industry is either around or above the national average. This can always be improved, but it is a start. Much more troubling are the findings on inclusion, which paint a picture of an industry which is far behind where it should be.

That one in five respondents to our survey felt they could not be themselves at work is troubling enough, but what is even more disturbing is the evidence of discrimination against minority groups. To pick just one example, over 40% of Black cyber security professionals feel they have experienced discrimination over their ethnicity in the past year. There are other, equally shocking, examples. They should be a source of deep shame for all in the industry, the kind of stark accounts which simply cannot be ignored.

It cannot be right that in the year 2020 there are still people within our industry who feel they can't be themselves or who face discrimination because of who they are and this report should act as a wake-up call for all of us. There is far more to do on diversity and inclusion and the NCSC is determined to be a leader in this field, which is why we are committing now not only to accepting all the report's recommendations but also setting out before the end of the year the further concrete steps we will be taking.

It is right that the NCSC should lead, but a cross-industry effort is required if we are truly bring meaningful change. This report marks the start of that journey: I urge all cyber security leaders to read this report and act on it.



The UK is a creative and innovative nation. Our challenge is to establish the right conditions in which our cyber industry can thrive. This report is the most extensive conducted with individuals working in the UK cyber security industry, and I hope it will provide a catalyst for change.

The findings provide an uncomfortable first insight into the challenges faced and I hope it will provide an agenda for positive change that we can measure over the coming years. Reflective of many other recent reviews, it is clear that there is much to do. I am confident that if we rise to the challenge, the opportunity and reward is vast.

The digital economy is expanding at pace, supercharged by COVID-19, which is creating demand for highly-skilled cyber and technology roles. This presents the UK with a huge opportunity, but only if we can attract, engage and retain the best talent from every section of our diverse and rich community. Our aspiration must be to build a fair, open, inclusive, innovative and exciting working environment for all to excel in.

The NCSC and KPMG are therefore committed to ensuring that diversity and inclusion is a driving force in shaping the future of the cyber security industry in the UK and hope that the report acts as a force for good to accelerate sustainable change.



**Bernard Brown**

Partner and Vice Chair,  
KPMG in the UK

# Executive summary

The case for diversity and inclusion in the workplace is widely accepted. The challenge for the cyber security industry is to manage diversity and practice inclusion. This will support organisations to harness a wider and better range of talent and thinking. We hope the data in this report will help organisations to challenge themselves, to identify where they could do better, and to begin realising benefits from doing things differently.

## Diversity and inclusion matters

The case for improving diversity and inclusion in the cyber security industry is clear. First, we have a moral duty to treat our colleagues with respect and deliver equal opportunities. Secondly, an abundance of evidence shows that diversity and inclusion can provide commercial advantages. Research by the Chartered Institute of Personnel and Development (CIPD), Gartner, Credit Suisse and others has found that stronger levels of diversity and inclusion can deliver benefits including better financial performance, increased creativity and innovation, greater employee satisfaction, lower absenteeism and stronger talent retention.<sup>1</sup> Finally, discrimination is unlawful.

Furthermore, the UK faces a widely documented cyber security skills gap. Digital resilience is becoming increasingly central to our economic and social future, yet this year alone the Department of Digital, Culture, Media and Sport (DCMS) found 653,300 UK businesses have a basic cyber skills gap.<sup>2</sup>



1,252



responses from cyber security professionals

72%



of respondents said they felt confident being themselves in the workplace / educational institution

Added to this, the COVID-19 pandemic is only likely to accelerate the demand for cyber security skills. Enhancing diversity and inclusion in the UK cyber security industry is not only the right thing to do it is vital to widening the talent pipeline and closing the UK's cyber skills gap.

## What does this report focus on?

This is the first report of its kind to focus in detail on diversity and inclusion in the cyber security industry. The report sets the baseline for quantifying diversity, inclusion and discrimination in the industry, and provides the basis for data-driven action.

In this first year, with only one year of data to analyse, it is of course impossible to identify any trends. The report holds up a mirror to the industry, and is intended as a catalyst for the industry to act upon. The availability of data is especially important at a time when many organisations are keen to take evidence-based action on diversity and inclusion.

Diversity and inclusion are broad and complex issues. In the first year, we focused on building an initial picture of diversity and inclusion in the industry. This report establishes a baseline for diversity in terms of gender identity, sexual orientation, ethnicity and socio-economic background, and examines professionals' experience of inclusion and discrimination. It is intended that other areas of diversity, including disability and neurodiversity, will be included in future iterations of the survey.

## What have we found?

Our findings are detailed and present a complex picture. Seen from a high level, they reveal an industry that appears to have made good progress in some areas of diversity and inclusion, but which clearly has more work to do in others.

On diversity, we find that the industry has higher levels of female and LGB\* (Lesbian, Gay and Bisexual) representation than the wider technology industry, although true gender parity remains far away. On trans representation, our survey found levels in line with the best UK estimates given the limited comparable data available. When it comes to the representation of people from BAME (Black, Asian and minority ethnic) backgrounds, the industry appears to be broadly in line with the UK population, and with other recent studies such as DCMS' recent cyber survey.<sup>3</sup> We understand the experience of Black, Asian and other ethnic minorities are different and we have reported on these groups individually throughout the report.

However, diversity is only the start. When it comes to inclusion, the picture is more nuanced. Having the confidence to be yourself and to feel able to disclose aspects of your life is at the heart of inclusivity; without this, organisations struggle to benefit from diversity. The good news is that most cyber security professionals feel confident in their workplace. Less positively, one in five respondents do not feel they can be themselves at work, and this figure rises to two in five respondents of Black heritage.

*\*In this report, we use the acronym 'LGB' rather than 'LGBT' to refer to sexual orientation. This is because data relating to trans respondents is analysed separately to data relating to sexual orientation. We split trans out from sexual orientation as it is not a sexual orientation and more closely related to gender identity. We only use 'LGBT' in parts of the report that reference other sources, as seen on page 78.*

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## Executive summary

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“KPMG’s ongoing partnership with the NCSC is an important part of the firm’s wide-ranging programme of work on diversity and inclusion. This report on the cyber security sector will be vital in tracking progress in the years ahead through its annual releases. Technology, and in particular the internet, has become central to our lives. Cyber security will be absolutely fundamental to keeping us all safe in our new future, so it’s vital that as a sector, it is representative of the communities and society it looks to protect. I’m delighted that KPMG will be playing a major part in that.”

**Melanie Richards CBE, Partner, Deputy Chair, KPMG in the UK**

“This is the first time anybody in the UK has looked at diversity and inclusion in the cyber security industry. The NCSC’s whole core mission is driven by data and analysis, so we thought it was really important to get the data so we can better support our organisation and what we’re doing in this area, to enable us to gear any of our interventions better to address some of the findings, to shine a light on the sector as a whole, and to work with the sector to come up with solutions together. So the fact that over 1,200 respondents did this survey is hugely encouraging, because it shows a sector that really wants to engage on this issue.”

**Nicky Hudson, Director Policy and Communications, NCSC**

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Furthermore, 41% of Black cyber security professionals feel they have experienced discrimination over their ethnicity during the past year – more than six times the level of our survey sample as a whole.

Gay and lesbian respondents reported feeling discriminated against over their sexual orientation at eight times the level of survey respondents as a whole. Female respondents reported nearly two and half times the level negative incidents as a result of their gender identity than the survey as a whole. These begin to illustrate the varied experiences of professionals today.

Given these findings, it is worrying to discover that the industry has low levels of incident reporting and resolution. In the circumstances, it is little surprise that just over 9% of all those surveyed are considering changing employers or leaving the industry entirely.

Some groups are

Up to 10x

more likely than the survey average to feel they have been discriminated against



## How should industry respond?

We identify seven recommendations we believe the cyber security industry should embrace in order to improve diversity and inclusion and enhance best practices (see Recommendations on page 26). The Department for Digital, Culture, Media and Sport have appointed a delivery lead to establish a new UK Cyber Security Council to be the focal point for the cyber security profession in the UK. The council will bring together stakeholders from the public and private sector as well as academia and existing professional bodies. Once established it will play a leading role in developing the next generation of cyber security talent and boosting diversity in the profession. In anticipation of the creation of the Council we would recommend DCMS and the project to establish the Council consider the seven recommendations we have identified in this report and how to take these forward in the intervening period prior to the Council being established next year.

Future reports by NCSC and KPMG will report on diversity and inclusion activities and successes led by the Council, which we hope will be mirrored in the data in future years.

## What about the future?

In future years we hope to repeat and extend our survey, helping the cyber security industry to improve its diversity and inclusivity. Future reports will build on the baseline of data established in 2020, allowing us to track progress at the industry level. We also hope to expand the scope of our research, capturing a full range of diversity and inclusion data across age, disability, religion, neurodiversity and other factors. We will work with the UK Cyber Security Council and the wider industry to help determine the most effective ways to expand the baseline and to identify areas for deeper analysis.

In the meantime, we hope that those who work in the cyber security industry will make use of the data we have already collected to begin building a more diverse and inclusive future.

74% 

of negative incidents as a result of diversity and inclusion were not reported.

14% 

of respondents experienced barriers to career progression due to diversity and inclusion issues; with the majority considering leaving or have already left their employer or industry.

9% 

of all respondents are considering leaving their employer or the industry due to diversity and inclusion issues.

16% 

of respondents experienced at least one negative incident in the last year.

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# 2020 Summary of findings





"I've always been a strong advocate of diversity and inclusion in business and the facts don't lie – having a workforce derived from a real mix of individuals is a sure-fire way to create an organisation that is more creative, collaborative, and ultimately more successful. That's why having a diverse team should be viewed as a huge advantage for customers, shareholders and, most importantly, society as a whole. Yet this report shows the cyber security industry has a lot of work to do in this area. As well as keeping diversity and inclusion at the front of mind during the hiring process, companies also need to turn their gaze to the employees of the future and engage more with young people. Whether that is achieved by sponsoring school prizes or partnering with universities on cyber security courses, companies in our sector must ensure the pipeline of talent entering the cyber security industry is as diverse as possible by offering opportunities and support to young people from a variety of backgrounds."

**Zia Hayat, Founder and CEO, Callsign**

## 01 2020 Summary of findings



"Diversity and inclusion is not a "nice to have" and high-quality data is essential to enhance progress towards more equal and higher-performing organisations, with an array of perspectives that provide prescience and insights to allow them to prosper in an increasingly unpredictable world."

**Dr John Amaechi OBE, CEO and Founder, Amaechi Performance Systems**

"It is especially encouraging to see the inclusion of socio-economic measures within the data collection and analysis – particularly in the context of the established and intensifying economic impact of the COVID-19 pandemic. There is a strengthening evidence base about the effects of this characteristic on diversity; both in its own right, and as a factor that intersects with other important areas of diversity, including ethnicity. Considering this, it will also be important to understand how diversity characteristics relate to each other, and how a 'double disadvantage' may be experienced by some employees. We commend the work of the NCSC and KPMG, and look forward to hearing about the change that this work should catalyse."

**Nik Miller, CEO, The Bridge Group**



## Diversity: The first baseline

There are strong moral and economic cases for diversity in the workplace. Our 2020 survey establishes a baseline for the the UK cyber industry. A lack of equivalent data makes it hard to compare this against the wider technology sector, but we believe our initial findings will help firms to identify their own strengths and weaknesses. Our findings on diversity, based on the 1,252 survey respondents, are set out in section 2, but we highlight four key points:

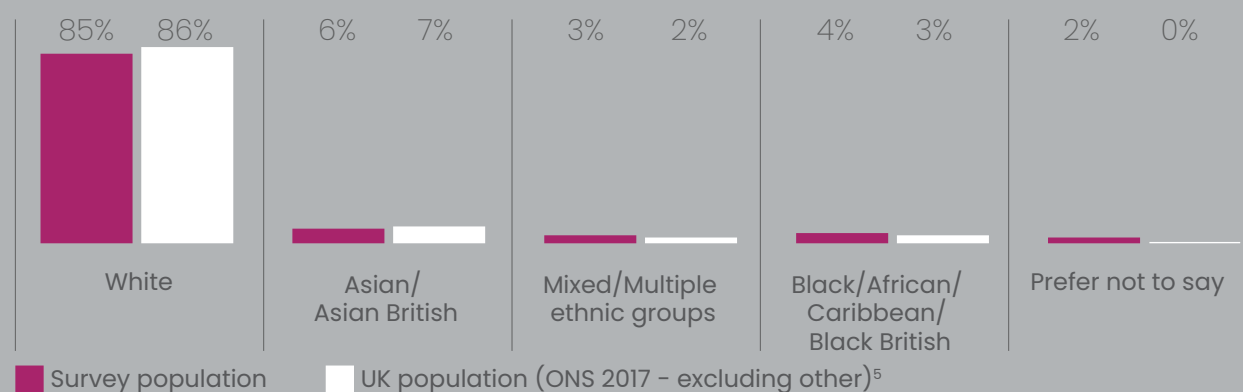
- Female representation in the industry is 31%. That is higher than indicated by similar studies of the cyber and technology industries, which put female participation at 15% (DCMS) and 19% (Tech Nation).<sup>4</sup> In future years, we will look to measure female representation at different levels of seniority to allow us to identify where in organisations females may be under-represented.
- The ethnic diversity of the cyber security industry appears to be broadly similar to that of the UK population as a whole, although a re-assessment will be required after the 2021 Census.
- The LGB community seems to be better represented in the industry than the UK average, with 10% of respondents identifying as lesbian, gay or bisexual compared with the 2.2% of the population found in the ONS' data released in 2018.<sup>5</sup> A further 1% of survey respondents self-describe their sexual orientation.
- There is limited data on the number of trans people. The Women and Equalities Committee, in its Transgender Equality report suggests that around 1% of the UK population "are likely to be gender incongruent to some degree," encompassing those who identify as trans and non-binary.<sup>6</sup> It is difficult to draw firm conclusions from this, but our findings of 1.3% trans and 1% non-binary individuals may indicate a greater degree of representation in the cyber industry than across the UK population as a whole.



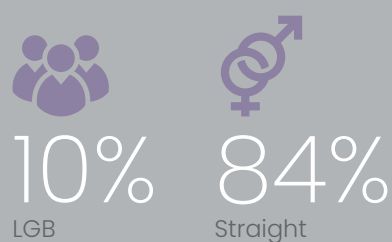
## Demographic background of respondents

1,252 respondents to this years first survey

### Ethnicity



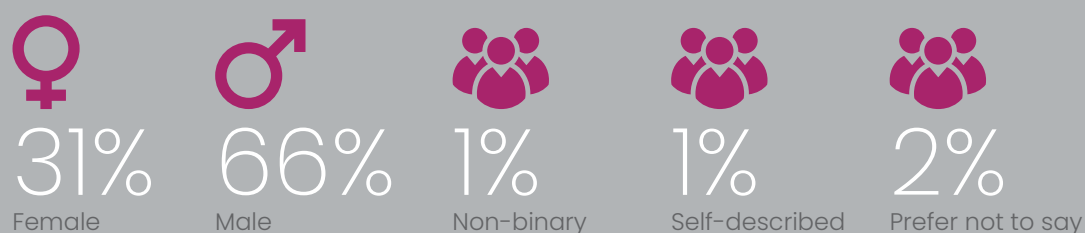
### Sexual orientation



### Trans\*



### Gender identity



### Socio-economic background



\*Note: Due to rounding, the percentages given may add up to more or less than 100%.

# 01

## 2020

### Summary of findings

## Inclusion: A varied experience

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“Digital skills are becoming increasingly central to our economic and societal future. The COVID-19 pandemic has really highlighted the importance of working remotely and doing ever more digitally. Many of these changes will endure. This means digital systems are truly part of our critical national infrastructure. They are a utility that everybody needs, and making sure they are resilient and secure is vital – perhaps even more so now than in the pre-COVID-19 world. Effective cyber security is vital in this changed world.”

**Professor Nick Jennings, Vice-Provost (Research and Enterprise), Imperial College**

“The digital economy has seen massive growth in recent years. Cyber skills aren’t currently growing to keep pace, but they need to for us to secure this digital future.”

**Martin Tyley, Head of Cyber, KPMG in the UK**

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If diversity is about numbers, then inclusion is about feelings. Without inclusivity, the cyber security industry will not benefit from improving levels of diversity. Having the confidence to be yourself and to disclose aspects of yourself – if you wish to – is a key indicator of inclusivity. It is also vital to performance. Professionals won’t work at their best if they can’t be themselves.

Overall, 72% of respondents say they can be themselves in the workplace. That is encouraging, but it masks the fact that not everyone feels so welcome. In fact, one in five cyber security professionals (21%) feel they cannot be themselves in the industry.

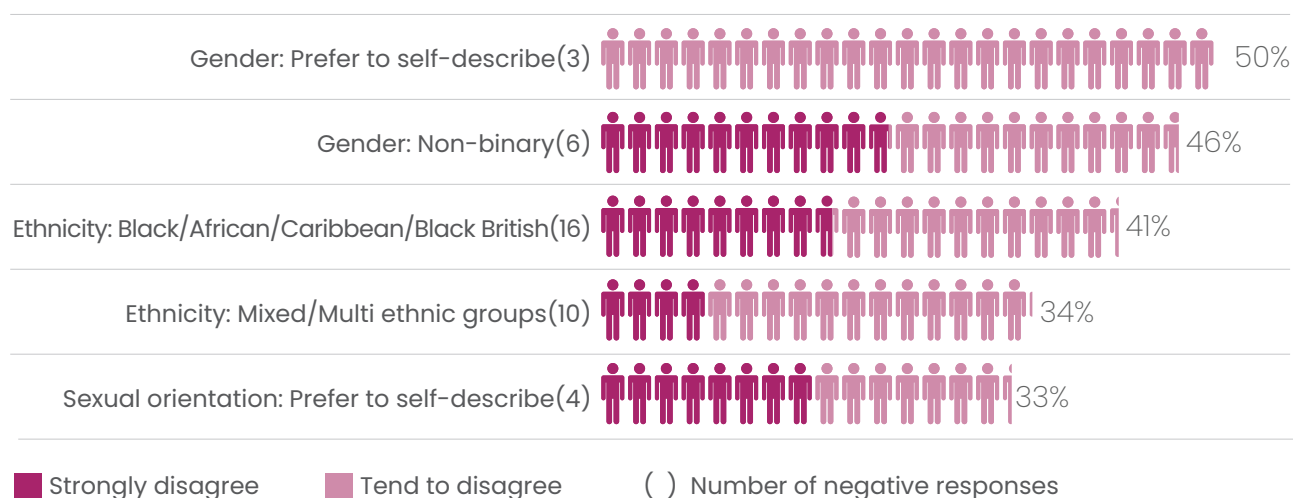
This split is particularly marked when considering it by the ethnicity of respondents. While 75% of White respondents feel confident in their identity within the workplace, only 41% of Black, African, Caribbean or Black British professionals feel the same.

More positively, 73% of all male and 71% of all female respondents feel they can be themselves at work. This implies that, despite under-representation, women in the industry feel comparable inclusivity as men, albeit more male than female (36% v. 26%) ‘strongly agree’ with this view. It is also encouraging to see that respondents who identify as gay or lesbian are among the most confident groups, suggesting that efforts to better support this group in work and study have had a positive impact.

We examine these and many other findings in greater detail in section 3. Although this is the survey’s first year, we believe the wealth of data on inclusion provides the industry with the opportunity to reflect on how it can take steps to make the industry as inclusive as possible in future.

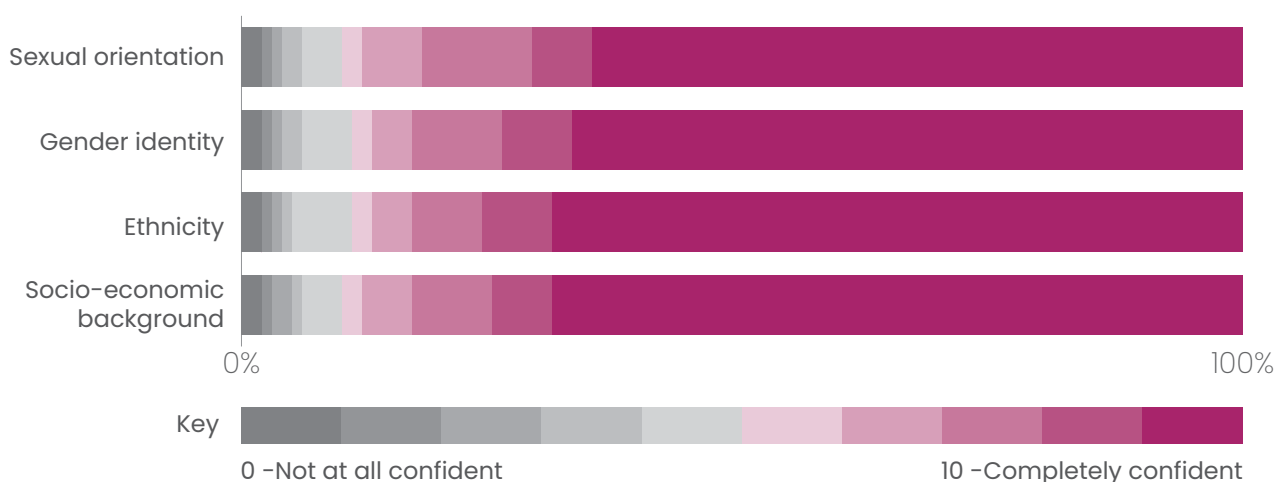
## Five demographics least able to be themselves in the workplace

% of negative responses to the statement "I am able to be myself in the workplace", cross-referenced with respondents' demographic



## Respondents' confidence in disclosure

Breakdown of respondents confidence in disclosure of 4 characteristics on a 0-10 scale where 0 is 'Not at all confident' and 10 is 'Completely confident'



Whilst each characteristic had at least 64% of respondents say they were 'completely confident' to disclose, a complex picture emerges with respondents from some communities scoring below 5 at three times the level of the survey as a whole.

Many people are reluctant to disclose their gender or sexual orientation. This may be the result of historic discrimination against LGB individuals, individuals who self-describe their gender and/or sexual orientation, and trans individuals. More action needs to be taken to ensure these employees feel safe in disclosure of their identity without facing discrimination.



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## 2020

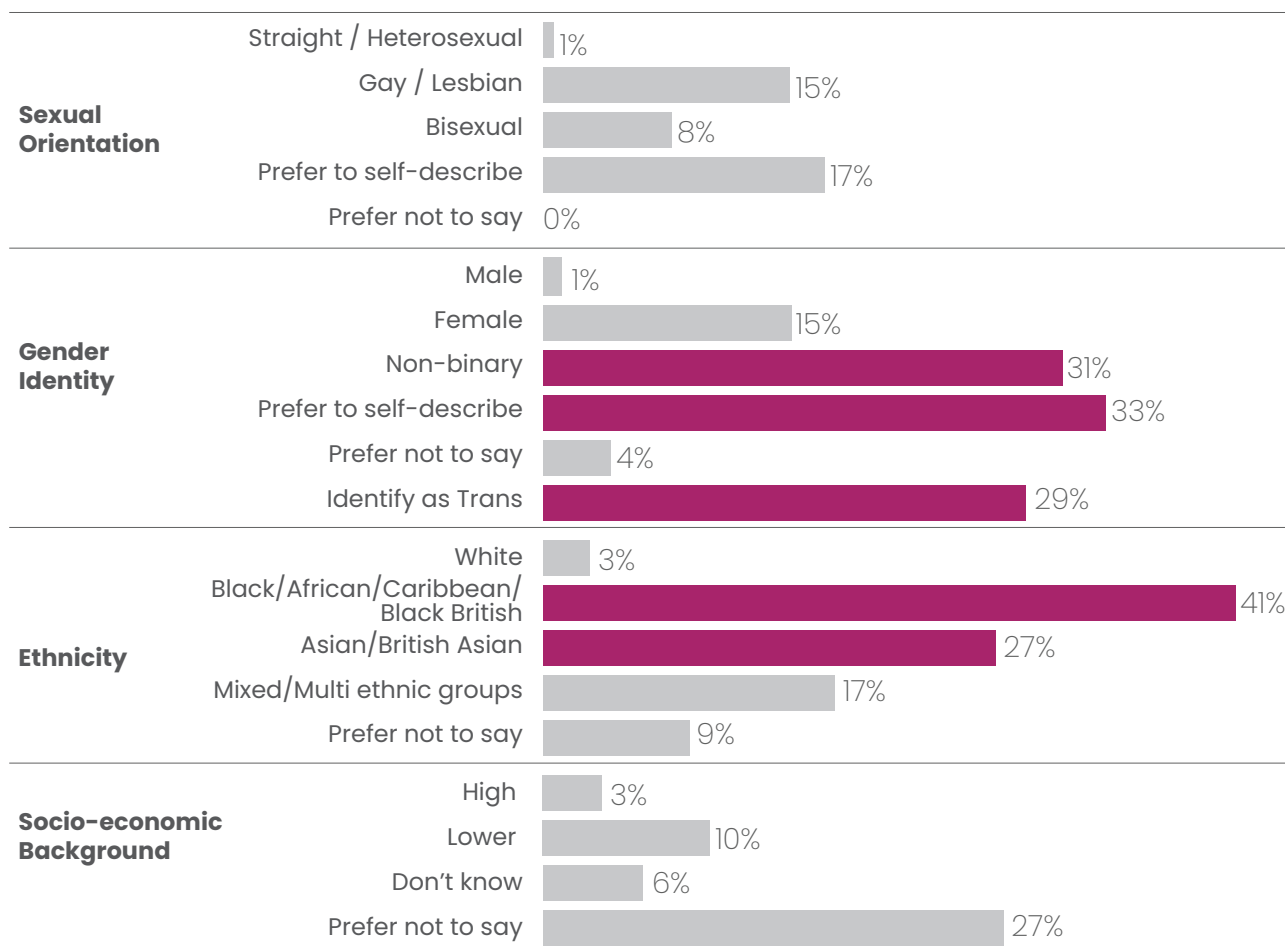
### Summary of findings

## Discrimination: A potential cause of talent loss

Discrimination in the workplace has a huge mental and emotional impact on those who experience it. There is also a major economic cost. It is estimated that workplace discrimination costs the UK economy £127 billion per annum.<sup>8</sup> Our survey shows that almost one in six respondents (16%) feel they have experienced discrimination in the workplace during the last year. Female respondents who felt they had experienced gender discrimination accounted for the largest proportion (23%) of all incidents. In relative terms, the picture is even more stark. No fewer than 41% of Black, African, Caribbean or Black British respondents and 27% of Asian or British Asian respondents felt they had experienced discrimination over their ethnicity within the last year. Similarly, 33% of those who self-describe their gender, 31% of non-binary gender and 29% of trans respondents felt they had experienced gender discrimination.

### Proportion of demographics who have experienced a negative incident (top 5 highlighted)

Vertical axis shows type of negative incident first and then a breakdown of the demographics who experienced it.



Further study into these varying levels of discrimination is needed. There are limited comparator datasets and those that exist do not offer a like-for-like comparison. Even so, our findings (reported in detail in section 4) will provide a baseline for future surveys. We would also encourage industry leaders to use the data to challenge assumptions about their organisation's culture.

## Low reporting and resolution of incidents

Resolving incidents of discrimination effectively is central to building an inclusive environment and demonstrating an organisation's commitment to diversity and inclusion. But are cyber security organisations aware of the scale of discrimination in the industry? Our 2020 survey shows that 74% of the incidents experienced by professionals went unreported. Low levels of reporting are often a sign that individuals do not feel confident or safe in their working environment. Furthermore, 42% of the incidents that were reported (in other words, 11% of all incidents) were not resolved, suggesting that existing processes could be more effective. A lack of confidence in reporting processes is also likely to be a contributor to low levels of incident reporting.

### Only a minority of incidents get reported and resolved

Percentage of incidents that are reported and subsequently resolved.



## High overall confidence in organisations' response to incidents

Despite low levels of incident reporting, our results show that many respondents have confidence in how they believe their employers would respond to reports of inappropriate or discriminatory behaviour. Of those surveyed, 88% rated their confidence between 6 and 10 out of 10, while just 12% returned a score of 0 to 5.

More work is required to understand this apparently contradictory finding. It could be that confidence levels are higher among those who experience relatively few incidents, and vice versa. For example, respondents who had experienced a negative incident in the last year were more than twice as likely than the survey population (28% vs 12%) to give a confidence score of 0 to 5 out of 10 in their employers' processes.

# 74%



of incidents experienced in the last 12 months by professionals were not reported

"At KPMG, we have made a significant effort to encourage colleagues to speak up and share views about behaviours and our culture. We've also made our processes more transparent and introduced more training to help embed our values. This open dialogue with leaders and focus on employee engagement is key to ensuring we know what's working, and where we can improve to ensure all of our colleagues can perform at their best."

**Anna Purchas, Head of People, KPMG in the UK**

# 88%

of respondents had confidence in how their organisations would respond to inappropriate behaviour

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2020

## Summary of findings

### Career barriers as a result of diversity and inclusion issues

Career barriers arising from approaches to diversity and inclusion not only harm individual prospects, they prevent the cyber security industry from taking full advantage of available talent. Low levels of diversity and inclusion can force professionals to change their employer, or to leave the industry entirely.

14% 

of the survey respondents experienced barriers to career progression and/or resigned because of their employer's approach to diversity and inclusion issues

5%

preferred not to say.



### Of the 14% experiencing barriers:

32% 

cited **gender** discrimination

"I was asked in an interview if I was planning on having children as it would impact my ability to do the job"

"I have experienced men jumping ahead on salary in the past when their skills were similar to mine"

22% 

cited **race, ethnic, social background or regional** discrimination

"I've heard and seen the use of derogatory language and bullying and harassment against individuals from minority groups"

"Having a northern accent is still a barrier to progression and I feel treated as second class"

7% 

see **approaches to diversity and inclusion** as a threat to their own career progression

"I missed out on a role as the hiring team wanted a woman to improve diversity in the leadership team"

"Positive discrimination towards ethnic diversity has excluded me from moving forwards"



Our 2020 findings show that 14%, approximately 1 in 7 of professionals have either encountered barriers to progression or resigned because of their employer's approach to diversity and inclusion issues. These barriers include discriminatory treatment related to protected characteristics such as gender, race or religion; feeling there is nobody like them in the organisation; and feeling unable to be themselves at work.

Out of this group, almost half (48%) have considered or are considering leaving their employer as a result, and a significant minority (16%) have considered or are considering leaving the industry altogether. Such a potential loss of talent is concerning, given the challenges already posed by the UK's skills gap in cyber security.

At the other end of the spectrum, a small minority of those surveyed see employers' approaches to diversity and inclusion as posing a threat to their own career progression. This may indicate the industry is more focused on increasing the levels of diversity than on improving levels of inclusion which improve everyone's experiences and opportunities. This finding indicates that organisations need to focus on building inclusive cultures alongside making sure the positive case for diversity and inclusion is widely understood.

Demonstrating that organisations and the industry are genuinely committed to diversity and inclusion is crucial to minimising talent loss. There are many drivers of poor staff retention, but diversity and inclusion represent factors that cyber security organisations can directly influence through the working environment they provide.

### Out of the 14% who have experienced career barriers:

48% are considering moving employers

16% are considering leaving the cyber security sector

this means:

9% 

of all respondents considering leaving their employer or the industry due to D&I issues

"It's dangerous when an organisation or function is dominated by one demographic – often white males from a single age group! I think we are making progress but there is much more to do. The organisations I've worked in, including MI5, have been at their best when they've shown creativity and the ability to tackle problems from innovative angles. You don't get that without diversity – in all its forms."

**Lord Jonathan Evans, former Director General, MI5**

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### Summary of findings



“The breadth of roles is a really interesting finding. It shows that companies are dividing responsibilities up in different ways from one another. This is indicative of a less mature discipline. Often roles combine a number of separate activities and so it’s tempting to give each distinct grouping a new name. This vibrancy is one of the good things about the industry – it’s not a standard, staid industry. There’s lots going on, and different companies are at different stages in their cyber maturity.”

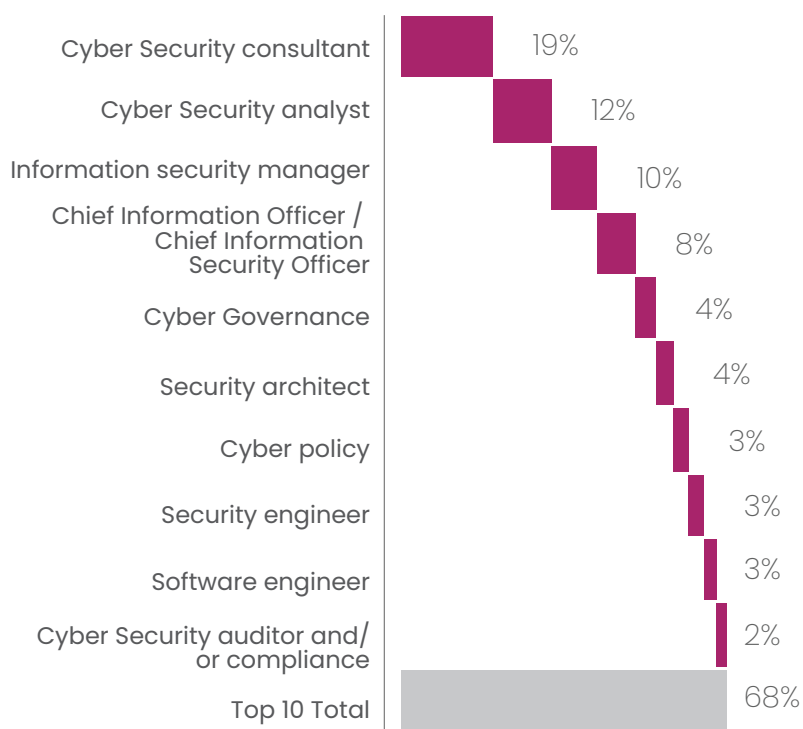
**Professor Nick Jennings,  
Vice-Provost (Research  
and Enterprise),  
Imperial College London**



## Cyber professionals’ roles

Our research shows that the cyber security industry encompasses a very wide spectrum of job titles. In addition to the 30 roles included within the survey, respondents identified a further 36 role groupings, made up of over 200 individual responses. Some of these, such as ‘Security Data Scientist’, are highly specific while others like the frequently-used ‘Consultant’ or ‘Analyst’ are far more generic.


### Top 10 identified Cyber industry roles (excluding other)



These findings suggest there is a strong overlap between cyber security roles and roles often considered to be part of the broader technology or digital sectors. They also show there is a significant breadth of interdisciplinary and multi-skilled talent across the industry, and that cyber skills cannot be viewed in isolation.

However, this makes it hard to define the industry's key roles – and the skills they require. That is something that NCSC and KPMG see as crucial to broadening access to the industry and building a diverse pipeline of talent.

Looking ahead, further work is needed to establish the skill sets of people occupying common cyber security roles, and to understand how the industry makes use of broader technology and digital skills. This would help to show whether cyber security is becoming a broader profession, such as 'Technology Security' or 'Digital Security'. It could also feed into ongoing work by the Institute of Engineering and Technology and DCMS to define the cyber security profession through the UK Cyber Security Council.




“Although we focus a lot on people with mathematical skills and engineering skills and coding and computer skills for obvious reasons, people are always quite surprised when we are looking for people with comms skills, legal skills, HR skills, social engineers, languages. The skills we're looking for go so far beyond what people traditionally put in a cyber security bucket.”

**Nicky Hudson, Director Policy and Communications, NCSC**

“If, as an industry, there isn't a clear definition around a job, the skills or the types of roles required within that industry, then how can you possibly have clear, concise job adverts? How can you make sure you use language that is inclusive, that attracts a broad range of talent, if actually, fundamentally, you don't know what you're recruiting for?”

**Dione Le Tissier, Aerospace & Defence Director, KPMG in the UK**







**Ash Surti**  
Chief Security Officer  
Colt Technology  
Services

colt

## Success stories

### **I'm Ash Surti, the Chief Security Officer for Colt Technology Services.**

I didn't come from a particularly privileged background. My mum and dad were both labourers, and my dad had a stroke when I was young, which meant that for most of my life he was paralysed on one side of his body. Nevertheless, he was an inspirational figure throughout my life who taught me 'don't give up', don't feel your limits are restricted by others and focus on doing your best.

I didn't get great grades at school, and I realised that exams weren't really what I was best at. So rather than A-levels I did a GNVQ and then a university degree, and I've really carried on learning throughout my career. I think my backgrounds played a key part in my progress, because I've always had to work hard to get to where I am.

I've benefited from brilliant mentors throughout my career. They helped me to realise that I shouldn't put limits on myself because of my race or background or anything, but that if I worked hard, I could achieve whatever I wanted to. These mentors have been a real source of inspiration and motivation throughout my career, and it's something I try and pass on to the people I mentor today.

I'm optimistic about the future but there's always more to do. I think we should set targets around diversity and inclusion to make sure we keep up the progress we've made in recent years and don't fall back. The other thing we must do is make sure we reach people from a young age and tell them that, no matter who they are, if they're interested and work hard, there's a career in cyber security for them.

**I'm Sarah Self, and I am the UK and Shared Services CISO – Chief Information Security Officer – for Aviva.**

As well as that, I'm a mum of two young children. I took a good chunk of maternity leave with both and loved it, but I found some elements of coming back into the work environment challenging. The world moves quickly in cyber, and at times I needed to play catch-up, manage expectations and alter the ways in which I worked. In many ways I became more effective, and certainly I became a better leader, but I had to adjust and be brave.

I've also often been the only woman in the room. Sometimes that's an opportunity, but it can also be very isolating. When you're bringing a different perspective, have a different skills base, or benefitted from a different career path it can be difficult to be heard and understood. That's not wanton sexism, it's just that when everyone's talking one language and you're talking a slightly different one, the similar voices tend to reaffirm each other.

So whilst I've definitely encountered some difficulties, I've also really benefited from people believing in me and sponsoring me for new and challenging roles. They've given me the opportunity to really show my strengths, which has made a huge difference for me. We know that women don't apply for jobs at the same rate as men even when they have the skills, and imposter syndrome can also be keenly felt, so actively sponsoring women into roles can be really important.

As an industry I think we also need to do more to dispel some of the myths around cyber security. There's a stereotype attached to roles in cyber that they're all deeply techie and involve a guy in a hoodie with 15 screens in a darkened room, and I think that puts lots of people off. The reality is that the industry is far, far broader than that super-technical stereotype. We all need to get that message across and also start properly valuing that broader set of skills and experiences we need. We need people with different strengths and from different backgrounds working within our organisations and our industry to get the best outcomes. We need to vastly improve our mindset on this across the industry, and we need to if we're going to drive the diversity and inclusion we need to perform at our best.



**Sarah Self**

UK and Shared  
Services CISO  
Aviva



## Kathryn

Analyst  
GCHQ



## Success stories

### **I'm Kathryn, and I'm an Analyst at GCHQ.**

I grew up working-class, in a single parent family. We claimed benefits and lived in a council house. I didn't go to a good school, but there were people worse off than myself, so there were no feelings of disparity at the time, it was only later that I realised I'd had a different upbringing to a lot of people. I'm not really sure if being from a working-class background or a dysfunctional family is what has made a difference for me, as I find it difficult to disentangle the two.

I always understood that education was the way out of the less privileged situation I was in growing up. Going to university opened my eyes and has definitely given me opportunities I wouldn't have had otherwise. Though when I started, it seemed as though everyone I met had been on gap years, and this initially reinforced my feelings of not quite being good enough, not having done enough.

I still find this lack of confidence affects me today. I wanted to work for one of the government departments in London, but was too worried that I wouldn't be able to afford to live in London on a Civil Service salary. GCHQ seemed like the perfect alternative. 15 years on, I have a completely different job to the one I started doing. GCHQ has allowed me to explore options and find my niche.

I do find sometimes that my lack of confidence means I don't always push myself. I would rather be doing a really good job and feeling confident in a safe job than struggling or failing at a higher grade.

I have a good job that I enjoy, a family that love me and I know I should consider myself a success, but I find this difficult. I think I still lack that sense of belonging and security due to my upbringing. Things like owning a house or living in another country – they're symbols of the security and confidence I've lacked in my life. But the good thing is that work gives me the opportunity one day to do these things – and they're not things I really thought I would ever have a chance of doing growing up. I can take risks but still feel safe and secure.



### **I'm Jasmine, Cyber Information Sharing Partnership Co-ordinator at the NCSC.**

My mum and dad came to London from Ghana in West Africa in the late '70s. My mum was a carer and my dad worked in a factory, which he still works in now. As I was one of six children, I found it hard that I didn't get that much time with them as they were always working. I would say I came from a working-class background, although my dad does own a couple of properties around north London now.

Coming from this background and seeing my dad work two jobs growing up has made me realise you need to work to get ahead in this country, especially being an ethnic minority. My parents were quite disciplined so my siblings and I stayed on the straight and narrow even though we grew up with crime around us. They valued hard work and were very much, "go to school, get your education."

So that's what I did – I went to university and got the degree which has enabled me to work in an organisation like the NCSC. I think that makes me a success story because I'm a mother, a graduate with a thriving career at the NCSC and a homeowner despite the social obstacles I've faced. I've also dabbled in entrepreneurship. There's still so much more that I want to achieve for me and my son's future, so I see this as just the beginning.

In the next few years, I would love to see more diversity in the NCSC. There's a lot of talk at the moment, and initiatives like this report, so it will be interesting to see how much does change. Joining the NCSC I would've loved to see BAME representation in SLT roles, so I hope this is something future employees will see.

My dad would always say being an adult isn't easy especially if you're Black in the UK. His philosophy was that a good education is the key to living a better life. Whilst we have different experiences, him being a first generation African and me being British born and bred; it's evident that some of the same barriers still exist. I believe education is important because knowledge is power. But it's also important to remember that education isn't just about academia. It's about learning through experience, doing your own research on topics, and learning how to best navigate this thing we call life.

## **Jasmine**

Cyber Information  
Sharing Partnership  
co-ordinator  
NCSC



National Cyber  
Security Centre  
a part of GCHQ

## Recommendations

The case for diversity and inclusion is well accepted. The challenge for the cyber security industry is how to make the industry as diverse and inclusive as possible. This will enable the industry to deliver better cyber security outcomes through diversity of thought and also better attract and retain talent.

In this first year, this report has set a benchmark for the level of diversity and inclusion in the cyber security industry. This offers the industry a foundation from which to build a more diverse and inclusive future.

The Department for Digital, Culture, Media and Sport have appointed a delivery lead to establish a new UK Cyber Security Council to be the focal point for the cyber security profession in the UK. The council will bring together stakeholders from the public and private sector as well as academia and existing professional bodies. Once established it will play a leading role in developing the next generation of cyber security talent and boosting diversity in the profession. In anticipation of the creation of the Council we would recommend DCMS and the project to establish the Council consider the 7 recommendations we have identified in this report and how to take these forward in the intervening period prior to the Council being established next year.

A key part of subsequent reports by NCSC and KPMG will be reporting on diversity and inclusion activities and successes led by the Council which we hope to be mirrored in the data in future years.

Given the role the Council will play in strategic ambitions around addressing diversity and inclusion in the sector, and its position as a representative body for cyber security, it is vital that its leadership and governance leads by example and is appropriately diverse.



## The future of the industry and survey

**1. Take an active role in leading on diversity and inclusion:** The industry and cyber leaders must take intentional action to improve diversity and inclusion. The industry must work collaboratively to develop a clear vision for what diversity and inclusion practices cyber professionals should expect from their employers today and in future.

**2. Create and benefit from a more distributed workforce:** Identify a set of principles for organisations to bake inclusivity into future ways of working, with employees in more disparate physical locations. Areas to consider include how to maintain inclusivity with a significant proportion of employees working remotely, flexibly or part-time working, and how to build, maintain and enhance affinity groups in such an environment. This should include identifying opportunities to improve diversity and inclusion through new ways of working.





## Representation

### **3. Use data to understand and track representation:**

The industry should leverage its expertise in data to establish best practice for measuring diversity and inclusion in organisations. This should include showing how the implementation of new D&I initiatives using a data-driven approach have made a difference to professionals' experience.



## Inclusion

### **4. Create a Cyber D&I talent toolkit:**

The industry should build upon existing good practice both inside and outside the sector to produce a toolkit to help organisations map the talent lifecycle for their cyber employees, and show how diversity and inclusion can be embedded at each stage.

### **5. Learn from D&I best practice:**

The industry must work collaboratively with all stakeholders to share diversity and inclusion best practice across the industry to enable organisations to learn from others as they each take their own steps to improve the experiences of cyber professionals regardless of who they are or their background.



## Tech Careers

### **6. Publicise the success stories:**

DCMS should use the UK Cyber Security Council, once established, to produce a series of case studies and career journeys that show the breadth of routes into cyber and the diversity of professionals in the industry today, and how this can be enhanced in the future. All outreach initiatives should be fully accessible.

### **7. Map out the roles and skills:**

DCMS should use the UK Cyber Security Council, once established, to produce cyber roles and the skills required in order to develop a framework to describe cyber roles and skills consistently. The industry should support this initiative, providing information on the cyber roles and skills they require to build this framework.



## Next Steps

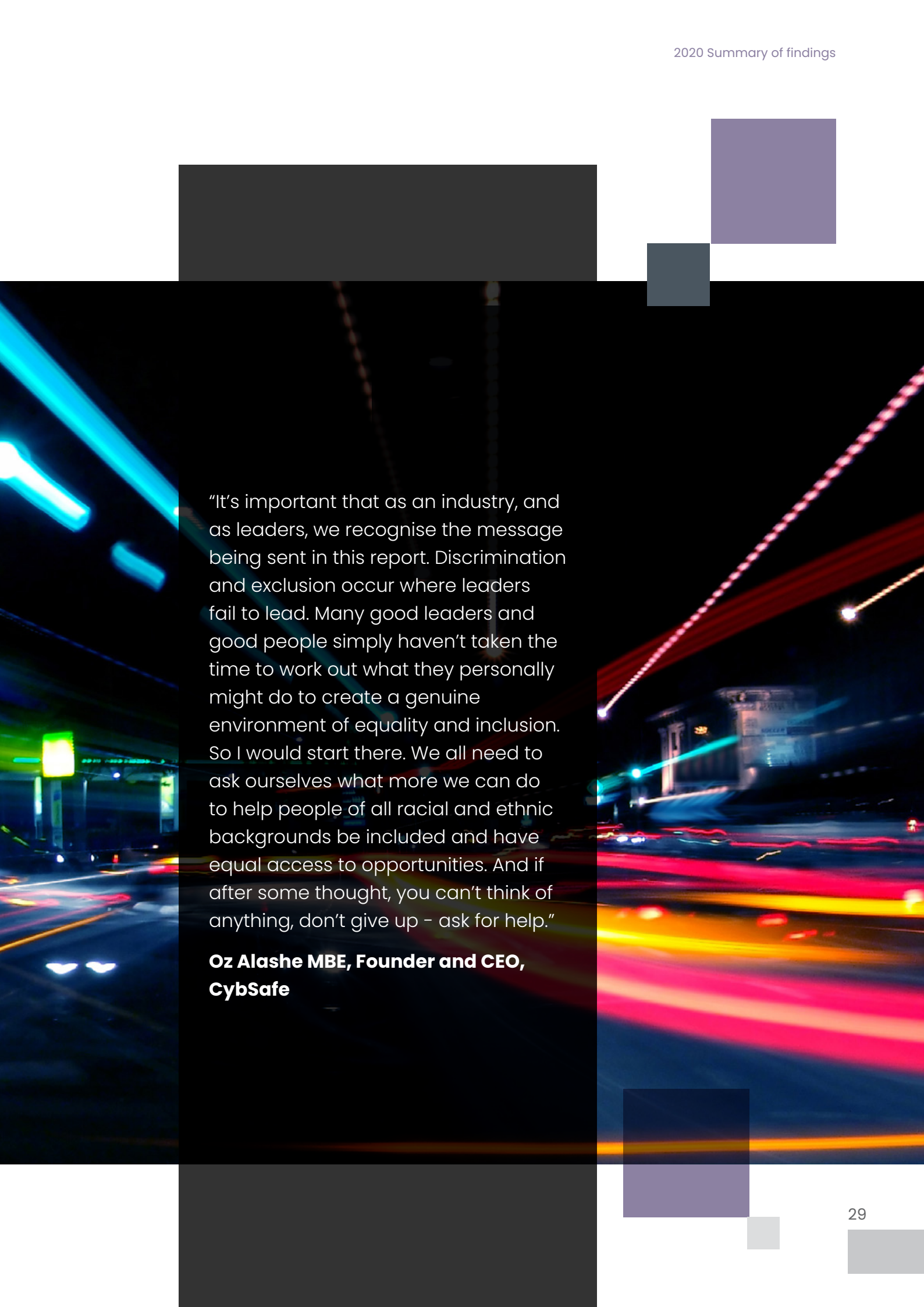
These 7 recommendations are intended to achieve fundamental changes, but some immediate action is warranted. It is desirable that short-term momentum is maintained in order to affect long-term improvements in diversity and inclusion in the cyber security sector.

Before the UK Cyber Security Council is fully established, opportunity exists to set in motion initiatives that seek to lay groundwork for addressing the 7 recommendations in this report, also building on recommendations identified in the Cyber Security Skills in the UK Labour Market 2020 report.

DCMS should explore options for convening an initial stakeholder group involving industry, academia and trade associations, as well as organisations that directly tackle diversity and inclusion challenges. This group should seek to begin building a common understanding of the challenges facing the cyber security sector, based on evidence from this report and other sources. The group should also make a start on sharing success stories and best practice in increasing diversity and inclusion.

Participants in the group should include representatives from the project to establish the Council. This would ensure continuity of activity once the Council is established and able to lead initiatives to establish industry standards for enhancing diversity and inclusion in the cyber security profession.

The NCSC and KPMG also plan to repeat and extend our survey in future years to support the work of the Cyber Security Council and the industry as it takes steps to improve its diversity and inclusivity. Future reports will build on the baseline of data established in 2020, allowing us to track progress at the industry level. We also plan to expand the scope of our research, capturing a full range of diversity and inclusion data across age, disability, religion, neurodiversity and other factors.



“It’s important that as an industry, and as leaders, we recognise the message being sent in this report. Discrimination and exclusion occur where leaders fail to lead. Many good leaders and good people simply haven’t taken the time to work out what they personally might do to create a genuine environment of equality and inclusion. So I would start there. We all need to ask ourselves what more we can do to help people of all racial and ethnic backgrounds be included and have equal access to opportunities. And if after some thought, you can’t think of anything, don’t give up – ask for help.”

**Oz Alashe MBE, Founder and CEO,  
CybSafe**

02

# 2020 Findings: Diversity



“This report’s findings around ethnicity are typically disappointing, but sadly not all that surprising. I support and mentor a large cohort of Black professionals, and frequently hear from them that they feel their progress is deliberately blocked because they somehow don’t ‘fit in’ to an organisation’s heavily vanilla culture due to the colour of their skin. They also say there’s a deeper, more uncomfortable reality, honestly expressed by non-Black executives, that they often inadvertently fear Black people being in parallel spaces with unknown and unfamiliar behaviours. This report really lays that bare in the cyber security industry, and it’s incumbent on us all to take action and reduce the inequalities that we do sadly still see in the UK in 2020. This will not be done by ‘race-washing’ goodwill statements, but only by accepting the fact that for Black people, being at the table is what it takes, not being on the menu.”

**Lord Dr Michael Hastings CBE, Chancellor, Regent’s University  
and Professor of Leadership, Stephen R Covey Institute,  
Huntsman Business School at Utah State University**

02

**2020****Findings:  
Diversity****Who are Cyber professionals today and what is their background?**

The UK's cyber security industry may be more diverse than the UK population in some ways, and is composed of a broad range of careers.

**Ethnicity**

Our findings indicate that the cyber security industry has similar levels of diversity to the UK population.<sup>9</sup> A re-assessment will be required following the 2021 UK census.

**Sexual orientation**

When compared against national statistics, there appear to be higher levels of representation of the LGB community than the UK average, with 10% of survey respondents identifying as lesbian, gay, or bisexual, compared with 2.2% of the UK population in 2018.<sup>10</sup> A further 1% of survey respondents self-describe their sexual orientation.

**Gender identity**

The cyber security industry appears to be less gender diverse than the UK population. With people who identified as female comprising 31% of total respondents, there is almost a 20% underrepresentation of females in the industry relative to female representation in the UK population.<sup>11</sup>

Within national population figures, there is an absence of statistics for some minority groups, such as trans and non-binary individuals. This creates a challenge in understanding whether the cyber security industry is aligned to the UK population, making firm conclusions difficult. Our results are in line with recent studies in the cyber security industry at global level.<sup>12</sup>

**Socio-economic background**

Our findings suggest those working in cyber security tend not to come from lower socio-economic backgrounds. Additionally, 9% of survey respondents received their school education outside the UK, which may indicate that they were born outside the UK. In 2018, 17% of the UK workforce as a whole were born outside the UK.<sup>13</sup> It is possible that this figure will rise in future if the industry continues to grow, and it may need to consider how to both attract and retain talent greater amounts of talent from beyond the UK.

It should be noted that the UK's approach to defining and capturing socio-economic background is relatively nascent and this should be considered for future reports. Socio-economic background is not a protected characteristic but it is something of increasing importance to organisations as they seek to broaden access in order to attract the best possible talent.

**Job roles and skills**

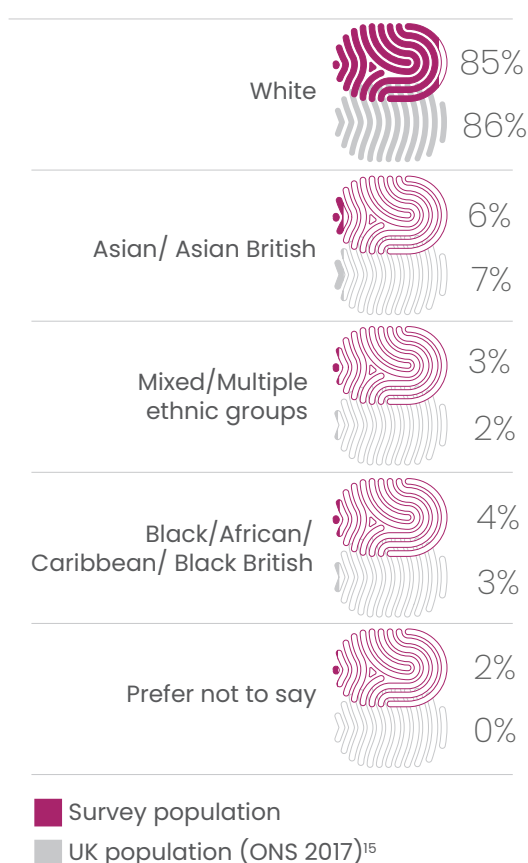
There is no accepted definition of 'the cyber security industry' or 'cyber security roles' which is supported by the breadth of role identified by respondents which extended far beyond the thirty offered in the survey. The two most common roles recorded are 'cyber security consultant' and 'cyber security analyst' which are both themselves broad in nature. Respondents identified over 36 new roles (>200 responses) beyond those offered in the survey. It is notable that within these other roles, many suggest their skillsets overlap into the broader digital and technology industries. Thus, it appears there may be a variety of interdisciplinary and multi-skilled talent in the UK's cyber security workforce.

## Who are cyber professionals?

### Ethnicity

Our findings indicate that the level of ethnic diversity in the cyber security industry is similar to the UK population. This is broadly in line with the wider IT profession: findings from the Chartered Institute for IT's BCS Report found BAME representation varied between 6% and 35% dependent on UK region.<sup>14</sup>

#### Respondents by ethnicity



“Being yourself in the workplace should be a given. The findings show how far off we are for so many. Talent, irrespective of protected characteristics, is so required by the cyber industry. That all talent isn’t able to flourish in the industry is an incredibly dangerous situation to be in, given the scope and importance of the work done in the industry. I’d like to see a more intersectional approach taken swiftly, to ensure that we’re not losing people faster than we can recruit and promote them. There is work to be done to break entrenched habits, ensure competent handling of incidents and rebuild social norms. How can talent that is, for example, black, female, lesbian or a combination reach their senior leadership potential?”

**Dr Anne-Marie Imafidon MBE,**  
**Co-founder and Head, STEMettes**

02

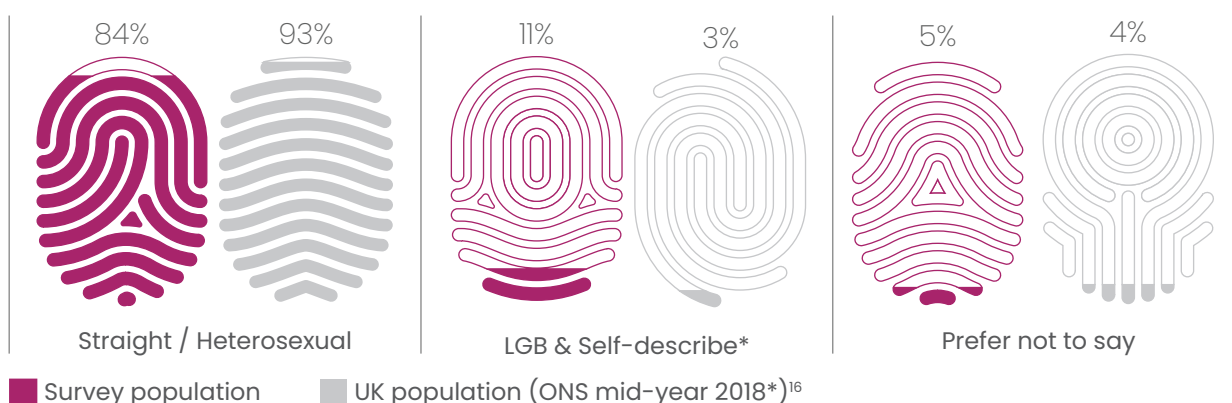
2020

## Findings: Diversity

### Sexual orientation

Our findings suggest that there is a higher representation of LGB communities within the cyber security industry relative to the population.

#### Respondents by sexual orientation



\*The ONS measure does not capture those who self-describe their sexual orientation.

# 10%



of respondents identify as LGB

"I would characterise the findings on LGB representation as promising results, rather than looking and thinking 'oh, what have we done right here?' To me, they're like green shoots, but if we're not inclusive, and people are experiencing, in those groups, higher levels of discrimination and incidents, we're not going to keep them. So there's loads more to do."

**Nicky Hudson, Director Policy and Communication, NCSC**



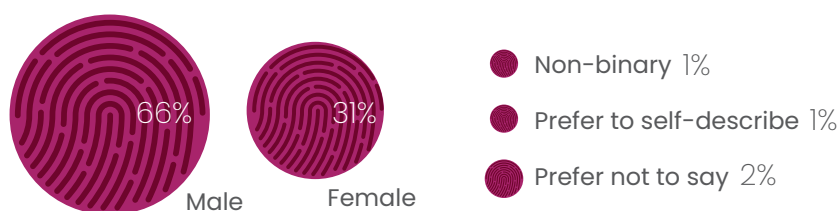
10% of respondents identify as LGB with a further 1% self-describing and 5% preferring not to say. ONS data published in 2018 shows that in 2017, 2.3% of the UK population identified as LGB, suggesting the cyber security industry is more diverse than the UK population in terms of sexual orientation.<sup>17</sup> Discovering why the LGB community has this level of representation in the industry may be of significant value, both to gain further assurance on the survey data and to identify whether there are particular initiatives that the industry has previously undertaken that have supported increasing LGB representation.



## Gender identity

The cyber security industry appears to be less gender diverse than the UK population.

### Survey population



### UK population (ONS mid-year 2019)<sup>18</sup>



This is similar to some global measurements, which found 30% of the industry are identify as female.<sup>19</sup> Comparing this data to similar industries, the picture is more varied. Other UK studies found that females made up 19% of the wider technology sector which suggests the cyber security industry may be more diverse.<sup>20</sup> However, a report by DCMS published this year found that 15% of the workforce at firms providing cyber security services and/or products are female.<sup>21</sup> This suggests that the gender diversity in the industry would need to be further explored with future studies and surveys.

The ONS does not provide data on non-binary individuals and individuals who self-describe their gender, which means it is not possible to understand how representative the industry is of these communities.

## Trans

There is limited data on the number of trans people with the Government Equalities Office (GEO), stating in 2018 that 'there is no robust data on the UK trans population'.<sup>22</sup> The Women and Equalities Committee in its Transgender Equality report suggests that around 1% of the UK population "are likely to be gender incongruent to some degree," encompassing those who identify as trans and non-binary. It is difficult to draw firm conclusions from this, but our findings of 1.3% trans may indicate a greater degree of representation than across the UK population as a whole.



# 1.3%

of the respondents identified as trans.

A further 3.1% preferred not to say. This can encompass a range of responses and views, including that some people do not have a gender identity.

02

2020

## Findings: Diversity

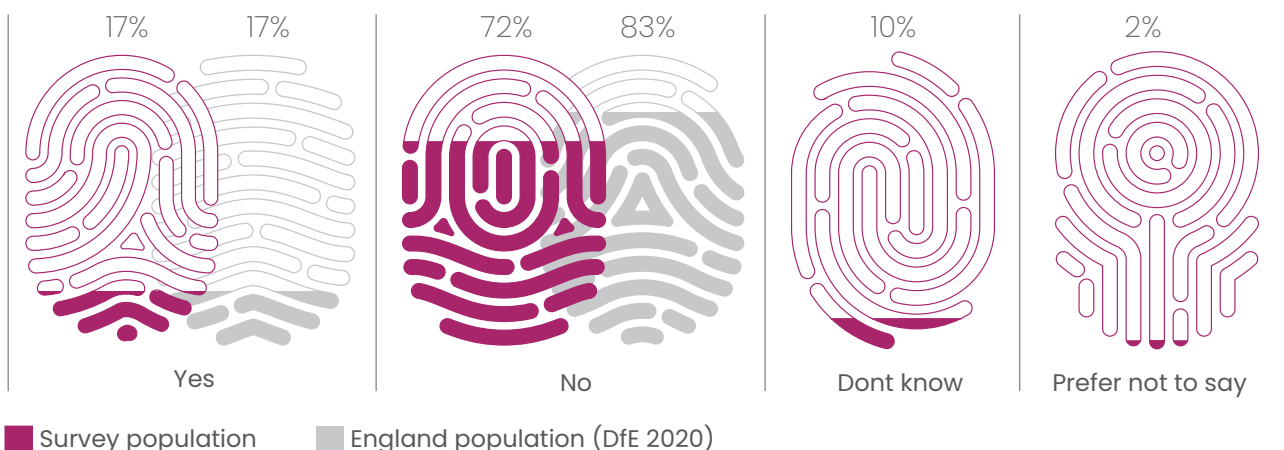
### Socio-economic background: free-school meals

Whilst socio-economic status is not a protected characteristic in the UK, it is seen as of growing importance in ensuring a diverse and inclusive workplace. The measuring of socio-economic status remains at an early stage, drawing on free school meal eligibility, parental occupation and educational background. Each measure has its challenges, with the expectation that free school meal eligibility will become the most important measure as more of the UK population were potentially eligible for it during their childhood.

Comparing the results of the survey against 2020 DfE (Department for Education) figures for England, our findings suggest the cyber security industry is representative of those who are eligible for free school meals.<sup>23</sup>

These results are not applicable to the 9% of survey respondents who were educated outside the UK.

#### Free school meals respondents breakdown

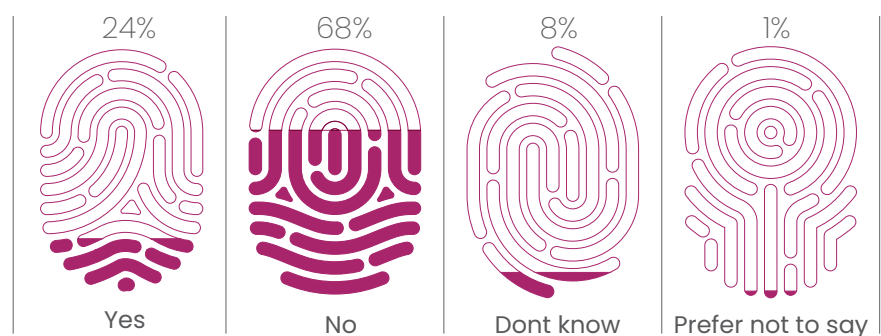


Note: Due to rounding, the percentages given add up to more than 100%.

### Socio-economic background: Self-describing

24% of respondents self-identified as being from a lower socio-economic background, which was higher than the free-school meal eligibility. However, there are limitations to this data, given respondents can have varied interpretations of 'lower'.

**Compared to people in general, would you consider yourself to be from a lower socio-economic background?**



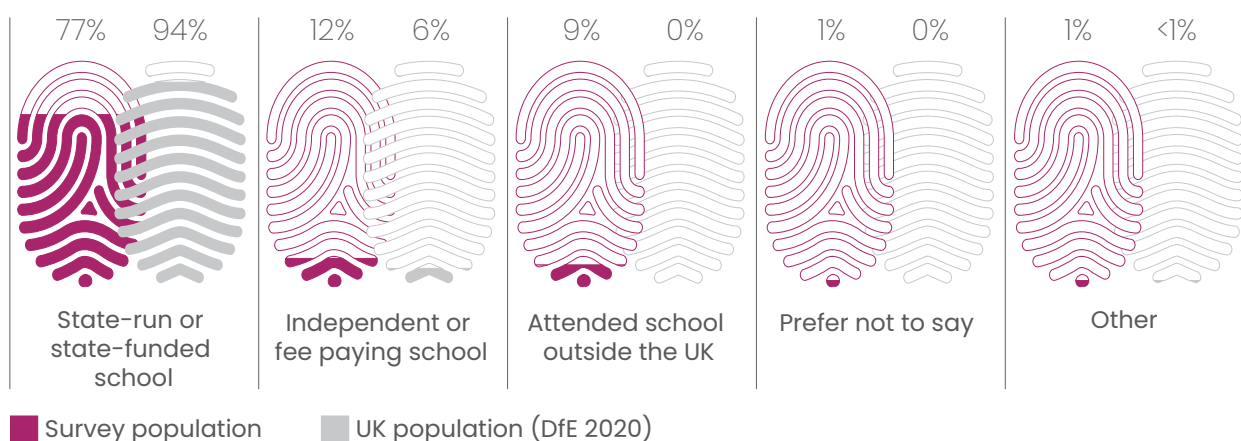
Note: Due to rounding, the percentages given add up to more than 100%.

## Socio-economic background: school attendance

Comparing the results of the survey to 2020 figures for England published by the DfE shows those working in cyber security tend not to come from a lower socio-economic background, with a greater proportion having attended fee-paying schools.<sup>24</sup>

In the DfE figures, 94% of English school pupils attended a state-funded school. When compared against the cyber security industry, the industry appears considerably less diverse, with 77% of respondents having attended a state school.

### Respondents by type of school attended



The DfE figures do not separate independent school attendance by age. This poses an issue as the question our survey asked, drawn from best practice guidance issued by the Cabinet Office in 2018, was “What type of school did you mainly attend between the ages of 11 and 16?”<sup>25</sup> To ensure consistency across the DfE figures, inclusion of primary school attendance was necessary, thereby reflecting attendance numbers which were out of scope for the survey’s question. To note however, research by the Independent Schools Council (ISC) supports the 6% figure across the UK.<sup>26</sup>

02

2020

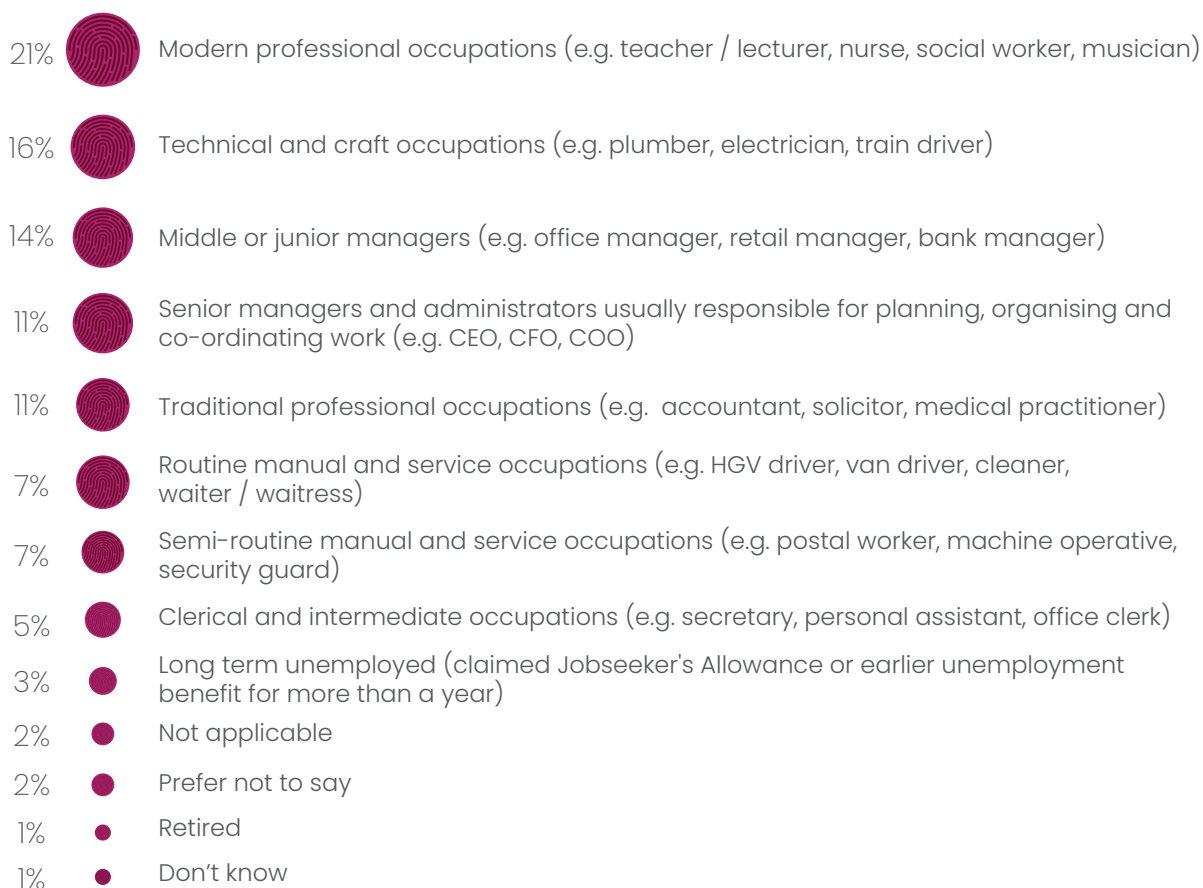
## Findings: Diversity

### Socio-economic background: parental occupation

Organisations in the UK are being advised by the Cabinet Office to measure socio-economic background using parental occupation, as it is currently felt to be the best available measure.<sup>27</sup> This guidance is relatively recent, and thus large amounts of comparative data, especially in the cyber security industry, is not available. Our survey begins to capture this and will be a valuable benchmark in years to come.

Our findings show those in the cyber security industry have parents with a wide range of backgrounds. Many respondents' parents are senior managers and administrators, but additionally, 30% of respondents' parents worked in technical/craft, routine or manual occupations, which are typically seen as indicators of low socio-economic background.

#### Respondents' parental occupations





## Cyber roles: overlap with technology and digital

To understand the breadth of talent in cyber security today, respondents were asked to share their job title. Our findings show a wide range of roles identified by cyber professionals. These roles show a strong overlap with roles that could be considered part of the technology and digital sectors.

The NCSC and KPMG believe that clearly defining roles and skills required is an important step to broadening access. In 2020, respondents identified over 200 roles, chosen either from the list of 30 roles provided in the survey or through providing their role titles.

From analysis of the other roles provided by respondents, 36 groupings were identified. This complexity illustrates the potential challenges people may have in understanding how to access the industry today and in the future.

Respondents identified

36 

additional role groupings made up of over 200 individual responses



82%

of respondents found their role in the list of 30 provided in the survey

18%

selected their occupation as 'other' and provided a description of it

"Cyber security skills are in huge demand and this demand will continue to rise. Malicious actors use any situation – including the COVID-19 pandemic – to their advantage. We have seen huge rises in the number of attempted attacks as the virus spreads across the globe. These attacks range from the sophisticated to the primitive. We need cyber security skills not only to protect our institutions and infrastructure but also to reach out to every member of the public and explain how they can keep themselves safe online."

**Lord Jonathan Evans, former Director General, MI5**

03

# 2020 Findings: Inclusion

# Confidence

## Being themselves and confidence in disclosure presents a varied picture

Without an inclusive industry, the cyber security industry will not benefit fully from the diverse workforce today and in future. Having the confidence to be yourself and disclose aspects of who you are within your organisation are important indicators of an inclusive environment.

Our findings show that some communities report low levels of confidence in their ability to be themselves and disclose aspects of their life at up to 3 times the levels in the survey as a whole. This indicates that there is more that employers could do to improve inclusivity.

There are also consistent levels of low confidence for those who identified as 'preferred not to say' in the demographic questions.

There are encouraging signs in the confidence levels of gay, lesbian and female respondents relative to the whole survey population. This may indicate that efforts to improve gender and lesbian and gay equality have had an impact. The actions taken in these areas may provide a template to support other groups within the cyber security profession.

Future reports will allow year on year comparisons to understand how confidence levels vary and also the impact of activity within the industry to support inclusion.

“

“If you can't be yourself at work, it makes a mockery of a diverse workforce. The whole point of a diverse workforce is diverse thinking and being able to challenge in a safe way to bring different perspectives. And if you don't feel comfortable in doing that, then the whole purpose of a diverse workforce is nullified.”

**Nicky Hudson, Director Policy and Communication, NCSC**

”

03

2020

## Findings: Inclusion

## Confidence

## 1 in 5 of respondents do not feel they can be themselves in the industry

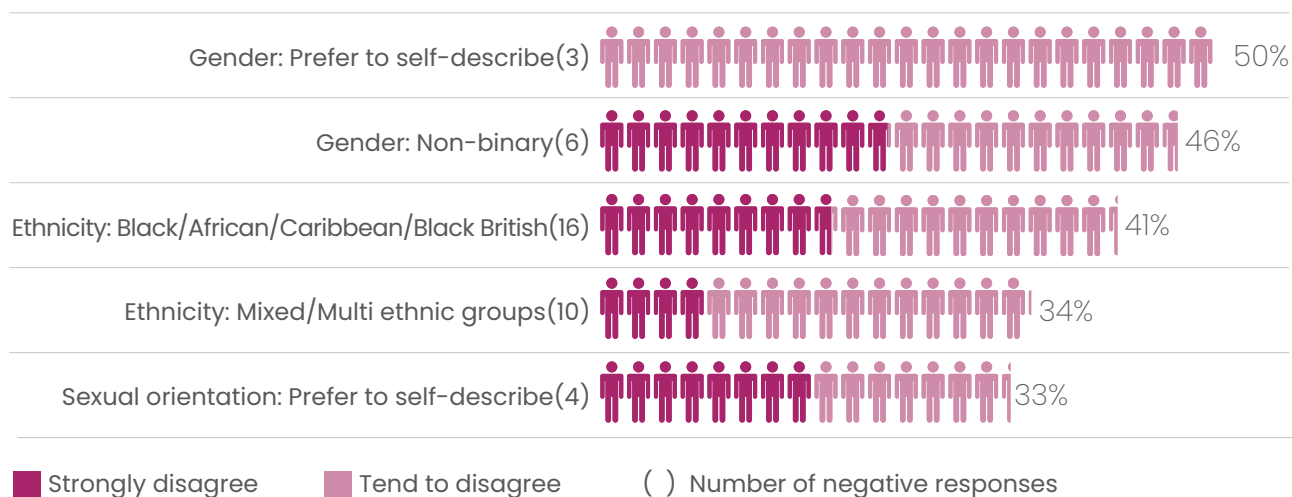
### Being myself in the workplace

Whilst 33% of respondents strongly agree and 72% tend to agree or strongly agree that they can be themselves in the industry, this masks a varied experience for different groups. Across the survey, 21% of responses tended to disagree or strongly disagreed with this statement, meaning over 1 in 5 do not feel they can be themselves in the industry.

Within the survey, some communities had considerably greater levels of disagreement. However, some of the sample sizes for these communities, such as those who identify as a non-binary gender or who prefer to self-describe their gender or sexual orientation, are small. In all cases, respondents' answers to the statement "I am able to be myself in the workplace" have been cross-referenced with their demographic answers, and should not be taken to mean any particular cause or effect.

### Five demographics least able to be themselves in the workplace

% of negative responses to the statement "I am able to be myself in the workplace", "Prefer not to say" demographics excluded.



21%



of responses disagreed with the statement, which indicates over 1 in 5 do not feel they can be themselves in the industry



## Five demographics most able to be themselves in the workplace

The groups of respondents that expressed the highest level of confidence in being themselves are not surprising when considering the demographic of the respondents and UK more generally. One of the most confident groups overall was those of gay, lesbian or bisexual respondents, which suggests that the efforts to better support this community in work and study have had a positive impact.



72%

of respondents 'strongly agreed' or 'tend to agree' with the statement "I feel able to be myself in the workplace / educational institution"

03

2020

## Findings: Inclusion

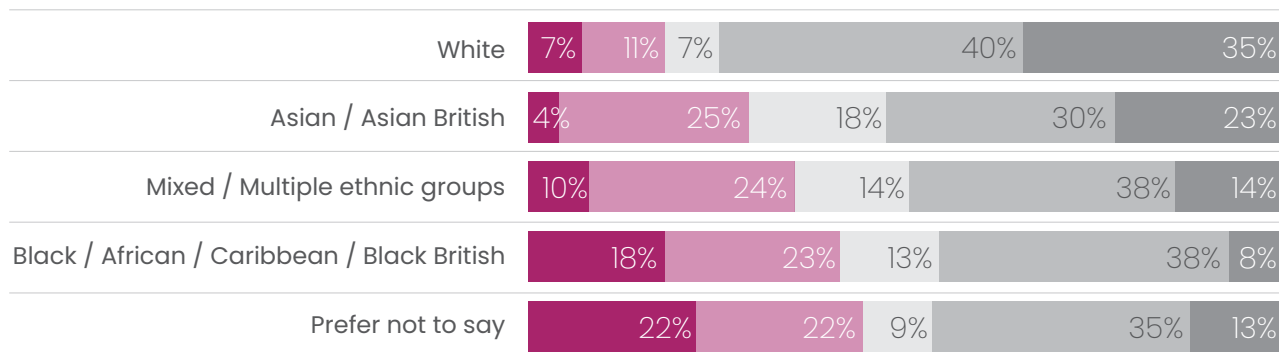
## Confidence

## Confidence in being themselves: Ethnicity and Sexual orientation

### Ethnicity

Outside those identifying as White and Asian, respondents were less confident in being themselves in the industry. This is particularly evident in the levels of 'strongly agree' vs. 'tend to agree', with levels of 'strongly agree' being consistently lower for all communities other than White. It indicates the need to be specific when considering ethnic identity, as the data shows that respondents of Black ethnicity are far less likely to feel comfortable being themselves than those of other communities. This is an important distinction that could be used to inform and target diversity and inclusion initiatives, but would be lost if the broader BAME categorisation was used.

#### Being myself in the workplace by ethnicity

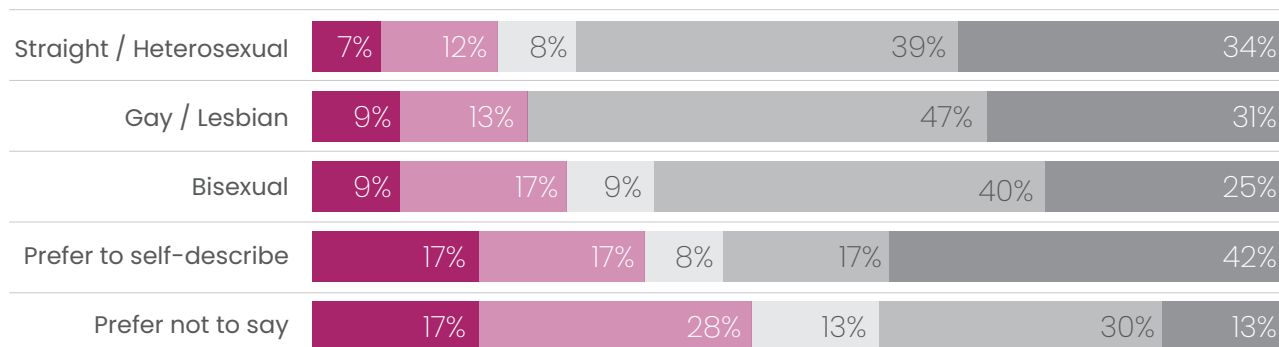


Strongly disagree Tend to disagree Neither agree nor disagree Tend to agree Strongly agree

### Sexual orientation

Those identifying as gay or lesbian had responses consistent with those identifying as straight – possibly because a higher proportion of respondents identified as gay or lesbian than the UK population. Those who self-described their sexual orientation more strongly disagreed with this statement, suggesting there is more work required to improve inclusivity of those from smaller minority groups.

#### Being myself in the workplace by sexual orientation



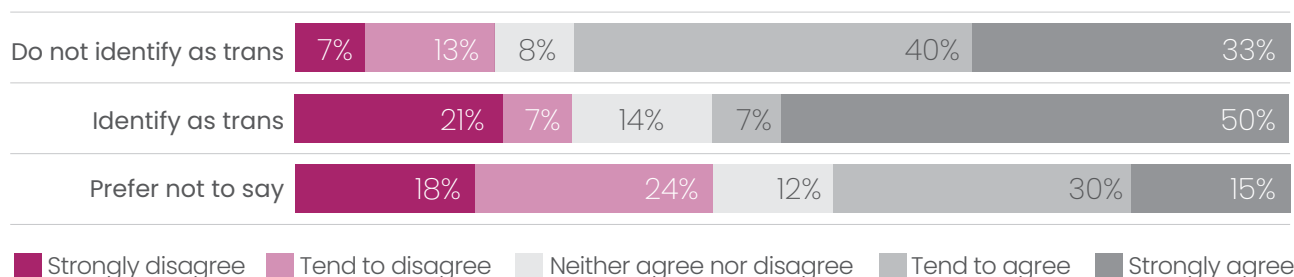
44 Strongly disagree Tend to disagree Neither agree nor disagree Tend to agree Strongly agree

## Confidence in being themselves: Trans & Gender identity

### Trans

Those who identified as trans were less confident than the survey as whole and their responses were more strongly concentrated on 'Tend to agree', 'neither agree nor disagree', 'Tend to disagree'. This may indicate an overall lower level of confidence in being themselves in the industry.

#### Being myself in the workplace by trans identity

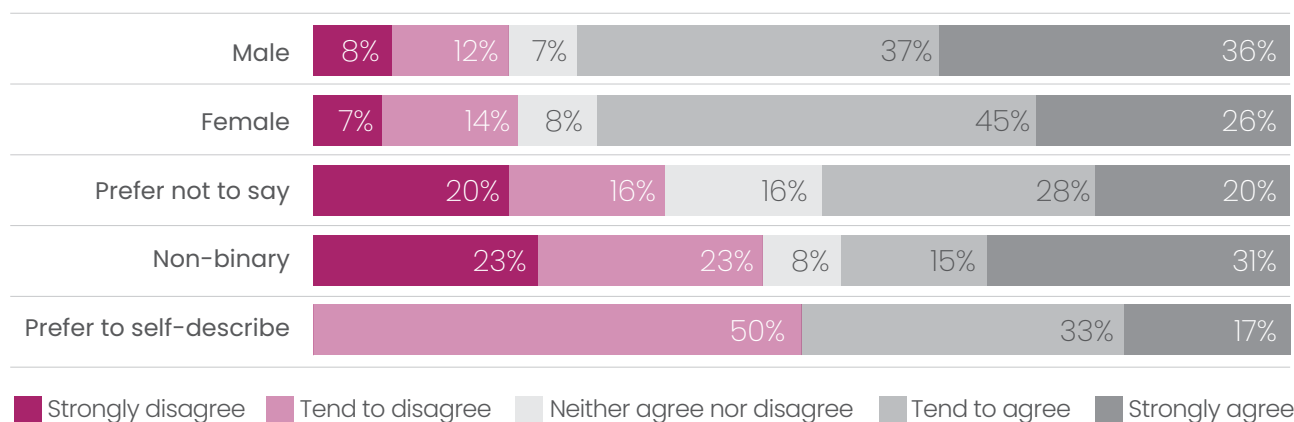


### By gender identity

Males and females report very similar levels of agreement and disagreement. However, a larger proportion of males (36% vs. 26%) said they 'strongly agreed' that their workplace gave them confidence in being themselves. This suggests that, overall, females do not feel as confident being themselves in the cyber security workplace as males do.

All other groups were considerably less confident, with non-binary respondents responding 'strongly disagree' at three times the level of male/female respondents.

#### Being myself in the workplace by gender



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## Findings: Inclusion Confidence

“

“I come from a very working-class, northern mill town background. My dad worked down a pit for many years and my mum worked in a factory. You didn't know these kind of jobs existed, never mind the City of London. Accent, behaviours, attitudes, understanding of this world held me back for a long time.”

**Javid Hamid,**  
Head of  
Corporates  
Consulting,  
KPMG in the UK

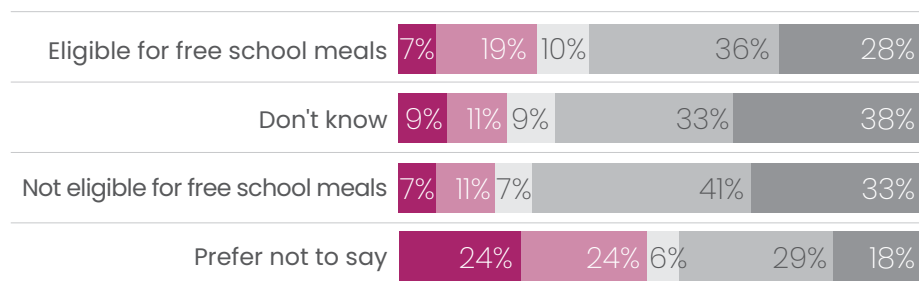
”

## Confidence in being themselves: Parental occupation

### Free school meal eligibility

For those eligible for free school meals, confidence levels were lower than those who were not, indicating that socio-economic background may be a factor in professionals' ability to be themselves. It should be noted that free school meals were only available to people who left school after 1980, so this data is not representative of the entire industry.

#### Being myself in the workplace by Free School Meal eligibility



Strongly disagree
  Tend to disagree
  Neither agree nor disagree
  Tend to agree
  Strongly agree

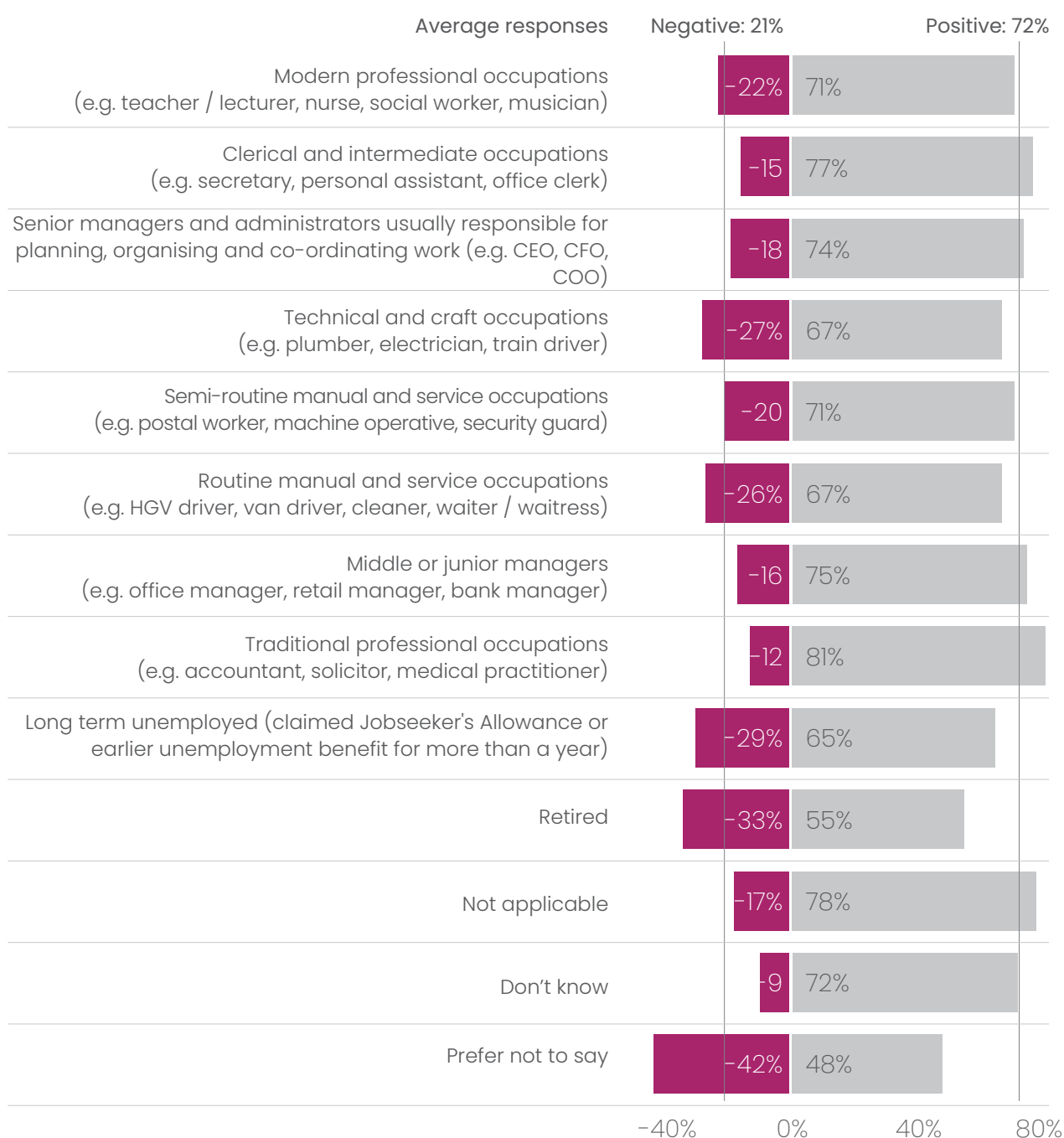
### Parental occupation

Professionals whose parental occupations included long-term unemployed, retired, routine manual or technical and craft had considerably lower confidence than respondents as a whole.

Respondents whose parents had occupations associated with office work and in particular management roles or traditional professional occupations such as accountants were more confident in their ability to be themselves in the industry.



### Confidence in being themselves at work by parental occupation



03

2020

## Findings: Inclusion

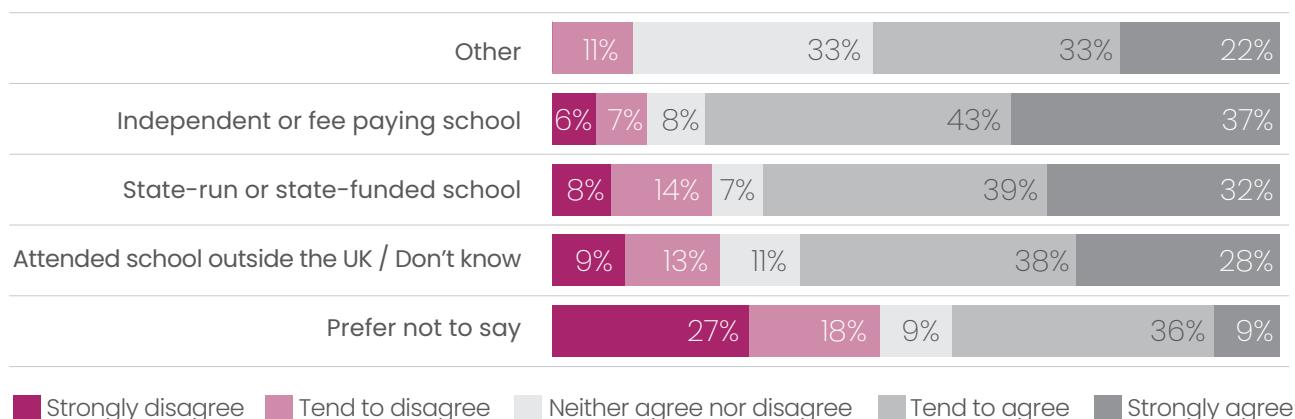
## Confidence

## Confidence in being themselves: Education and Socio-economic

### Educational background

Those who attended independent schools were the most confident community, but the levels were not significantly higher than state schools. Those who attended school outside the UK had lower levels of confidence as a community and made up 10% of responses.

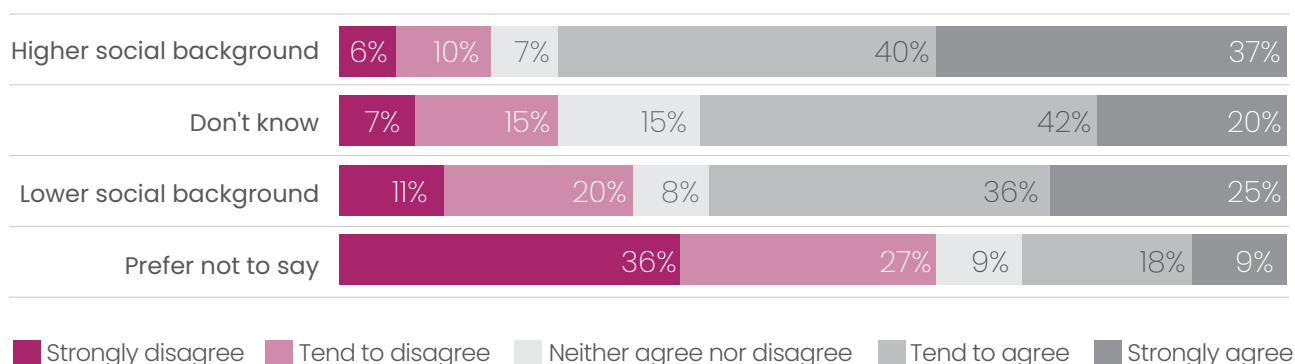
#### Being myself in the workplace by educational background



### Socio-economic background

Our findings indicate a difference in confidence between those self-identifying as being from a lower socio-economic background and survey respondents as a whole. This is seen in both the total level of 'agree' and 'strongly agree' responses and in the relative difference between strongly agree and agree. Respondents who didn't know or preferred not to say were even less confident in being themselves.

#### Being myself in the workplace by socio-economic background



# Disclosure

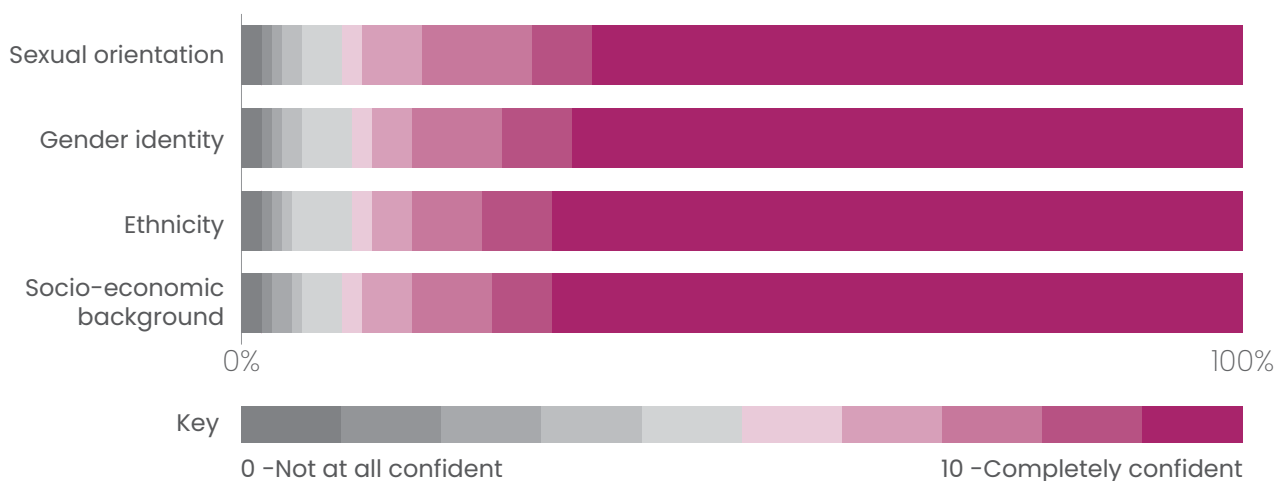
## Overall high levels of confidence, many groups are having a very different experience of the industry

Respondents answered a series of questions on their confidence in disclosing aspects of their life in their place of work or study (social background, ethnicity, gender identity and sexual orientation). These were captured on a 0-10 scale with 0 representing 'not at all confident' and 10 representing 'completely confident.'

Overall, respondents were confident in disclosing aspects of their life, with all four areas showing over 50% recorded as '10-completely confident'. However, this masks the experiences of different groups who were much less confident in a number of areas, as the data on the following pages shows.

Comparing the different aspects of their life, respondents were least confident disclosing their sexual orientation, with fewer respondents answering 10 or 9 for confidence versus the other areas.

### Respondents' confidence in disclosure



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Findings: Inclusion

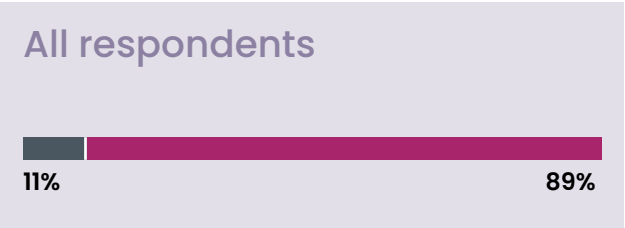
Disclosure

# Disclosure

## The disclosure of ethnicity

Key

- Less confident (0-5)
- More confident (6-10)

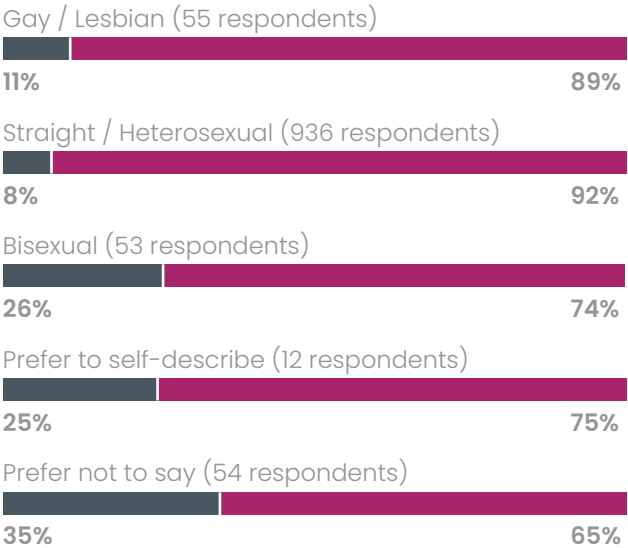


## By sexual orientation

Respondents who identified as bisexual or self-describe their sexual orientation were less confident than straight and gay/lesbian respondents. 26% of bisexual respondents gave a score between 0 and 5, compared to 11% of overall respondents.

35% of those who self-describe gave a score between 0 and 5.

## Percentage of respondents





### Trans community

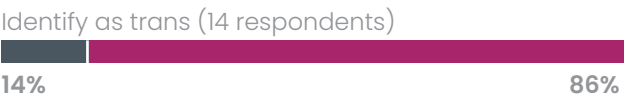
Whilst trans respondents were less confident than respondents as a whole, the difference was not as pronounced as the disclosure of sexual orientation.

### By gender identity

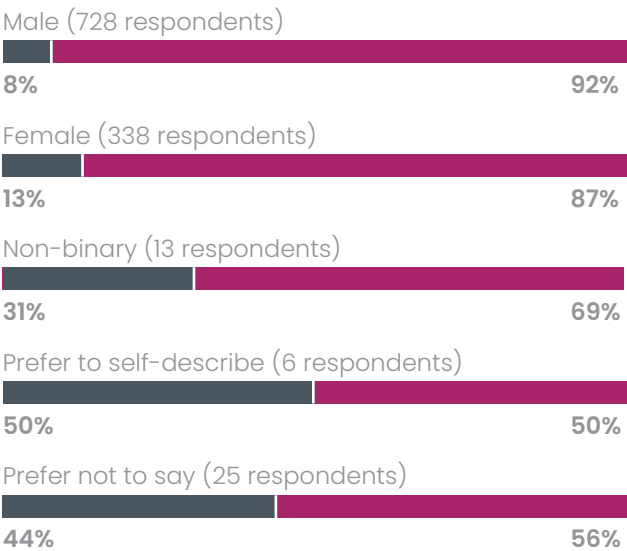
Male and female respondents were more confident than all other groups in the disclosure of their ethnicity.

50% of those who self-describe gave scores between 0 and 5, and 31% of non-binary respondents did the same, compared to 11% of total respondents.

#### Percentage of respondents



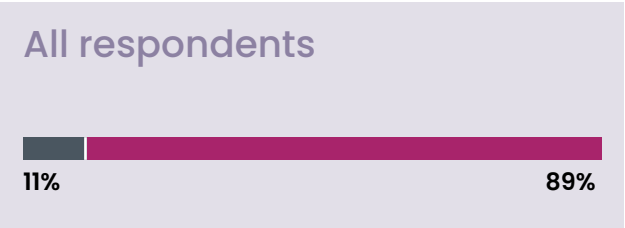
#### Percentage of respondents



# The disclosure of ethnicity

Key

- Less confident (0-5)
- More confident (6-10)

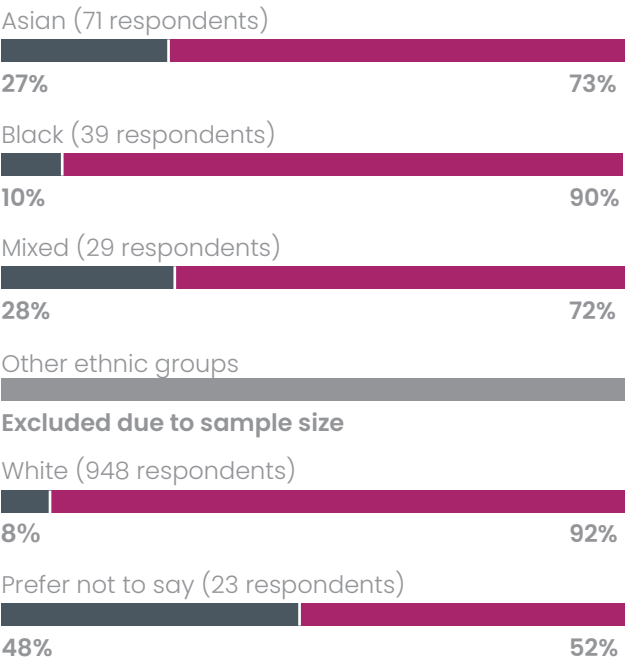


## By ethnicity

Respondents of White and Black ethnicity were the only groups to be more confident in the disclosure of their ethnicity than respondents as a whole.

All other groups were less confident with high proportions of negative responses.

## Percentage of respondents



## By educational background

Respondents educated in independent schools were more confident than the survey population as a whole.

Individuals who attended selective state schools were less confident than respondents as a whole, and less confident than those who attended non-selective state schools.

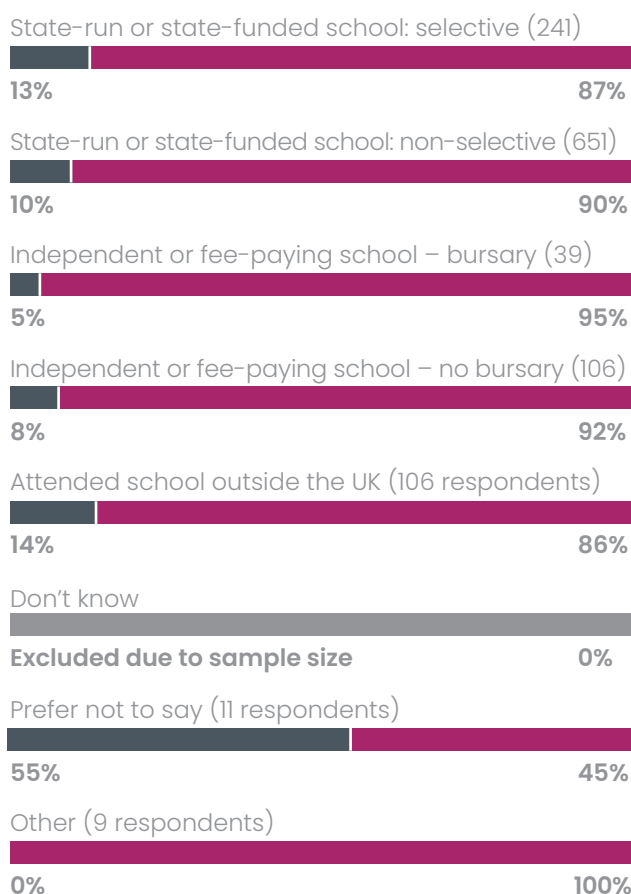
Those educated outside the UK were less confident, suggesting that the industry needs to consider how to create an inclusive environment for those migrating to the UK to support the cyber security industry.

## By free school meal eligibility

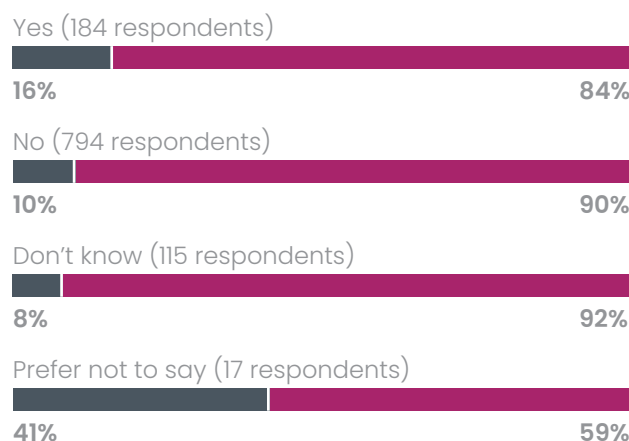
Those who did not, or did not know if they did receive free school meals were slightly more confident than those who did.

Those who preferred not to disclose whether they received free school meals were also significantly less confident in disclosing their ethnicity.

### Percentage of respondents



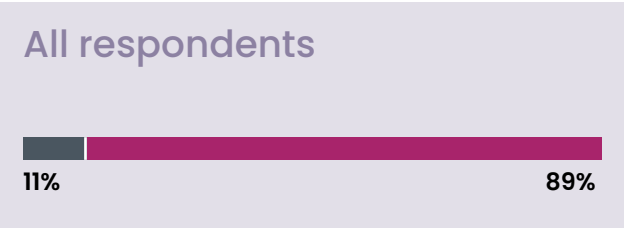
### Percentage of respondents



## The disclosure of ethnicity

Key

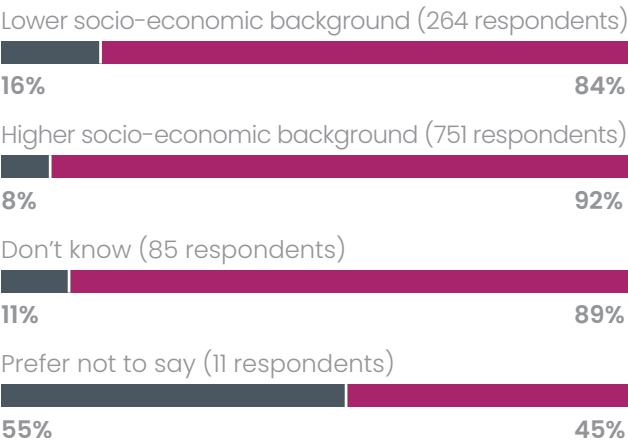
- Less confident (0-5)
- More confident (6-10)



## By socio-economic background relative to population

Respondents indicated that those who are or perceive they are from a lower socio-economic background were less confident in disclosure of their ethnicity.

### Percentage of respondents





## By parental occupation

Respondents whose parents had occupations associated with office work were consistently more confident in the disclosure of their sexual orientation.

Those whose parents were long-term unemployed or had semi-routine manual or routine manual occupations were less confident than the survey population as a whole.

### Percentage of respondents

Modern professional occupations (231 respondents)  
(E.g. Teacher / lecturer, nurse, social worker, musician)



Clerical and intermediate occupations (54)  
(E.g. Secretary, personal assistant, office clerk)



Senior managers and administrators usually responsible for planning, organising and co-ordinating work (124) (E.g. CEO, CFO, COO)



Technical and craft occupations (185 respondents)  
(E.g. Plumber, electrician, train driver)



Semi-routine manual and service occupations (75)  
(E.g. Postal worker, machine operative, security guard)



Routine manual and service occupations (79)  
(E.g. HGV driver, van driver, cleaner, waiter / waitress)



Middle or junior managers (151 respondents)  
(E.g. Office manager, retail manager, bank manager)



Traditional professional occupations (123 respondents)  
(E.g. Accountant, solicitor, medical practitioner)



Long term unemployed (31 respondents)  
(claimed Jobseeker's Allowance or earlier unemployment benefit for more than a year)



Retired (9 respondents)



Not applicable (23 respondents)



Don't know (11 respondents)



Prefer not to say (19 respondents)

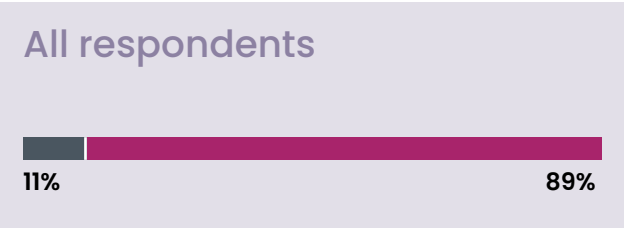


# Disclosure

## The disclosure of sexual orientation

**Key**

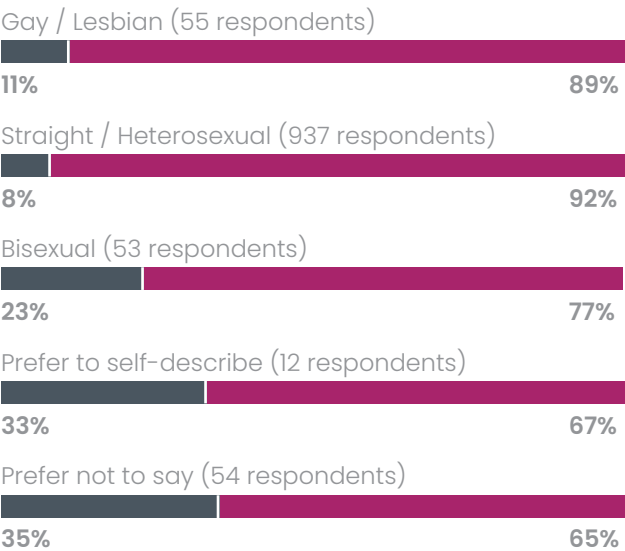
- Less confident (0-5)
- More confident (6-10)



### By sexual orientation

Respondents who identified as bisexual or self-describe their sexual orientation were significantly less confident than straight and gay/lesbian respondents. This was both in overall scores and in the proportion of scores below 5. For example, 23% of bisexual individuals recorded a score below 5, compared to 11% of respondents as a whole.

### Percentage of respondents



### Trans community

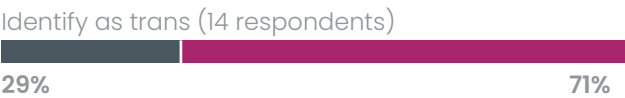
The trans community expressed much lower confidence levels than respondents as whole.

### By gender identity

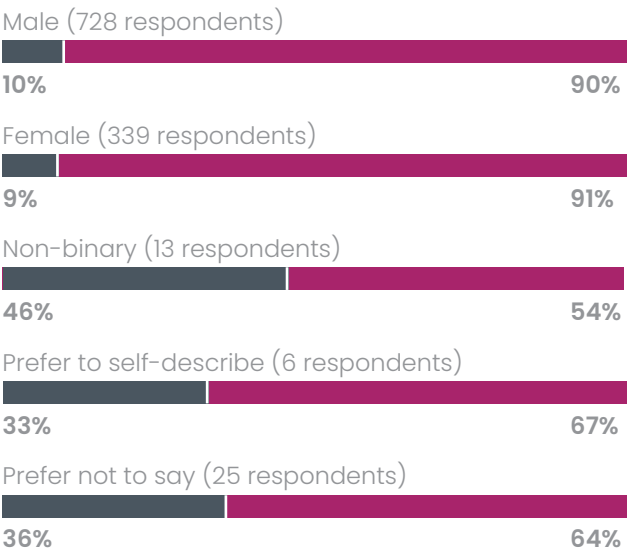
Male and female respondents were more confident than all other groups. The similar results for females and males may indicate that efforts on gender equality in the workplace have had a positive impact.

Non-binary respondents, those who self-describe or 'prefer not to say' show lower levels of confidence.

#### Percentage of respondents



#### Percentage of respondents



# The disclosure of sexual orientation

Key

- Less confident (0-5)
- More confident (6-10)

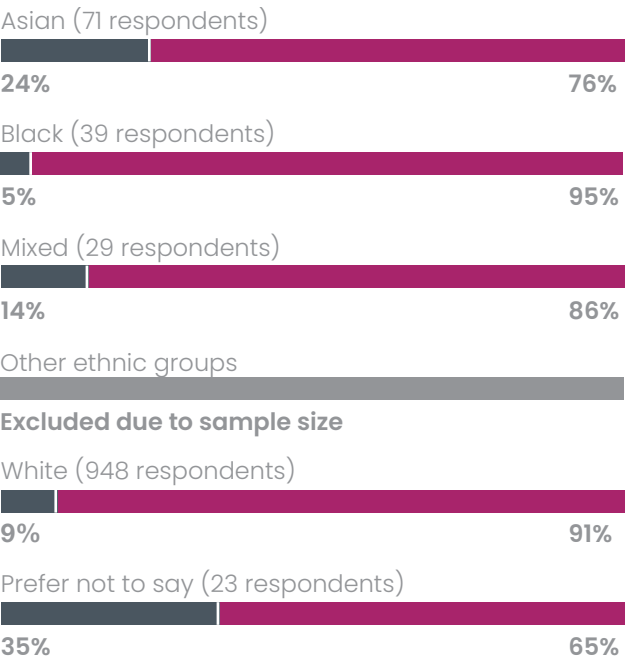


## By ethnicity

Respondents of White and Black ethnicity were the only groups to be more confident than respondents as a whole.

All other groups were less confident with high proportions of negative responses.

## Percentage of respondents





## By educational background

Respondents educated in independent schools were consistently more confident than those educated in either state or independent schools.

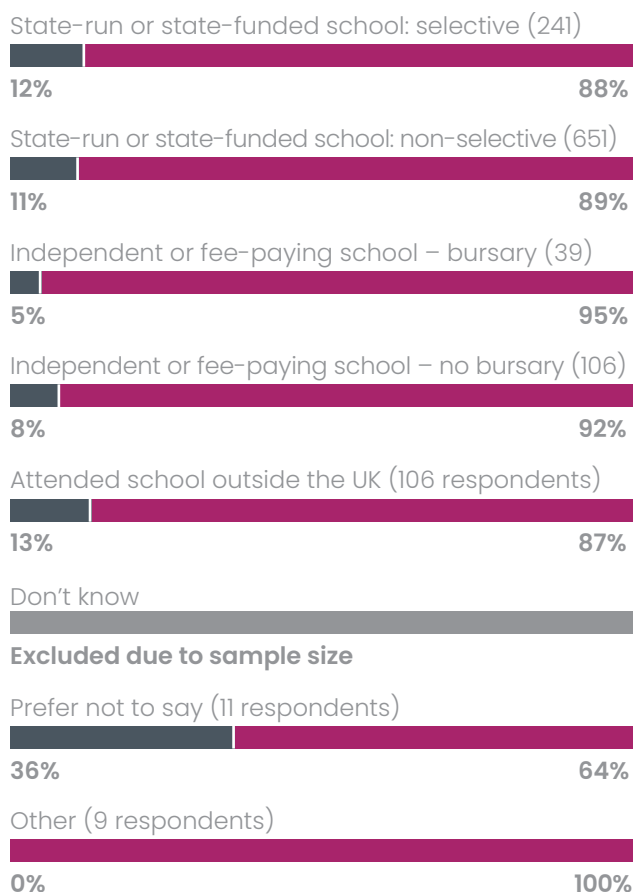
Those educated outside the UK were less confident, suggesting the industry needs to consider how to create an inclusive environment for those migrating to the UK to support the cyber security industry.

## By free school meal eligibility

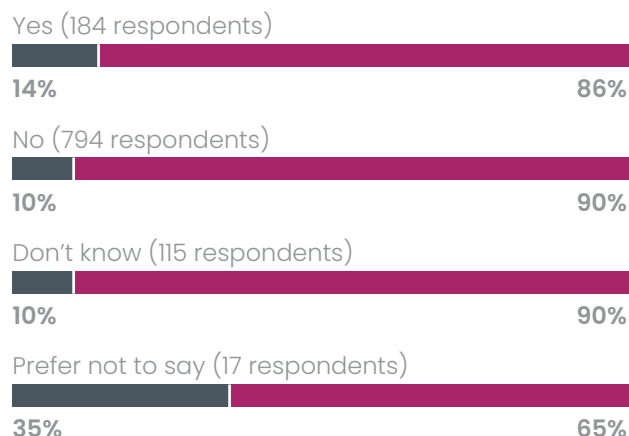
Those who did not, or did not know if they received free school meals were more confident than those who did.

Those who preferred not to disclose were also less confident in disclosing their sexual orientation.

### Percentage of respondents



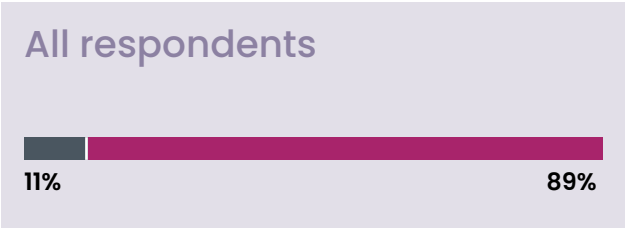
### Percentage of respondents



# The disclosure of sexual orientation

Key

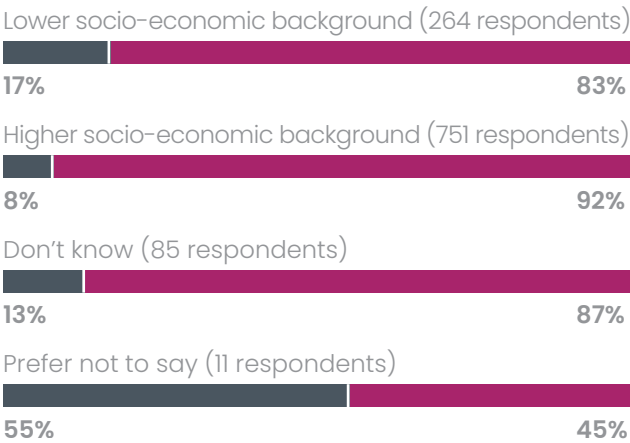
- Less confident (0-5)
- More confident (6-10)



## By socio-economic background relative to population

Respondents who identified as being from a lower socio-economic background were less confident in disclosure.

### Percentage of respondents



## By parental occupation

Respondents whose parents had occupations associated with office work were consistently more confident in the disclosure of their sexual orientation.

Respondents whose parents were long-term unemployed or had semi-routine manual or routine manual occupations were less confident than the survey as a whole.

Modern professional occupations (231 respondents)  
(E.g. Teacher / lecturer, nurse, social worker, musician)



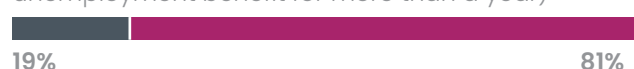
Traditional professional occupations (123 respondents)  
(E.g. Accountant, solicitor, medical practitioner)



Clerical and intermediate occupations (54)  
(E.g. Secretary, personal assistant, office clerk)



Long term unemployed (31 respondents)  
(claimed Jobseeker's Allowance or earlier unemployment benefit for more than a year)



Senior managers and administrators usually responsible for planning, organising and co-ordinating work (124) (E.g. CEO, CFO, COO)



Retired (9 respondents)



Technical and craft occupations (182 respondents)  
(E.g. Plumber, electrician, train driver)



Not applicable (23 respondents)



Semi-routine manual and service occupations (75)  
(E.g. Postal worker, machine operative, security guard)



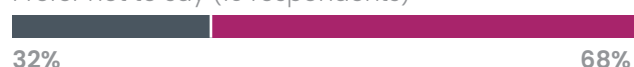
Don't know (11 respondents)



Routine manual and service occupations (79)  
(E.g. HGV driver, van driver, cleaner, waiter / waitress)



Prefer not to say (19 respondents)



Middle or junior managers (151 respondents)  
(E.g. Office manager, retail manager, bank manager)



# Disclosure

## The disclosure of gender identity

**Key**

- Less confident (0-5)
- More confident (6-10)

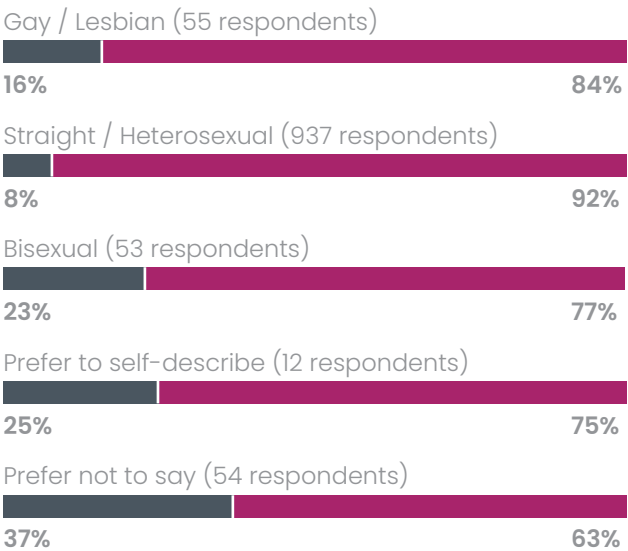


### By sexual orientation

Respondents who identified as bisexual or self-describe their sexual orientation were significantly less confident than straight respondents.

In comparison to other areas of disclosure, gay/lesbian respondents were less confident in disclosure of their gender identity.

### Percentage of respondents



### Trans community

The trans community expressed much lower confidence levels than respondents as whole.

### By gender identity

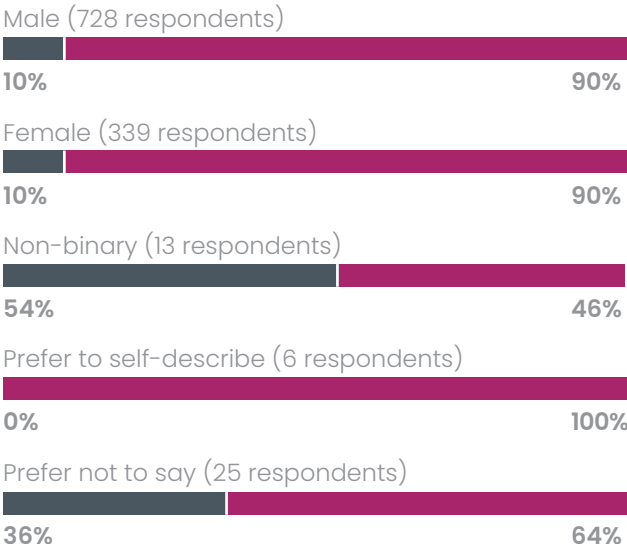
Male and female respondents were more confident than all others groups. The similar results for females and males indicate that efforts on gender equality in the workplace have had a positive impact.

Non-binary respondents have particularly low levels of confidence.

#### Percentage of respondents



#### Percentage of respondents

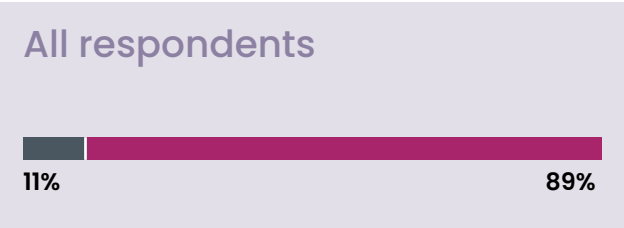




# The disclosure of gender identity

Key

- Less confident (0-5)
- More confident (6-10)



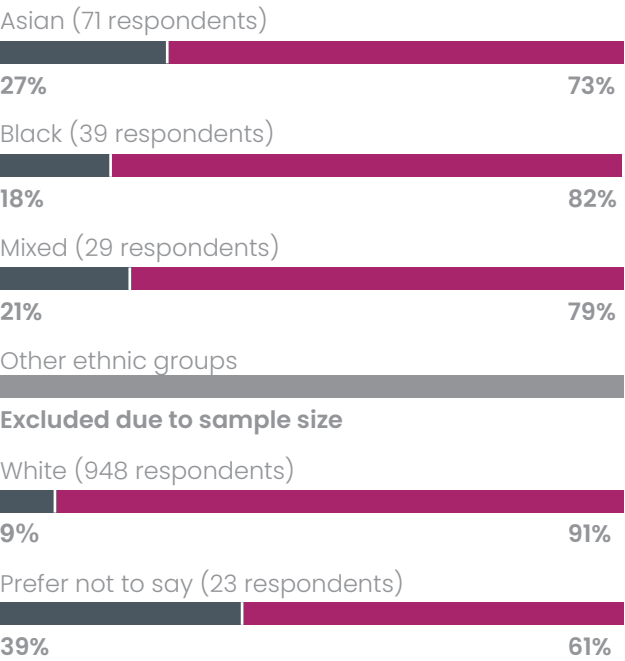
## By ethnicity

Respondents from White backgrounds were the only groups to be more confident than respondents as a whole.

In comparison to other areas of disclosure, those of Black ethnicity were less confident.

All other groups were less confident with high proportions of negative responses.

## Percentage of respondents



## By educational background

Respondents educated in independent schools were more confident than the survey as a whole.

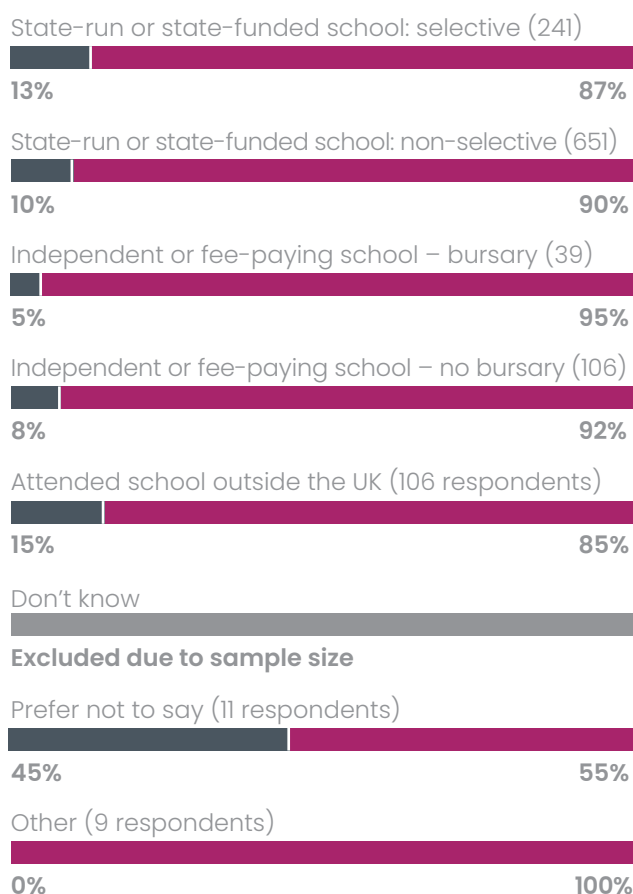
Selective state school respondents were marginally less confident than non-selective state school attendees.

Those educated outside the UK were less confident, suggesting that the industry needs to consider how to create an inclusive environment for those migrating to the UK to support the cyber security industry.

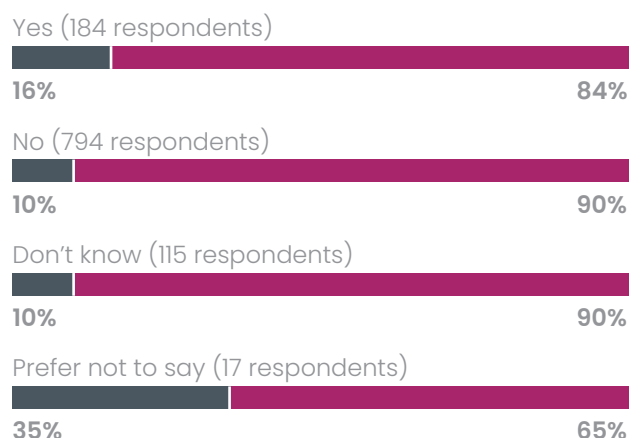
## By free school meal eligibility

Respondents eligible for free school meals were less confident than those who were not which may indicate that the industry is not as inclusive to those from lower socio-economic backgrounds as it could be.

### Percentage of respondents



### Percentage of respondents



# The disclosure of gender identity

Key

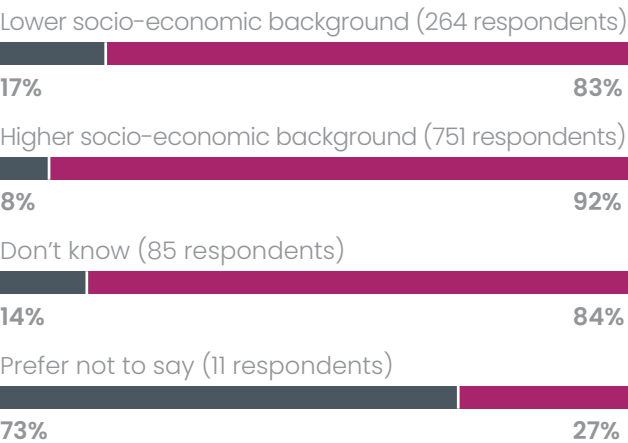
- Less confident (0-5)
- More confident (6-10)



## By socio-economic background relative to population

Those who identified as being from a lower socio-economic background were less confident in disclosure.

### Percentage of respondents



## By parental occupation

Respondents whose parents had occupations associated with office work were consistently more confident in the disclosure of their sexual orientation.

Those whose parents were long-term unemployed or had semi-routine manual or routine manual occupations were less confident compared to our survey as a whole.

### Percentage of respondents

Modern professional occupations (231 respondents)  
(E.g. Teacher / lecturer, nurse, social worker, musician)



Traditional professional occupations (123 respondents)  
(E.g. Accountant, solicitor, medical practitioner)



Clerical and intermediate occupations (54)  
(E.g. Secretary, personal assistant, office clerk)



Long term unemployed (31 respondents)  
(claimed Jobseeker's Allowance or earlier unemployment benefit for more than a year)



Senior managers and administrators usually responsible for planning, organising and co-ordinating work (124) (E.g. CEO, CFO, COO)



Retired (9 respondents)



Technical and craft occupations (182 respondents)  
(E.g. Plumber, electrician, train driver)



Not applicable (23 respondents)



Semi-routine manual and service occupations (75)  
(E.g. Postal worker, machine operative, security guard)



Don't know (11 respondents)



Routine manual and service occupations (79)  
(E.g. HGV driver, van driver, cleaner, waiter / waitress)



Prefer not to say (19 respondents)



Middle or junior managers (151 respondents)  
(E.g. Office manager, retail manager, bank manager)



# Disclosure

## The disclosure of socio-economic background

**Key**

- Less confident (0-5)
- More confident (6-10)

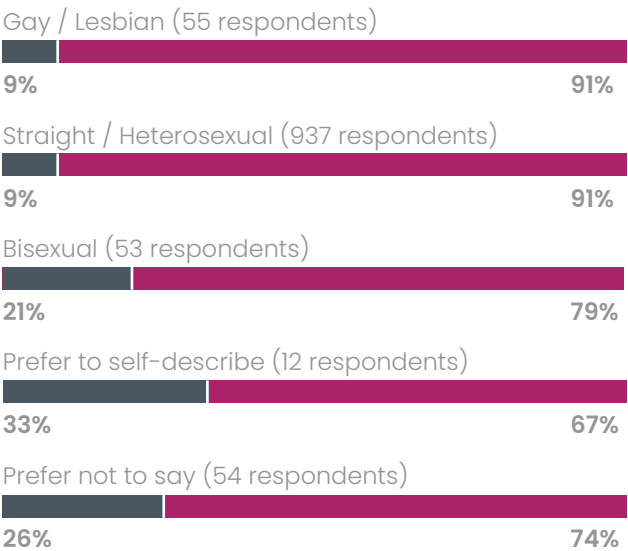


## By sexual orientation

Respondents who identified as bisexual or self-describe their sexual orientation were less confident than straight and gay/lesbian respondents.

The confidence levels of gay/lesbian groups suggests that efforts in these areas more generally have had a positive impact.

### Percentage of respondents





### Trans community

Trans respondents were less confident than respondents as a whole, but not to the same extent as with the disclosure of sexual orientation.

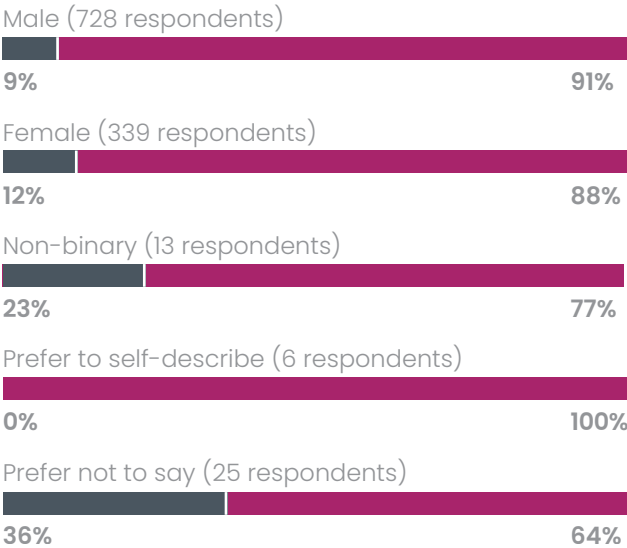
### By gender identity

Male and female respondents were more confident than all others groups.  
Non-binary respondents have particularly low levels of confidence.

#### Percentage of respondents



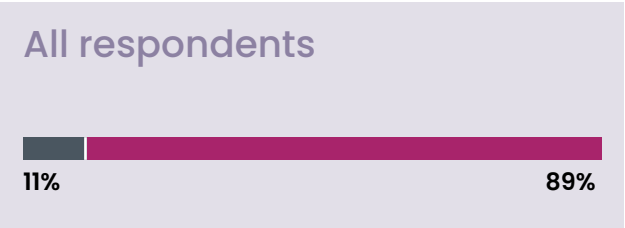
#### Percentage of respondents



# The disclosure of socio-economic background

Key

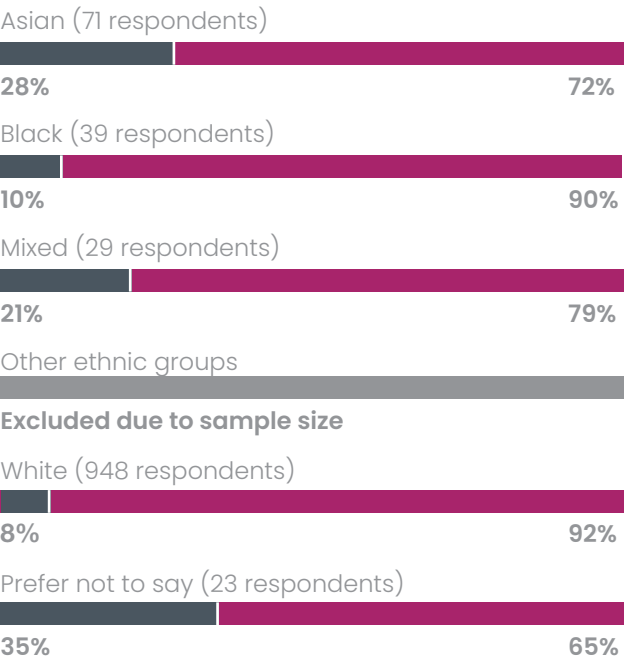
- Less confident (0-5)
- More confident (6-10)



## By ethnicity

White and Black respondents were the only groups to be more confident than respondents as a whole. All other groups were less confident with high proportions of negative responses.

### Percentage of respondents



## By educational background

Respondents educated in independent schools were consistently more confident than the survey as a whole.

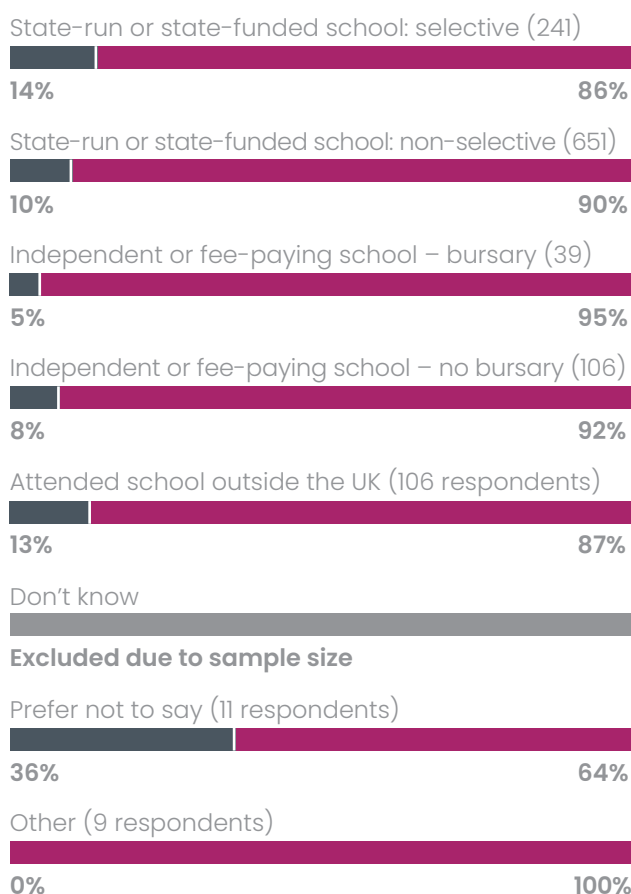
Respondents who attended selective state schools were less confident than those attending non-selective state schools.

Those educated outside the UK were less confident, suggesting that the industry needs to consider how to create an inclusive environment for those migrating to the UK to support the cyber security industry.

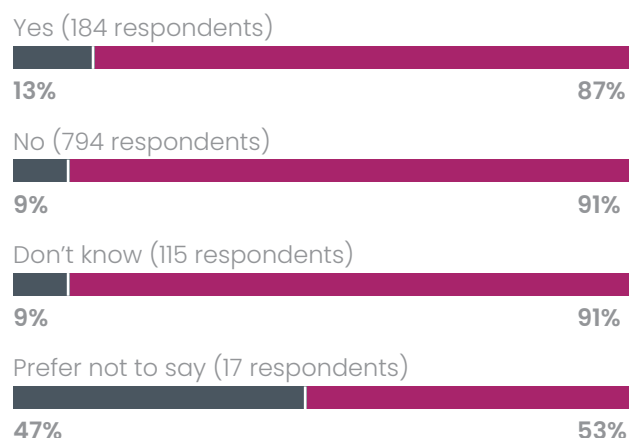
## By free school meal eligibility

Respondents eligible for free school meals were less confident than those who were not which may indicate that the industry is not as inclusive to those from lower socio-economic backgrounds as it could be.

### Percentage of respondents



### Percentage of respondents



# The disclosure of socio-economic background

Key

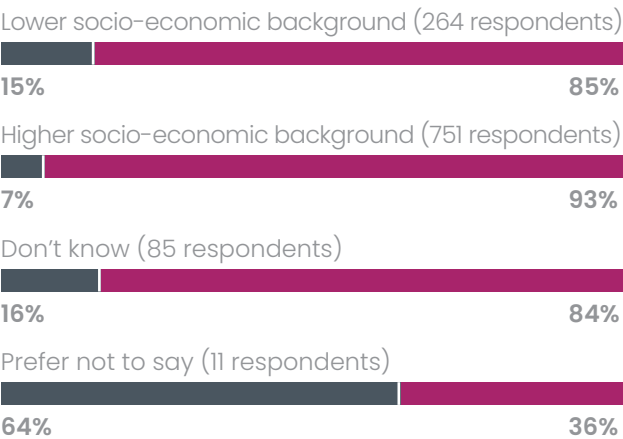
- Less confident (0-5)
- More confident (6-10)



## By socio-economic background relative to population

Respondents who identified as being from a lower socio-economic background were less confident in disclosure.

### Percentage of respondents



## By parental occupation

Respondents whose parents had occupations associated with office work were consistently more confident in disclosure of their sexual orientation.

Those whose parents were long-term unemployed or had semi-routine manual or routine manual occupations were less confident than the survey as a whole.

### Percentage of respondents

Modern professional occupations (231 respondents)  
(E.g. Teacher / lecturer, nurse, social worker, musician)



Clerical and intermediate occupations (54)  
(E.g. Secretary, personal assistant, office clerk)



Senior managers and administrators usually responsible for planning, organising and co-ordinating work (124) (E.g. CEO, CFO, COO)



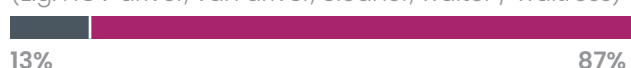
Technical and craft occupations (182 respondents)  
(E.g. Plumber, electrician, train driver)



Semi-routine manual and service occupations (75)  
(E.g. Postal worker, machine operative, security guard)



Routine manual and service occupations (79)  
(E.g. HGV driver, van driver, cleaner, waiter / waitress)



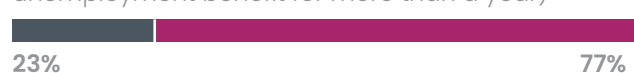
Middle or junior managers (151 respondents)  
(E.g. Office manager, retail manager, bank manager)



Traditional professional occupations (123 respondents)  
(E.g. Accountant, solicitor, medical practitioner)



Long term unemployed (31 respondents)  
(claimed Jobseeker's Allowance or earlier unemployment benefit for more than a year)



Retired (9 respondents)



Not applicable (23 respondents)



Don't know (11 respondents)



Prefer not to say (19 respondents)



# 04

## 2020 Findings: Discrimination



# Nearly 1 in 6 respondents have experienced a negative incident or comment in the last year

Discrimination in the workplace is not acceptable. It has a huge impact on those individuals who experience it and the industry must do everything it can to prevent it and deal with it effectively when it does occur.

Our findings show that 16% of respondents feel they have experienced discrimination in the workplace in the last year. These experiences varied across the different communities, with minority groups reporting in higher numbers.

Responses to the type of incident shows that comments or incidents relating to sexual orientation were lower relative to ethnicity, gender identity or socio-economic background. The survey found respondents were less confident overall in disclosing sexual orientation which may indicate that less professionals disclose it and therefore suffer discrimination as a result of this.

## Negative incidents experienced as a percentage of total respondents



16% 

of the respondents **have, within the last year, experienced negative comments or conduct from colleagues** because of their sexual orientation, gender identity, ethnicity or social background.

04

2020

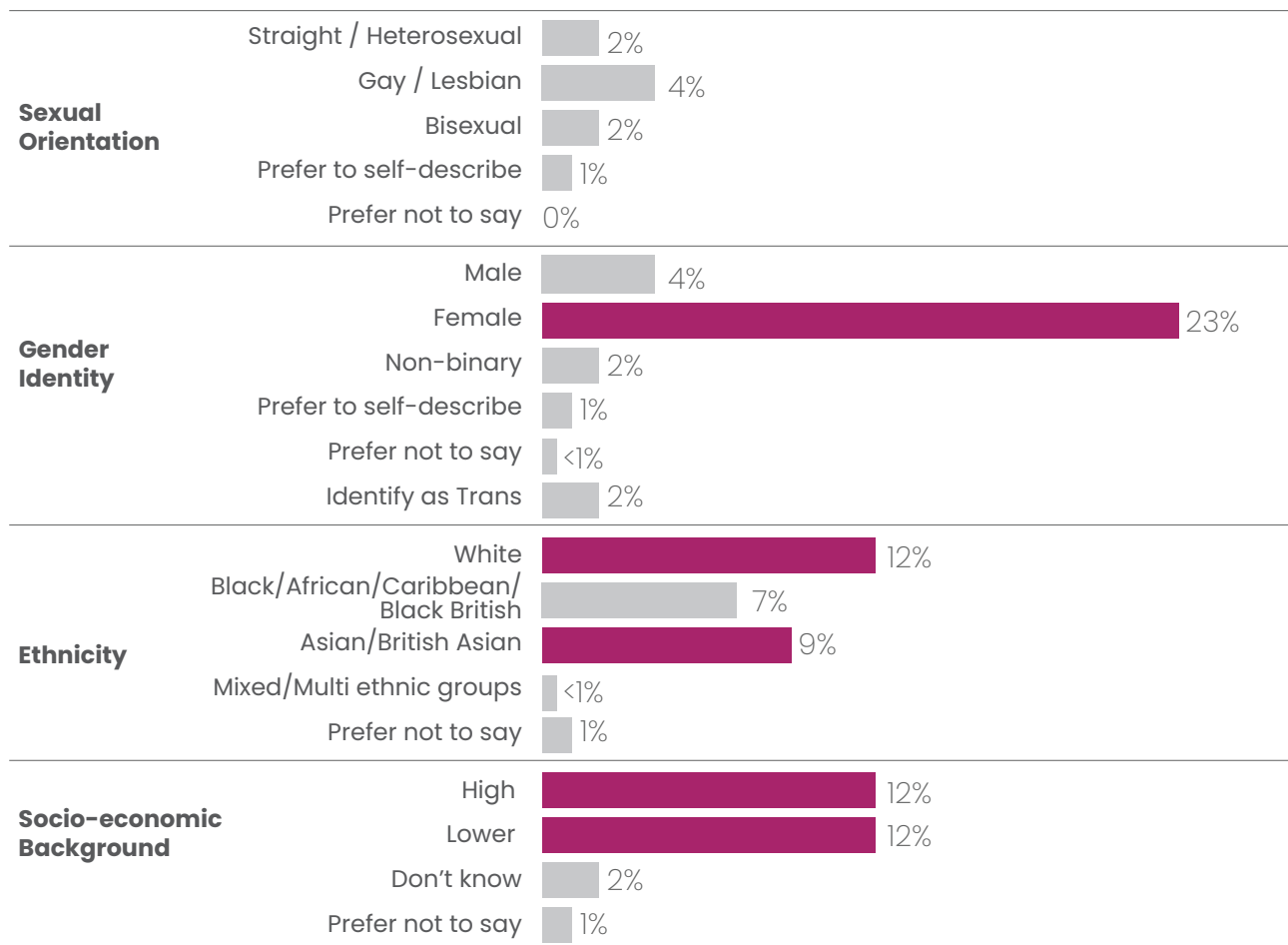
## Findings: Discrimination

### Some communities reported higher levels of incidents than respondents as a whole

Nearly a quarter (23%) of incidents affected females and were related to their gender identity, with the next highest in absolute terms being negative incidents or comments experienced by white respondents based on their ethnicity, and people of both lower and higher socio-economic background experiencing negative incidents or comments based on their background.

#### Negative incidents as a proportion of total negative incidents (top 5 highlighted)

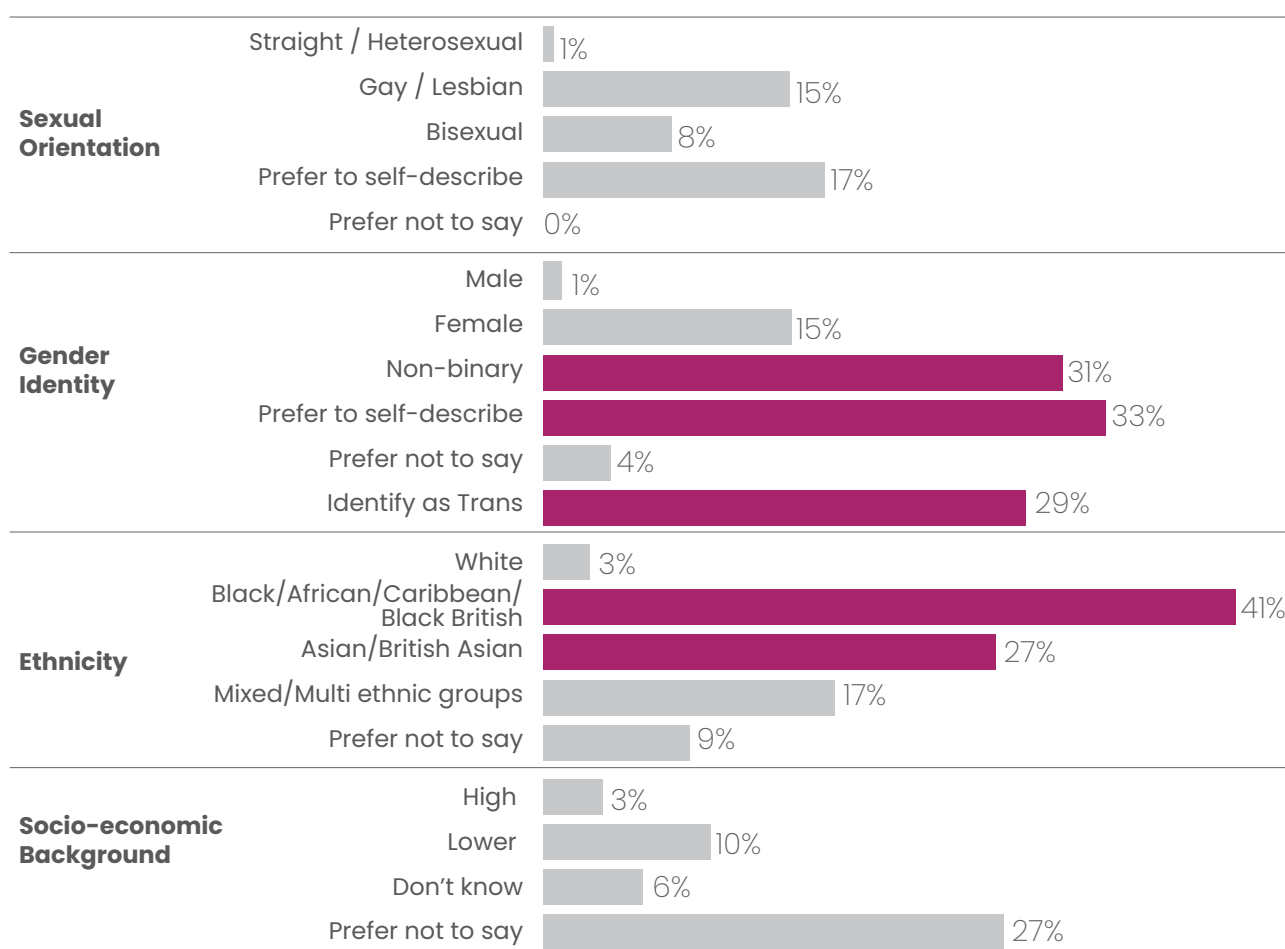
Vertical axis shows type of negative incident first and then a breakdown of the demographics who experienced it



In proportional terms, gender does still appear to be a factor, with 15% of all females experiencing gender related incidents or comments, but also 33% of those who self-describe their gender, 31% of non-binary gender and 29% of trans respondents all experiencing gender discrimination. The most affected group, proportionally, however, are black respondents, where 41% of all respondents reported experiencing negative incidents or comments in the workplace as a result of their ethnicity within the last year.

### Proportion of demographics who have experienced a negative incident (top 5 highlighted)

Vertical axis shows type of negative incident first and then a breakdown of the demographics who experienced it.

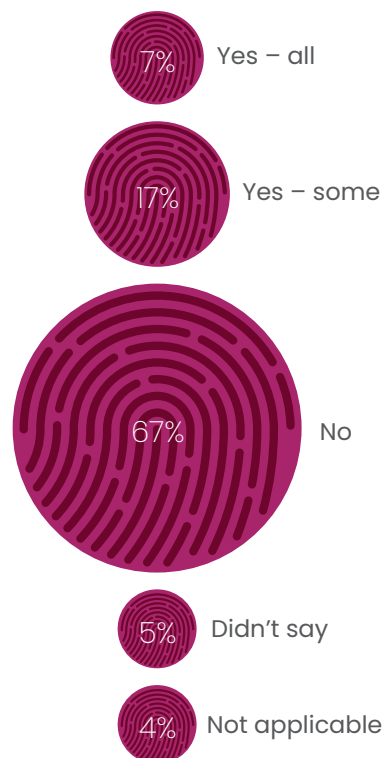


## 04 2020 Findings: Discrimination

### Low levels of incident reporting may prevent organisations taking action

The problem of discrimination is exacerbated by low levels of reporting incidents of discrimination. Of the (16%) respondents who reported experiencing negative comments or conduct from a colleague, two thirds (67%) indicated that they did not report any of these incidents. This represents over 8% of respondents as a whole. This trend has also been identified at a characteristic level, with the Government Equality Office's National LGBT survey finding "Most respondents said the most serious incident had not been reported, the main reason for which was that they had thought it would not be worth it, or that nothing would happen or change."<sup>28</sup>

#### Did you report negative comments or behaviour?\*



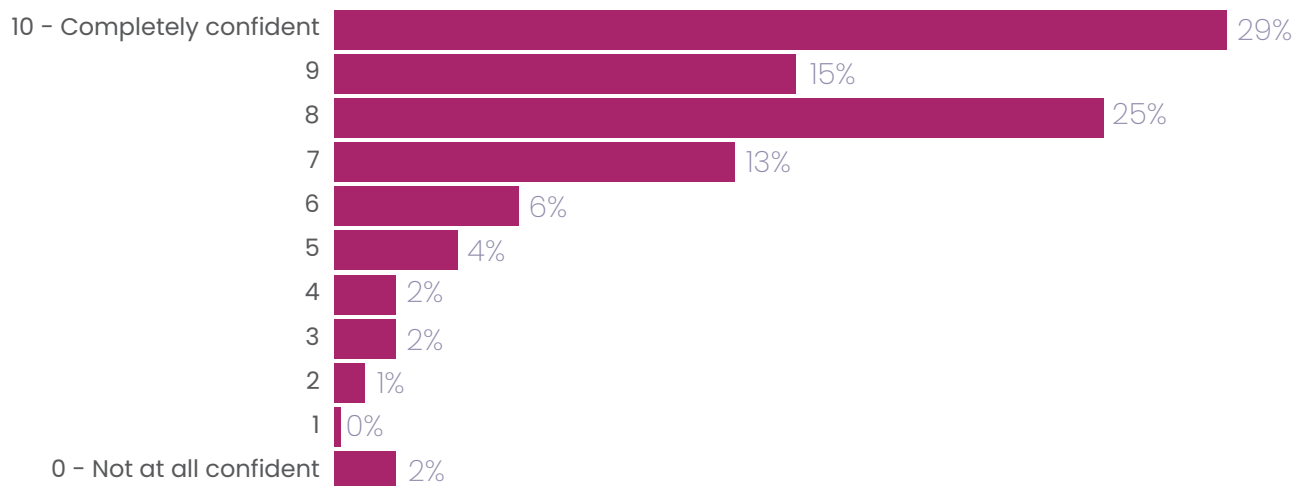
\* We use the acronym LGBT here as it is used in the report referenced which we wish to accurately reflect

## Cyber professionals have confidence in employers' responses to inappropriate behaviour

Despite low levels of incident reporting, our results suggest that cyber professionals have a high level of confidence in how their employers would respond to reports of inappropriate and discriminatory behaviour.

### Respondents' confidence in their organisations response to inappropriate behaviour

Percentage of survey responses to the question: "How confident do you feel your workplace would respond to inappropriate behaviour and discrimination towards individuals from historically underrepresented groups".



69% of respondents rated their confidence in their employer as at least an 8 out of 10, compared with only 7% who rated their confidence at 4 or lower.

69%

of respondents rated their confidence in their employer as at least an 8 out of 10

04

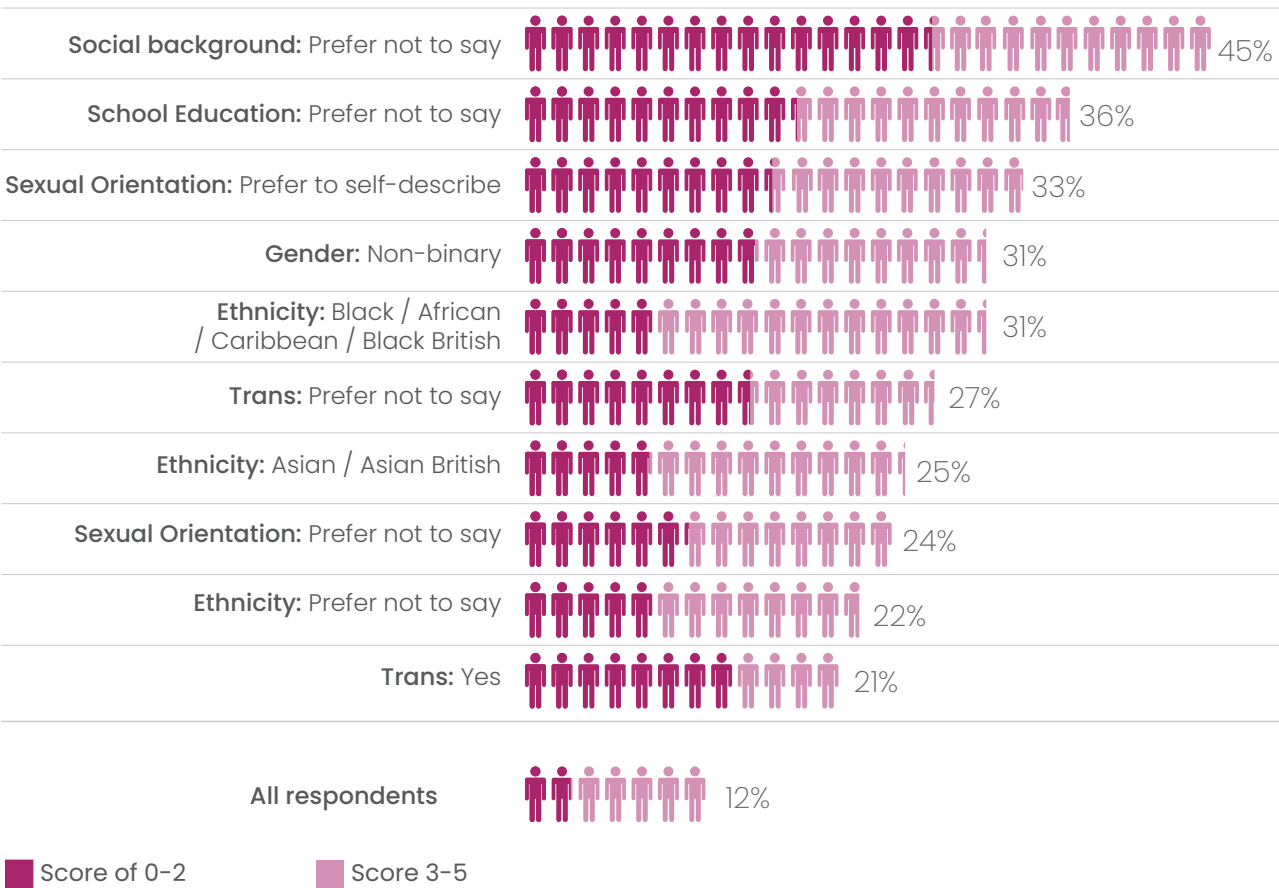
2020

# Findings: Discrimination

Perhaps unsurprisingly, given the low incident reporting rates discussed, some groups have significantly lower levels of confidence, although a majority of all demographics rated their employer at a 6 or higher. Many of the groups are from those who have answered ‘prefer not to say,’ indicating a lack of confidence in revealing a characteristic of themselves. It is therefore perhaps unsurprising that these groups also exhibit a lower level of confidence in their employers’ response to discrimination. It is possible that the high overall confidence is due to most people not experiencing an incident and thus having no negative experiences to draw upon.

## 10 demographics with least confidence in employers’ response to inappropriate behaviour

Percentage of survey responses to the question: “How confident do you feel your workplace would respond to inappropriate behaviour and discrimination towards individuals from historically underrepresented groups” rated from “0 – Not at all confident” to “10 – Completely confident”

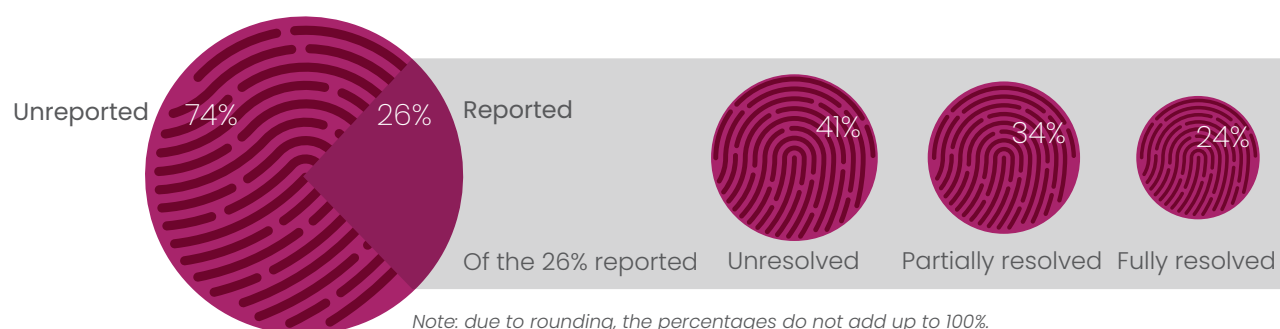




## Resolution of incidents reported may leave some professionals unsatisfied with the outcome

Whilst respondents have confidence in how they think their employers will deal with inappropriate behaviour and discrimination, this confidence does not appear to be reflected in the responses to whether incidents were reported and resolved. Of all incidents reported by respondents, just 6% were fully resolved with a further 9% being partially resolved (which for example includes multiple incidents with one resolved and one not). This means that 11% of incidents were reported and unresolved. When taken in conjunction with 74% of incidents not being reported at all, this illustrates that organisations may face challenges not only in understanding the levels of discrimination as a result of diversity and inclusion but that the process of resolving issues may be leaving professionals unsatisfied. Organisations will need to consider how they minimise the number of incidents that are left unresolved from an individuals perspective.

### Reporting and resolution of negative incidents as a proportion of total incidents



The resolution of incidents varied according to the type reported. Incidents associated with gender identity and ethnicity were unresolved in over half of cases, indicating that how the industry and organisations deal with these type of incidents may need particular attention:

### Resolution of negative incidents as a proportion of total incidents

For each incident type, what percentage of incidents were resolved (fully or partially) or unresolved



04

2020

## Findings: Discrimination

### Career barriers may cause professionals to consider leaving their organisation or industry

14% 

of the survey respondents felt they experienced barriers to their career progression and/or resigned because of their employer's approach towards sexual orientation / gender identity / ethnicity / socio-economic background.

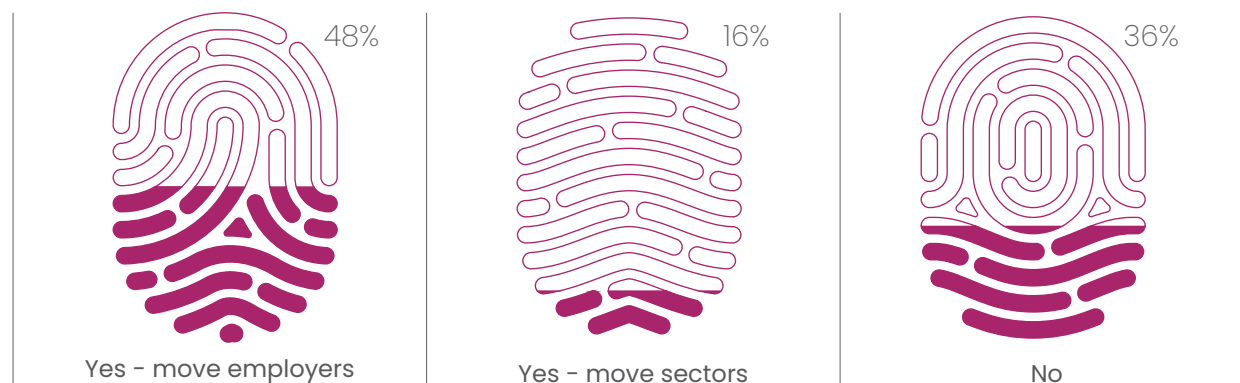
5%

preferred not to say.



Of these respondents, the majority (64%) are considering leaving or have left their employer or the cybersecurity industry. This potential loss of talent poses a challenge given the already identified skills gap in the industry.

**Of the 14% of respondents who have experienced career barriers, are you considering moving employers / sectors because of your employer's approach towards sexual orientation / gender identity / ethnicity / socio-economic background?**



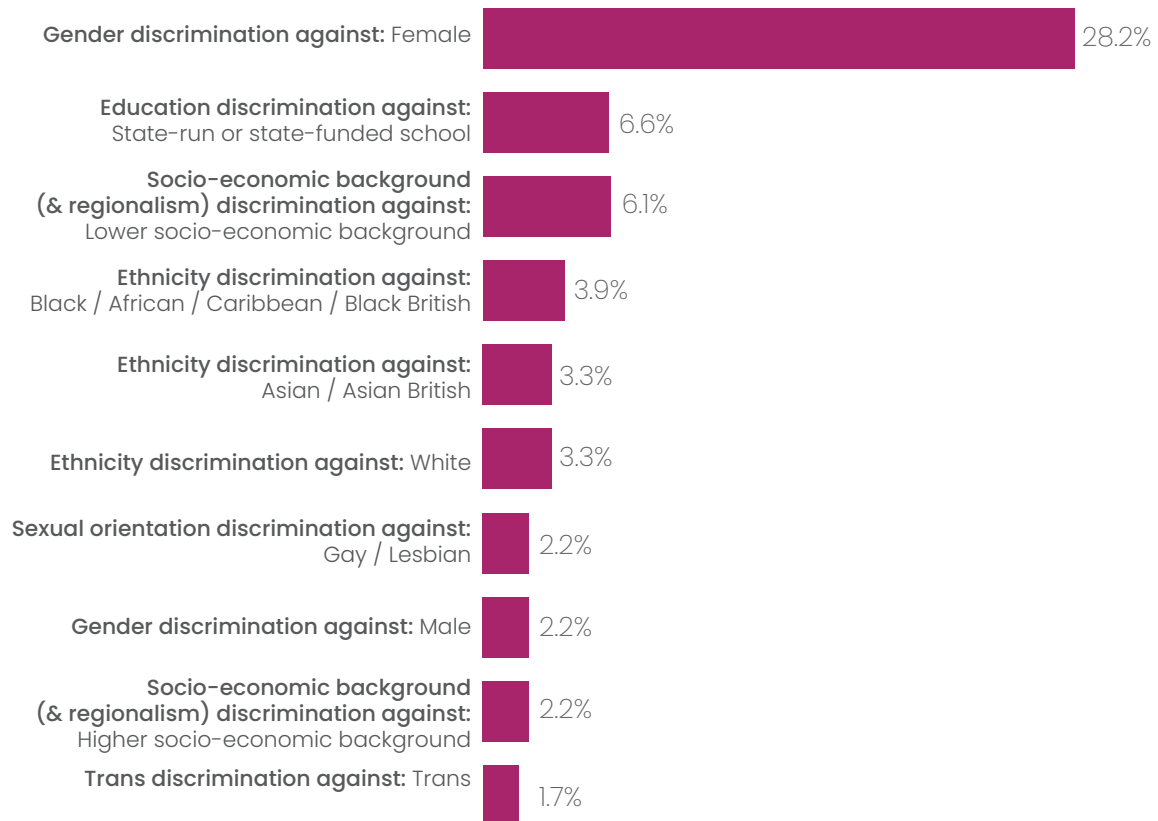
However, these findings should be considered with the wider context of the talent retention issue in cybersecurity. In 2018, the ISC2 report on Hiring and Retaining Top Cybersecurity Talent found that only 15% of current cybersecurity professionals have 'no plans' to leave their current employment. This is reflective of the industry-wide issue of both low supply and high demand for cyber security talent.<sup>29</sup>

## Career barriers as a result of organisations approach to diversity and inclusion

If the industry is to improve diversity it will need to understand the impact of career barriers, and particularly their impact on minority groups. The data shows that in absolute terms, there are far more occasions where a female has experienced a career barrier based on discrimination than any other kind, with over 28% of all career barriers reported falling into this category.

### Top 10 career barriers by total number of occurrences

% of total career barriers identified



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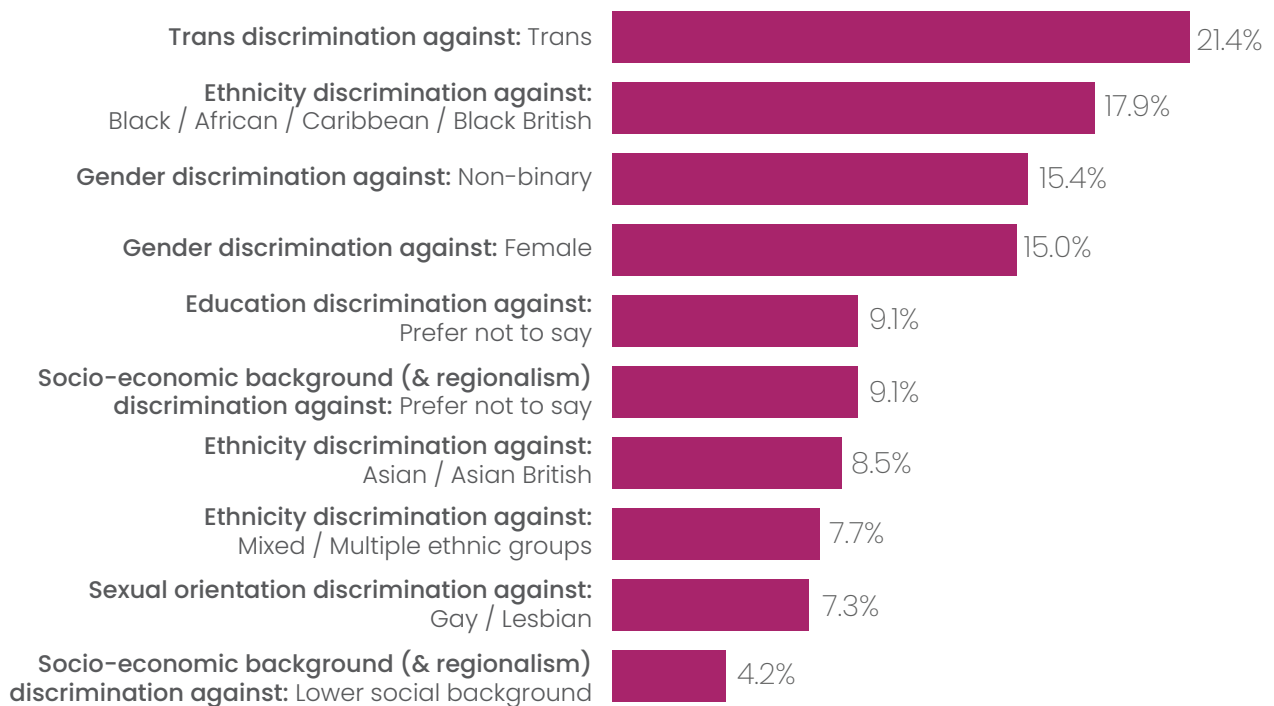
## Findings: Discrimination

15% of all female respondents reported experiencing such a barrier, with other forms of gender discrimination reporting even higher proportions – over 21% of trans respondents said they had experienced a career barrier due to their gender identity, as had 15.4% of non-binary gender. In addition, almost 18% of black respondents also reported encountering a barrier due to their ethnicity.

These figures suggest that, in particular, gender and ethnicity-based discrimination in the cyber security industry is an issue and presents a challenge for industry and organisations for both the recruitment and retention of talent.

### Top 10 career barriers by proportion of demographic

% of demographic having experience the specific career barrier identified



This is reinforced by the (ISC)2 2018 study covering cyber security professionals from 170 countries that found that 32% of professionals from ethnic minorities who participated in the survey experienced some form of discrimination in the workplace; with highest numbers of discrimination reported by female who identify as Black, Hispanic, Asian or of Native American descent.<sup>30</sup>

## The type of career barriers vary and may help the industry identify how to address the challenges identified

Respondents cited a wide variety of career barriers they faced and these indicate some of the challenges the industry faces to increasing diversity and inclusion:

### Of the 14% experiencing barriers:

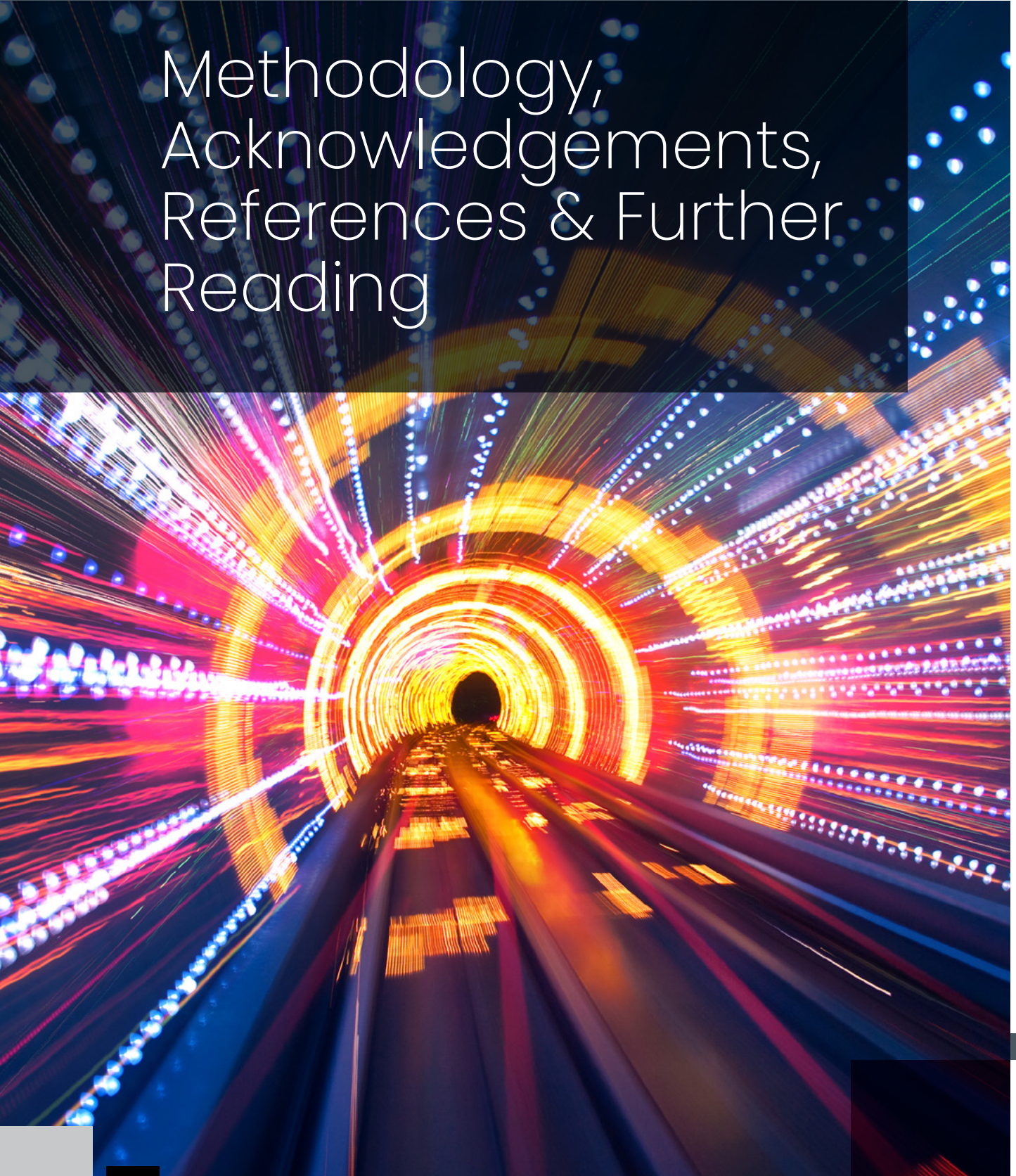


At the other end of the spectrum, a small minority of those surveyed see employers' approaches to diversity and inclusion as posing a threat to their own career progression. This may indicate the industry is more focused on increasing the levels of diversity than on improving levels of inclusion which improve everyone's experiences and opportunities. This finding indicates that organisations need to focus on building inclusive cultures alongside making sure the positive case for diversity and inclusion is widely understood.



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## Methodology, Acknowledgements, References & Further Reading





## Methodology

This first annual report is based on the results of an online survey of self-identifying cyber professionals conducted in January to March 2020. The survey asked respondents to identify their personal characteristics and their experiences of diversity and inclusion in their place of work or study. The survey did not seek the responses of organisations or ask individuals to respond on behalf of their organisation.

The survey and data collection method was designed jointly by NCSC, KPMG (including KPMG Nunwood) and Imperial College London and used Stonewall, Office of National Statistics, and Cabinet Office best practice guidance on which questions to ask to capture the data. The survey included both open and closed questions. Respondents had to answer all questions but could choose the option of 'prefer not to say' to questions in line with leading practice survey techniques.

The survey was responded to by 1252 individuals who worked or studied in the sector. In addition to the survey, the NCSC and KPMG have conducted interviews with individuals from NCSC, KPMG and other organisations to seek their views on the data and findings. These have been used to provide quotes within the report on their perspectives and experiences of Diversity and Inclusion and / or the cyber security industry. These have not formed part of the findings or conclusions.

For further methodological detail please contact us at: [cyberdandi@kpmg.co.uk](mailto:cyberdandi@kpmg.co.uk)

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# Methodology, Acknowledgements, References & Further Reading

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## Definitions

The following definitions have been used within this report:

<b>BAME</b>	Black, Asian and minority ethnic.
<b>Base</b>	The all-respondents figures for the survey.
<b>Communities</b>	Grouping of characteristics.
<b>Cyber security industry</b>	Those in the UK workforce who are in a cyber security-focused role.
<b>Cyber security professional</b>	An individual who works in a cyber security-focused role. NB. 8 cyber security students also completed the survey and thus their views contribute to statements made in this report about “cyber security professionals.
<b>Cyber security</b>	Cyber security is how individuals and organisations reduce the risk of cyber-attack. Its core function is to protect the devices we all use and the services we access – both online and at work – from theft or damage. It’s also about preventing unauthorised access to the vast amounts of personal information we store on these devices and online ( <b>NCSC</b> ).
<b>Discrimination</b>	Encapsulating direct and indirect discrimination, drawn from <b>Equalities Act (2010)</b> . Direct: A person (A) discriminates against another (B) if, because of a protected characteristic, A treats B less favourably than A treats or would treat others. Indirect: A person (A) discriminates against another (B) if A applies to B a provision, criterion or practice which is discriminatory in relation to a relevant protected characteristic of B’s.
<b>Diversity</b>	Chartered Institute of Personnel and Development ( <b>CIPD</b> ) defines diversity as the “demographic differences of a group – often at team or organisational level. Often, diversity references protected characteristics in UK law: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation.
<b>Inclusion</b>	<b>CIPD</b> states inclusion “is often defined as the extent to which everyone at work, regardless of their background, identity or circumstance, feels valued, accepted and supported to succeed at work.
<b>LGB</b>	Lesbian, Gay, Bisexual. We use the LGB acronym in this report as we break out trans into its own section. For the definition of trans please see page 95.

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**Definitions**

<b>Neurodivergent</b>	Neurodivergent people’s brains function, learn and process information differently from those who are neurotypical. Neurodivergencies include attention deficit disorders, autism, dyslexia and dyspraxia. <b>(ACAS)</b>
<b>Neurodiversity</b>	Neurodiversity refers to the different ways the brain can work and interpret information. Most people are neurotypical, but it is estimated that around 1 in 7 are neurodivergent. <b>(ACAS)</b>
<b>Population</b>	UK Population.
<b>Respondents</b>	The 1,252 individuals who responded to the survey.
<b>Self-describe</b>	Those who self-described their sexual orientation or gender in the survey
<b>Trans</b>	Stonewall defines Trans as: “An umbrella term to describe people whose gender is not the same as, or does not sit comfortably with, the sex they were assigned at birth. Trans people may describe themselves using one or more of a wide variety of terms, including (but not limited to) transgender, transsexual, gender-queer (GQ), gender-fluid, non-binary, gender-variant, crossdresser, genderless, agender, nongender, third gender, bi-gender, trans man, trans woman, trans masculine, trans feminine and neutrois.”

