

CREATING CULTURES WHERE ALL ENGINEERS THRIVE: FEEDBACK FROM DISABLED ENGINEERS

1 INTRODUCTION

This report presents feedback from disabled engineers about their experiences of the culture of engineering, and inclusion in the engineering profession. The feedback comes from a survey of 6,799 engineers conducted in 2017.

This report should be read as a supplement to the publication *Creating cultures where all engineers thrive: A unique study of inclusion across UK engineering*, launched by the Royal Academy of Engineering in 2017. The *Creating cultures* publication presents insights from the study including survey findings for engineers overall, together with more detailed findings on gender, ethnicity, age and company size.

2 DEMOGRAPHICS

DISABILITY IN ENGINEERING

- 5% of engineers (354 individuals) responding to the survey described themselves as having a disability (for example sensory, mobility, cognitive or developmental).
- Disabled respondents were slightly more likely to be female and older than their non-disabled colleagues, and to work flexibly. Of respondents that have a disability, 21% were women, compared to 17% of all respondents. 25% of disabled respondents were over 55, compared to 19% of all respondents.
- 6% of white respondents, 3% of Asian/Asian British respondents and 4% of Black/African/Caribbean/Black British respondents described themselves as having a disability. However, 13% of respondents who described themselves as mixed/multiple ethnic group, and 11% of those describing themselves as other ethnic group, have a disability.
- 18% of respondents with a disability belong to an employee network linked to diversity, compared to 12% of those without.

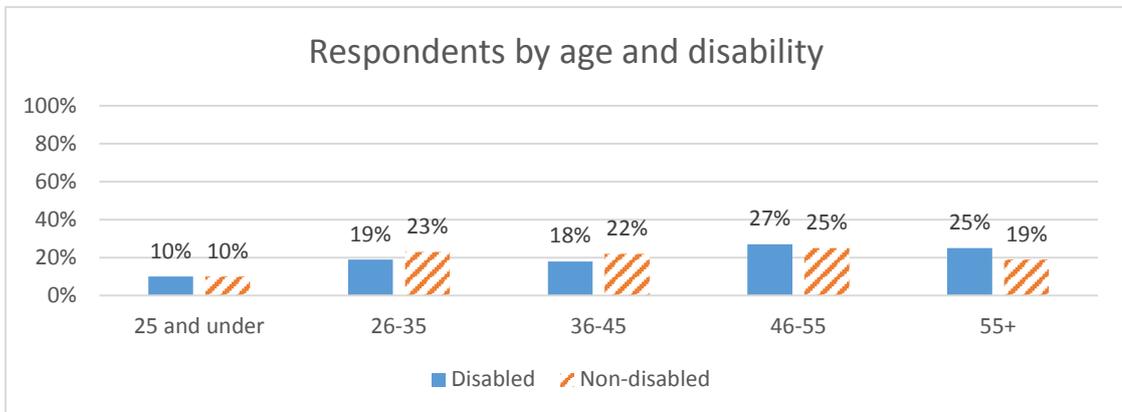


Figure 1

WHERE DISABLED ENGINEERS WORK

- Similar to non-disabled respondents, around half (53%) of disabled respondents come from five engineering disciplines: aerospace and avionic, defence, civil, software, and petroleum, oil and gas engineering.
- There is no difference in the main job location of those with disabilities and those without. Just over 80% of all respondents are office based.
- 60% of those with a disability belong to a professional engineering institution (PEI) compared to 66% of those without. 42% of those with a disability are registered engineers, compared to 49% of those without.
- Respondents with disabilities are slightly more likely to be in non-management positions and slightly less likely to be in management positions than their non-disabled colleagues. 60% of respondents with disabilities are in non-management positions, compared with 53% of those without disabilities, and 20% of those with disabilities are in management positions, compared with 27% of those without a disability.

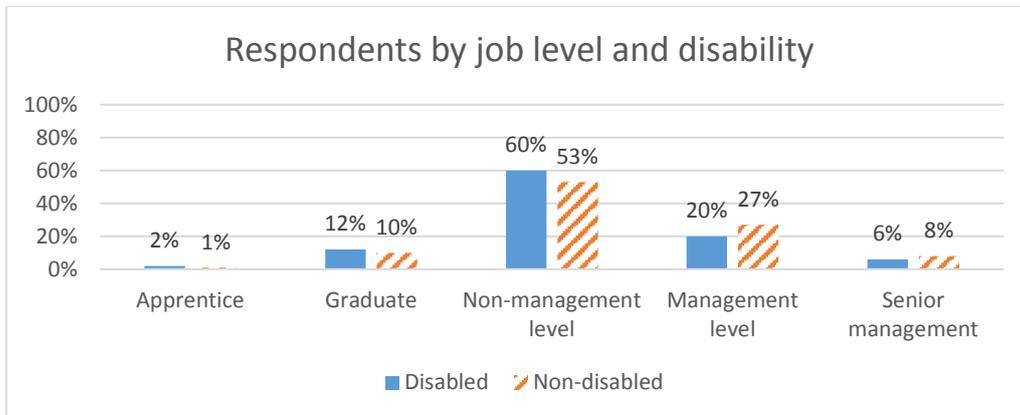


Figure 2

3 THE CULTURE OF ENGINEERING

In the report *Creating cultures where all engineers thrive: A unique study of inclusion across UK engineering*, engineers overall describe the culture of engineering as: problem-solving, safety-conscious, proud, loyal, team-oriented, and flexible in places. It is also seen as friendly, but somewhat impersonal; as having a strong attachment to tradition; and as a culture in which people love their jobs, but are often not clear about what they need to do to progress their careers.

There are plenty of similarities in how engineers with disabilities and those without experience the culture of engineering, but also some statistically significant differences. Although small, these add up to a different – and less positive – experience of engineering culture for disabled respondents.

Respondents with disabilities were *less likely* than non-disabled respondents to:

- ↓ like their jobs 'most or all of the time'. 69% of engineers with disabilities said this, compared to 79% of those without.
- ↓ describe the culture as 'informal and friendly'. 47% of those with disabilities described it as this, compared to 56% of those without.
- ↓ describe the culture as 'collaborative'. 43% of those with disabilities described it as this, compared to 50% of those without.
- ↓ describe the culture as 'innovative'. 25% of respondents with disabilities described it as this, compared to 30% of those without.
- ↓ be clear about what they need to do to progress their career. 43% of respondents with disabilities felt clear about this, compared to 56% of those without.

- ↓ recommend engineering as a great career choice to friends and family. 76% of disabled respondents would recommend engineering, compared to 83% of those without.

Respondents with disabilities were *more likely* to:

- ↑ work flexibly. 68% of those with a disability work flexibly, compared to 55% of those without.
- ↑ describe the culture as 'slow to change'. 48% of those with disabilities described it as this, compared to 45% of those without. In fact, 'slow to change' was the description of engineering culture most commonly chosen from the list of available options by respondents with disabilities. Non-disabled respondents most commonly chose 'collaborative'.
- ↑ describe the culture as 'siloed'. 30% of those with disabilities described it as this, compared to 25% of those without.
- ↑ be planning to leave the profession for reasons other than retirement in the next 12 months. 21% of those with a disability were definitely planning to leave or were undecided, compared to 13% of those without a disability.

4 INCLUSION IN ENGINEERING

INDICATORS OF INCLUSION

The report on *Creating cultures where all engineers thrive: a unique study of inclusion across UK engineering* describes seven indicators of inclusion in engineering. These are:

- 1 OPENNESS: The extent to which engineers feel able to be open about who they are, and about their life outside work, and confident to speak up on inappropriate behaviour to themselves or other people, mistakes or safety risks, for instance.
- 2 RESPECT: The extent to which engineers feel treated with respect, by managers, leaders and colleagues, and don't feel that assumptions are made about them because of their gender, ethnicity or any other difference.

- 3 **RELATIONSHIPS:** How engineers relate to each other, and the extent to which relationships are friendly, collaborative, free of offensive banter, bullying or harassment.
- 4 **CAREER:** The extent to which engineers feel supported in their careers, by their manager and by the fair implementation of talent management processes such as promotion.
- 5 **FLEXIBILITY:** The extent to which engineers have opportunities to work flexibly, without it being a barrier to career progression.
- 6 **LEADERSHIP:** The extent to which engineers are convinced by their managers' commitment and action on diversity and inclusion.
- 7 **DIVERSITY:** A diverse workforce at all levels.



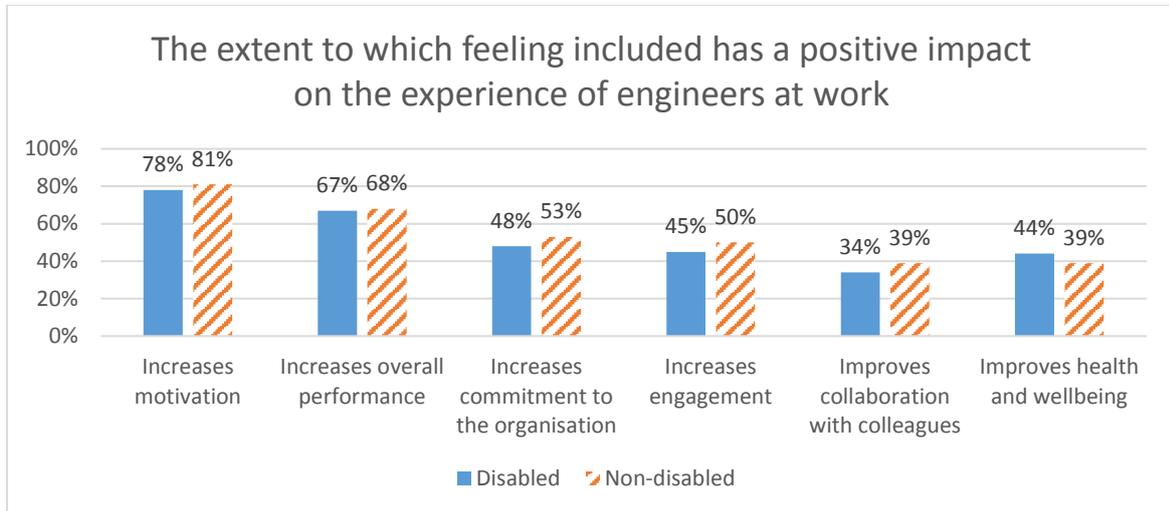
Figure 3

What do the survey findings tell us about disabled respondents' experiences of inclusion in engineering?

INCLUSION OF DISABLED ENGINEERS

All engineers reported that feeling included increases their motivation, performance, commitment and engagement. Disabled engineers were less likely to agree that it improves collaboration with colleagues, but more likely to say it improves their health and wellbeing. 44% of disabled respondents reported

benefits in terms of health and wellbeing, compared to 39% of respondents without disabilities.



Overall disabled respondents reported a less inclusive experience of the engineering profession than their non-disabled colleagues.

- 31% of disabled engineers described the culture as not very/not at all inclusive, compared to 22% of respondents without disabilities.
- 71% of disabled engineers described themselves as feeling very/quite included in the engineering profession, compared to 83% of non-disabled respondents.
- Almost a third (29%) of disabled engineers said that making the culture of engineering 'more inclusive' would make it a better environment to work in, compared with just 22% of non-disabled engineers.

To understand what it is that leads to disabled engineers experiencing the culture as less inclusive – and what to do about it – the responses of disabled and non-disabled engineers to questions on each of the seven indicators of inclusion need to be looked at. These questions are listed on pages 52 and 53 of the *Creating cultures* report.

OPENNESS

The clear message here is that disabled engineers are *less likely* to:

- ↓ agree they can be themselves in their organisation (73% of disabled engineers agreed with this, compared to 87% of non-disabled engineers).
- ↓ feel able to be open about their lives outside work. 27% of disabled engineers disagreed that they can be open, compared to just 16% of non-disabled engineers.
- ↓ feel they can be open about other aspects of their identity, such as their sexual orientation (77% of disabled engineers felt they can be open, compared to 87% of non-disabled engineers).
- ↓ feel confident to openly voice their opinions on either personal or business issues. For instance, they are less likely feel confident to speak up on inappropriate behaviour towards them (75% said they would speak up most/all of the time, compared to 84% of non-disabled respondents) or if they see a better way of doing things (82% of disabled respondents would feel confident to speak up, compared to 91% of non-disabled respondents).

RESPECT

Disabled engineers reported lower levels of respect than their non-disabled colleagues. They are *less likely* to:

- ↓ feel the workplace is inclusive of people with disabilities. 27% of disabled respondents disagreed or strongly disagreed that it is inclusive, compared to 15% of non-disabled colleagues.
- ↓ feel they are treated with respect by their manager most/all of the time (77% of disabled respondents agreed with this, compared to 89% of non-disabled respondents).
- ↓ feel they are listened to by their manager most/all of the time (70% of disabled respondents agreed with this, compared to 81% of non-disabled respondents).

They are *more likely* to feel that people make assumptions about them that are not about disability, for instance:

- ↑ 29% of disabled respondents felt that people make assumptions about them because of their nationality/ethnicity, compared to 19% of non-disabled respondents.

RELATIONSHIPS

Engineers with disabilities are more likely to feel isolated and to experience and/or witness more bullying relationships than those without disabilities.

Disabled engineers are *more likely* to:

- ↑ feel isolated in their day-to-day work (38% of disabled engineers felt isolated, compared to 22% of those without disabilities). As one person wrote in the survey: "*Being disabled, I find other engineers to be 'stand-offish' in conversation.*"
- ↑ have experienced and/or witnessed bullying and harassment. They are more than twice as likely to have experienced bullying and harassment. 27% of disabled respondents said they have experienced bullying and harassment, compared to 13% of non-disabled respondents. 28% of disabled respondents have witnessed bullying and harassment, compared with 17% of non-disabled respondents.

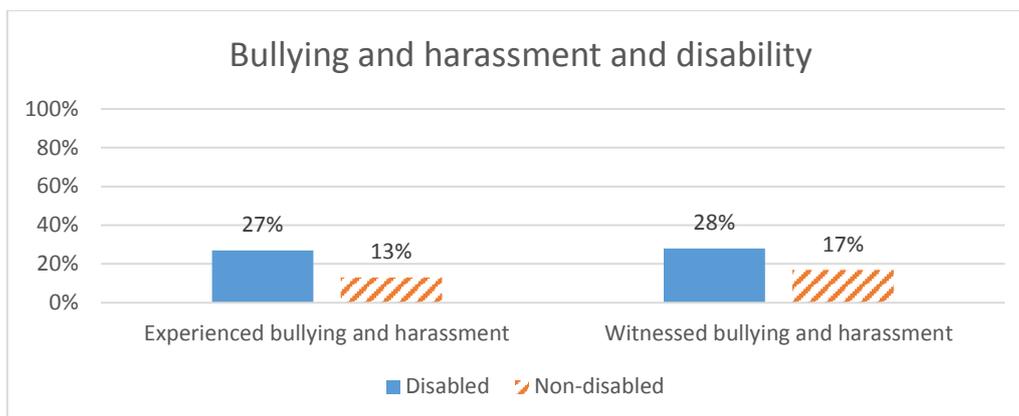


Figure 4

CAREER

There are significant differences in the responses of disabled and non-disabled engineers about their careers. The headline finding is that disabled engineers are less likely to experience processes linked to career progression as fair, compared to their non-disabled colleagues.

They are *less likely* to:

- ↓ agree the external recruitment process is fair and transparent (63% of disabled respondents believed that, compared to 80% of their non-disabled colleagues).
- ↓ agree that work is fairly allocated (58% of disabled respondents agreed with this, compared with 72% of non-disabled respondents).
- ↓ agree that performance is fairly assessed (54% of disabled respondents agreed with this, compared with 67% of non-disabled respondents).
- ↓ agree that the promotion process is fair (40% of disabled respondents agreed with this, compared with 55% of non-disabled respondents). As one respondent remarked: *"15 years no promotion in spite of taking on additional roles responsibilities and educational and professional qualifications because [I] have a disability!"*

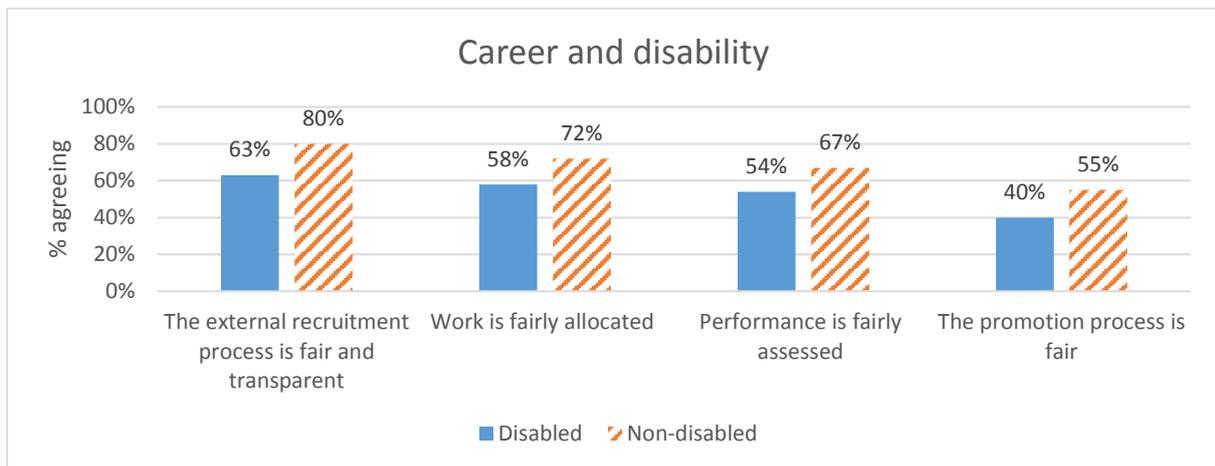


Figure 5

FLEXIBILITY

Disabled respondents are more likely to work flexibly than their non-disabled colleagues, but more likely to feel they pay a career penalty for doing this. Disabled respondents were less likely than their non-disabled colleagues to agree that 'flexible working is no barrier to career progression'. 57% of disabled engineers agreed with this statement, compared with 67% of non-disabled engineers.

LEADERSHIP

Disabled respondents were significantly less positive about their managers' behaviour and commitment on diversity and inclusion than their non-disabled colleagues.

They were *less likely* to:

- ↓ agree that 'my manager values diversity and difference' (65% of disabled respondents agreed with this, compared with 76% of non-disabled respondents).
- ↓ agree that 'my manager will tackle bias including bullying and harassment when it's brought to their attention' (71% of disabled respondents agreed with this, compared with 83% of non-disabled respondents).
- ↓ agree that 'my manager is a good role model when it comes to creating an inclusive environment' (59% of disabled respondents agreed with this, compared with 69% of non-disabled respondents).
- ↓ agree that 'my manager sets clear standards for the team on creating an inclusive environment' (44% of disabled respondents agreed with this, compared with 55% of non-disabled respondents).

DIVERSITY

Disabled respondents are as likely as non-disabled respondents to look for 'a diverse workforce at all levels' as evidence of inclusion. Not surprisingly, given the findings above, they are *more likely* to look for:

- genuine opportunities for remote and flexible working (32% of disabled respondents said that they looked for that, compared with 26% of non-disabled respondents).
- visible evidence of creating an accessible workplace environment for everyone, including people with disabilities, women and those with religious needs (20% of disabled respondents said that they looked for that, compared with 14% of non-disabled respondents).

5 CONCLUSIONS

The survey findings are clear: disabled engineers experience the culture of the engineering profession as less inclusive than their non-disabled colleagues. Disabled respondents recorded less positive responses on questions relating to

all of the seven indicators of inclusion, but three indicators stood out as most likely to be driving down their experience of inclusion. These are:

- Leadership: disabled engineers rated their managers less positively on questions relating to respect, and on their commitment and ability on diversity and inclusion.
- Careers: disabled engineers were less likely than their non-disabled colleagues to consider key processes such as recruitment, promotion and work allocation to be fair.
- Relationships: disabled engineers were more likely to feel isolated, and to have experienced and witnessed bullying and harassment than their non-disabled colleagues.

The priorities for action by engineering employers and the profession as a whole to create a culture where disabled engineers thrive are, therefore:

- to increase leadership and management awareness and capability on disability
- to ensure career support and talent management processes are fair, accessible and free of bias against disabled engineers
- to do more to challenge bullying and harassment and the isolation of disabled engineers in the profession.