The importance of gender in closing the STEM skills gap

1. About Young Women’s Trust

1.1. Young Women’s Trust supports and represents women aged 16-30 in England and Wales who are struggling to live on low or no pay and are at risk of being trapped in poverty. The charity offers free coaching and personalised advice on job applications, conducts research, runs campaigns and works with young women to advocate for fair financial futures.

1.2. In March 2016, Young Women’s Trust launched its report “Making Apprenticeships Work for Young Women” which highlighted how significant gender segregation within the current apprenticeship system limits the benefits of apprenticeships both for women and the wider economy.

1.3. The report was launched alongside an employer pledge which allowed employers to commit to increasing diversity in their apprenticeship schemes. This has been supported by employers including Barclays, Network Rail, Builder’s Merchant Federation, Virgin Media, Wates, Balfour Beatty and Asda. These organisations are all taking action to improve apprenticeships for young women and Young Women’s Trust will launch a best practice guide in 2017.

1.4. The entrenched gender segregation and lack of flexibility seen in apprenticeships is reflected by similar concerns in the wider labour market. This frustrates attempts to close the skills gaps in the economy. This report therefore proposes that a focus on gender is required in order to address the skills gaps in STEM sectors.

2. Gender skills gap

2.1. Gender segregation

2.1.1. During research for our apprenticeship report, we were shocked at the current skills gaps in sectors critical to the economy such as engineering. Almost 20% of children currently in school need to enter the engineering sector to fill the skills gap. Young Women’s Trust believes that it will not be possible to fill this gap whilst there is significant gender segregation in employment.

2.1.2. Only 6% of registered engineers and technicians are women and the UK has the lowest percentage of female engineering professionals in Europe at just 9%.

2.1.3. It is particularly concerning that apprenticeships, often billed as one of the solutions to plugging the skills gap, also suffer from this segregation. Two thirds of female apprentices work in just 5 sectors, with 25% undertaking apprenticeships in the most

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2 Ibid
The segregation is particularly relevant as men are concentrated in sectors that are critical to closing the STEM skills gap such as IT, construction and engineering. In 2015, 10 times as many men as women started an IT apprenticeship. Similarly, for every female apprentice entering the construction sector in England there were 56 men and there were 25 men for every woman starting an apprenticeship in engineering.

Significantly there has been very little change in these figures in the last decade despite considerable investment in finding a solution to this challenge from voluntary sector organisations, employers and Government alike.

2.2. Impact

It is important to note the impact of this segregation on both the economy as a whole as well as on the individual young women apprentices. Our research highlighted huge personal impacts as young women were paid less, received less training and were more likely to be out of employment following completion of an apprenticeship. One of the key reasons behind these differences is the gender segregation outlined above. Young women remain restricted to a limited number of apprenticeship frameworks which are often low paid and offer limited opportunities for progression.

These individual impacts are important and action must be taken to both enable young women to enter other sectors whilst also raising the profile and status of those sectors in which they currently work. However there are also implications for the wider economy of this segregation, notably an increased difficulty in plugging the skills gaps.

Despite 71% of young people agreeing that engineering is a career equally suited to men and women, young women tell us that they feel effectively locked out of certain professions and funnelled down a narrow range of career paths. Barriers frequently cited in conversations with young women range from a lack of flexibility, support or mentoring to discrimination, harassment and bullying. Many organisations are making efforts to tackle these barriers but the perception for many young women is that they are not welcome in those sectors and have little chance of being successful.

These perceptions, and indeed the reality faced by many young women entering sectors such as engineering, construction and IT, continue to limit the pool of talent available to close the skills gaps.

3. Closing the gap

Young Women’s Trust believes that narrowing the gender gap in STEM sectors will contribute significantly to the UK fulfilling its skills requirements. However, current efforts to do so are not having the impact that is needed.
3.2. Our report “Making Apprenticeships Work for Young Women” focussed on five key areas of focus which we believe will help to bring about the sort of step change that is needed to have a real and lasting impact on the numbers of women entering STEM. Although the report focussed on apprenticeships, many of the same lessons apply more widely.

3.3. Positive action

3.3.1. Where it can be shown that the number of women in any given sector (for example Engineering, IT or construction) is disproportionately low, employers should consider whether they can take positive action to increase the participation of women. They must be ambitious with their targets because tokenism will fail. Female recruits who are vastly outnumbered by male counterparts are less likely to stay the course of their apprenticeship.

3.3.2. Employers tell us that they are often wary about taking any steps to actively recruit women because they are unsure of the law around discrimination and fear that they may inadvertently discriminate against potential male employees as a result. Legal advice received by Young Women’s Trust suggests that despite this uncertainty there is much that employers are able to do. This could include: setting targets, reserving places on training courses, providing work experience opportunities, explicitly welcoming applications from women, providing mentors or adapting the language used in job adverts.

3.3.3. In order to overcome barriers around a lack of awareness of equalities legislation Young Women’s Trust is calling for the Government to issue further guidance outlining the measures employers can take to tackle underrepresentation. We are also planning on commissioning further research to assess whether the current legislation is fit for purpose.

3.3.4. Many apprenticeships continue to stipulate minimum academic entry requirements of 5 GCSEs at levels A* to C including Maths and English. Despite progress in academic attainment, there were still 120,000 young women who left school without those grades in 2015 and who find themselves locked out of many vocational opportunities.

3.3.5. Removing academic entry requirements, unless they are an essential or legal requirement for the role, can help to encourage diversity. There is no evidence that this leads to a reduction in the quality of apprentices recruited. In fact, when Barclays stopped selecting apprentices based on minimum academic entry requirements, its internal analysis found no differences in the performance of apprentices who had GCSEs and those that did not after two years in the programme.

3.3.6. Furthermore, there is evidence which suggests that women tend not to apply for roles unless they meet all the criteria, whereas men are more likely to put themselves forward for roles despite not meeting the criteria. This makes it even more important for potential employers to ensure they are only demanding qualifications that are essential to the role.

3.3.7. As well as considering the explicit criteria for a job, employers need to be attentive to the language used to advertise certain roles, which is often gendered. Adverts in traditionally male sectors, including many STEM roles, tend to use words such as

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11 SOURCE - Barclays presentation at launch of YWT Scarred for Life report
‘leader’, ‘competitive’ or ‘dominant’, which have been shown to deter female applicants who are more likely to respond to words such as ‘support’, ‘understand’ or ‘interpersonal’. Changing the wording in adverts and job descriptions can encourage more women to apply.

3.4. **Flexibility, including part time apprenticeships**

3.4.1. Young women are more likely than young men to have caring responsibilities and this drives their increased need for flexible working opportunities. Polling for the Young Women’s Trust ‘Clock Turns Back’ report revealed that 25% of young women with caring responsibilities said that their responsibilities meant that they had taken a different job from the one they would have chosen, whereas only 11% of young men with such responsibilities said the same. Young men do not appear to experience the same limitations of career choice as young women.

3.4.2. This is particularly relevant as many young women told focus groups that they felt more female dominated sectors such as childcare and retail were more attractive because they offered flexibility. This provides a strong case that many male dominated sectors are not making sufficient effort to provide flexible working options.

3.4.3. Employers therefore need to increase the offer of flexible roles including at an apprenticeship level. The latest available figures suggest that just 12% of apprentices are contracted for less than 30 hours a week and just 3% work between 16 and 19 hours per week. This is important as apprenticeships often represent an important route into technical occupations and the lack of part-time apprentices represents a block to women’s ability to progress.

3.4.4. Once again, employers are uncertain about the regulations which determine the minimum number of hours an apprentice must work. Government regulations suggest that apprentices must work a minimum of 30 hours per week unless there are ‘exceptional circumstances’ which may include caring responsibilities. The wording around ‘exceptional circumstances’ is misleading and there is little awareness amongst employers that the true minimum limit is 16 hours per week (which would result in an extension of the duration of the apprenticeship). Employers need to be bold in offering a greater number of part time apprenticeships if they are to solve the skills gap at an entry level, but this must be facilitated by renewed guidance from Government which makes the regulations much clearer than at present.

3.4.5. The Government also has a role to play in ensuring adequate childcare provision is available. Government plans to make up to 30 hours free childcare per week available (covering 38 weeks of the year) for parents working more than 16 hours a week, there remains considerable uncertainty about the extent to which all apprentices will be able to benefit. We are therefore concerned that many apprentices will be unable to access this support.

3.5. **Advice guidance and support**

3.5.1. Apprenticeships are currently reinforcing, rather than challenging, occupational segregation by gender. Young women are still far less likely than young men to access the apprenticeships with the best prospects in terms of pay and career progression.

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3.5.2. Girlguiding’s Girls’ Attitudes Survey 2015 shows that gendered career stereotypes are already embedded in girls aged 7 to 10 years old. The majority of girls said they were better than boys at looking after children, cooking, and caring. While the majority also agreed that they could do anything that a boy could do, very few chose occupational areas that are traditionally male dominated. When asked to choose their top three potential careers, only 3% chose engineer or architect, 6% scientist or lawyer. There is an urgent need for high-quality careers advice to help young women consider a wider range of options.

3.5.3. In polling carried out for ‘Making Apprenticeships Work for Young Women’, just 9% of female apprentices said that careers advice was a factor in making their choice. More than 20% of young men said that the careers advice they received helped them make their decision. This suggests that young women are not receiving the same level of advice about apprenticeships as young men. In order to help girls and boys aspire to non-traditional areas of work, research suggests that they need to be exposed to gender awareness activities as early as possible in their school and even during the pre-school years.

3.5.4. Role models, such as female construction workers and plumbers and male carers and hairdressers, need to be brought into schools, colleges and the media. Young people should be encouraged to try non-traditional jobs through work experience and taster days.

3.5.5. However, it is not just at school where careers advice is essential. 41% of young women who were Not in Education, Employment or Training said that careers advice would be most useful between the ages of 18 and 21. This is a crucial period of transition for many young people, offering a second chance for those who did not have immediate success when they left school or college.

3.5.6. Ongoing careers advice is essential to ensure that young women are able to make informed choices about their career and access support to return to education, training and employment, including apprenticeships. Young Women’s Trust’s Scarred for Life report found that the National Careers Service was a valuable resource but that few young women used the service or even knew it existed.

3.5.7. Support is also crucial when young women reach the workplace, particularly for those starting out in male dominated industries. Focus groups have shown that young women often face difficulties and feel set up to fail because of the lack of support. Being a woman in a predominantly male occupation is positively associated with non-completion of an apprenticeship. Ensuring proper support for young women during their apprenticeships is therefore essential.

3.6. Data collection

3.6.1. In order to monitor progress on diversity, it needs to be tracked. Furthermore, it is important to track the outcomes and progression pathways of entry level routes, including apprenticeships so that we can monitor their success long-term.

3.6.2. On apprenticeships for example, statistics exist at a sectoral level showing the breakdown of apprentices by various characteristics including age, gender and ethnicity. The basis for this is the Individualised Learner Record which is collected by colleges, training organisations, local authorities and employers. However, reforms to apprenticeships are making them increasingly employer-led. As employers take more

15 Polling by Young Women’s Trust and ComRes 2014 for the Scarred for Life Inquiry.
control of the design and quality of apprenticeships they need to take more responsibility for their diversity and be more accountable. Transparency is crucial in order to spur greater efforts to promote gender equality.

3.6.3. Beyond looking at the number of men and women in different sectors, it is also important to understand the progression they make after they finish their apprenticeship. Young Women’s Trust polling showed that young women were almost three times more likely than young men to be unemployed when they finished their apprenticeship. Young women in male-dominated sectors are also more likely to leave their apprenticeship before completion. 16

3.6.4. The Demos Commission on Apprenticeships recommended that destination data be further developed.17 Currently schools are responsible for destination data and only cover the destinations of pupils one year after leaving school. The Commission recommended that pupils should be tracked over a longer period to provide a better measure of career outcomes. Destination data could also track earnings. Such metrics would encourage schools to provide better careers advice and encourage employers to advertise apprenticeships with better prospects.

3.6.5. As women are currently more likely to be out of work at the end of their apprenticeship, reports that indicate job prospects for apprenticeships would help to better inform young peoples’ choices. For example, research from the Centre for Economic and Social Inclusion in 2012 showed that for each person completing a qualification in building services engineering, there were almost 13 jobs, whereas there were just 2 jobs in hairdressing.18

3.6.6. An example of where such monitoring has had a positive impact in a STEM industry is Rolls Royce. A key driver of the company’s commitment to increasing diversity has been the development of improved diversity and inclusion monitoring at every level of its business. This work has been led from the top of the company and is built into its business plan. Rolls-Royce wanted to embed responsibility for diversity in the culture of the organisation, rather than outsourcing it to human resources.

3.6.7. Initially, Rolls-Royce were met with disbelief that there was a need to develop a more inclusive culture and foster greater respect among employees. However, by using focus group findings and their data showing trends or lack of improvement, they were able to challenge these views. This helped change a lot of mind-sets, especially as data is strongly valued in an engineering organisation. All business areas are required to include diversity and inclusion objectives in their business plan, supported by the diversity and inclusion team which sets out guidelines for managers.

3.6.8. This is underpinned by an annual review of Diversity and Inclusion which enables the company to track progress year-on-year and to identify successes and where further improvements are needed. The company developed a ‘D&I dashboard’ to allow teams to collect and monitor data relating to gender, age and ethnicity as well as other aspects of personal development and progression. This makes it easy to measure the progress being made and such accountability is essential in driving change.

3.6.9. Young Women’s Trust would like to see other organisations improving the way they monitor diversity to track progress and drive further improvements.

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17 http://www.demos.co.uk/files/476_1504_CoA_WEB_2__pdf71425489134