National Advisory Council on Women and Girls: Monthly Spotlight

WOMEN AND GIRLS IN EDUCATION

Summary

A higher percentage of girls than boys are achieving the expected Curriculum for Excellence level across all the stages and literacy and numeracy 'organisers' of the curriculum. Within the four organisers, the smallest gender differences are seen with numeracy, and the greatest with writing.

There is a significant gender imbalance in entries for many subjects across different areas and levels of education. Engineering, IT/Computer Science and Manufacturing tend to be male dominated, while Care, Social Service and Medical Studies tend to have a majority of female entrants.

Female school leavers consistently have higher levels of qualifications than male school leavers, on average. A higher proportion of girls and women aged 16–19 are in education, but a higher proportion of boys and men are in employment.

Fewer HE college courses taken by female students with a disability or from the most deprived areas are successfully completed than by female students without a disability or from less deprived areas. A larger proportion of courses taken by BME female students are successfully completed than those taken by white female students, while the opposite is true for male students.

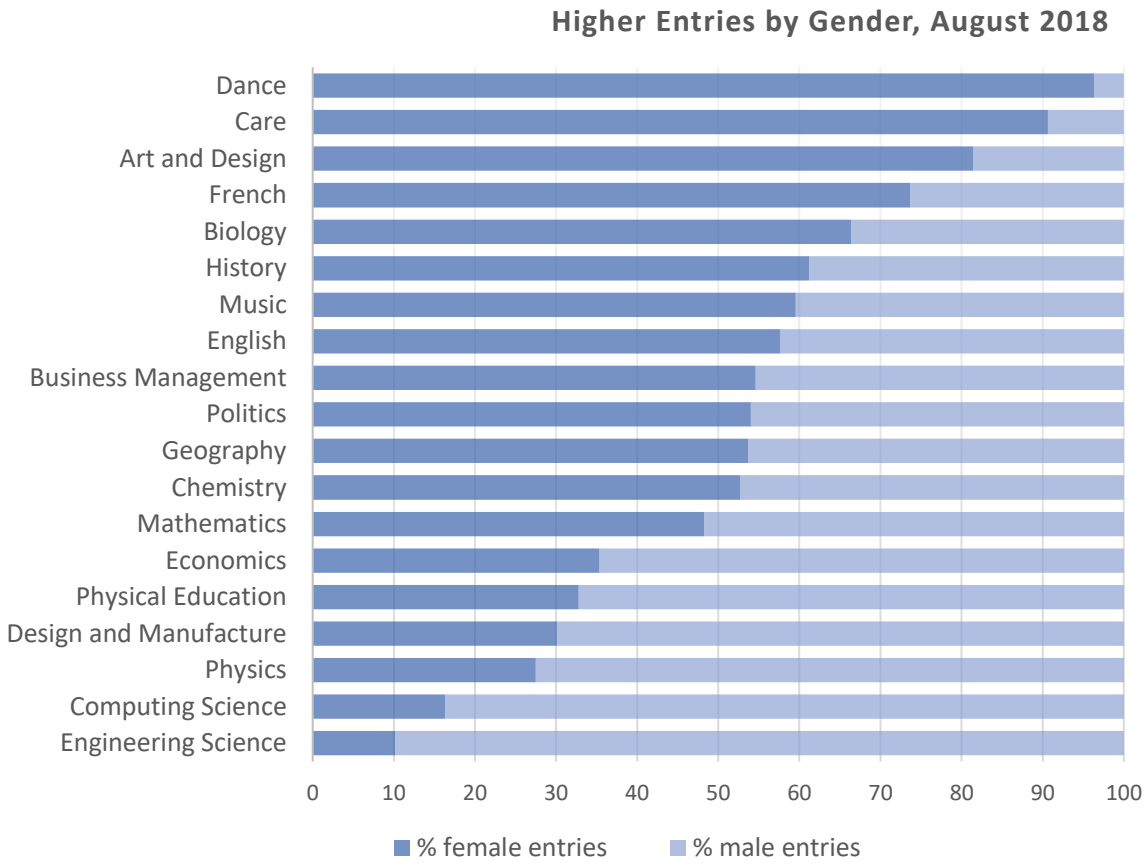
Based on UK evidence that gendered vocational preferences are already evident in primary pupils, and that young people's attitudes to science are quite fixed by age 14, it has been recommended that career-related learning and efforts to challenge the gendered patterns of subject preference should begin before secondary school.

Key Figures

- 67% of female **school leavers** attain at least 1 qualification at SCQF Level 6 or better, compared to 56% of male leavers
- 39% of **Modern Apprenticeships** started in 2017/18 were taken up by women
- 57% of qualifiers in **Higher Education courses** are female
- A greater proportion of female than male **undergraduate** qualifiers receive a First or 2:1 in Scotland: 81% of women compared to 75% of men
- 74% of college courses taken by **disabled female students** are successfully completed, compared to 80% taken by non-disabled female students
- Young women (aged 16–19) are slightly more likely to be **participating** in either education, employment or training than young men (92.5% vs 91.2%)

Current Position: Subject Choices

There is a significant imbalance in the proportion of entries by female and male students for many subjects at Higher level, as the graph below shows.[1] Female entries are the majority for many creative subjects as well as for Care, Biology and languages (female entries also represent the majority for languages other than French). In contrast, entries for many STEM subjects other than Biology, including Physics, Computing Science and Engineering Science, are mainly from male students, as are those for PE, Design and Manufacture, and Economics. Entries into Maths, Chemistry, Geography, Politics and Business Management are split much more equally between the genders.



In many cases these gender imbalances are greater for higher level qualifications. For example, while 58% of entries into Higher English were from female students, this rose to 73% for Advanced Highers. In the opposite direction, the proportion of entries from female students in Maths fell from 48% to 39% between Highers and Advanced Highers, and in Physics from 28% to 20%.

Foundation Apprenticeships

Foundation Apprenticeships provide work-based learning opportunities for young people in the senior phase of secondary school, and provide qualifications which are at the same level of learning as a Higher (SCQF level 6). There have been fairly equal numbers of male and female pupils taking up Foundation Apprenticeships in the first two cohorts (starting in 2016 and 2017) overall – female pupils accounted for 49.7% of starts in the first cohort and 53.7% in the second.[2] However, there is a gender imbalance in terms of subject areas taken up. Male students accounted for 92% of participants starting in the frameworks identified as STEM in the first cohort (Civil Engineering, Engineering, IT: Hardware/System Support and IT: Software Development), while around 90% of those taking Social Services apprenticeships were female. For cohort 2, 87% of those taking up STEM apprenticeships were male (Cohort 2's STEM frameworks also included Scientific Technologies and Creative and Digital Media).

Further and Higher Education

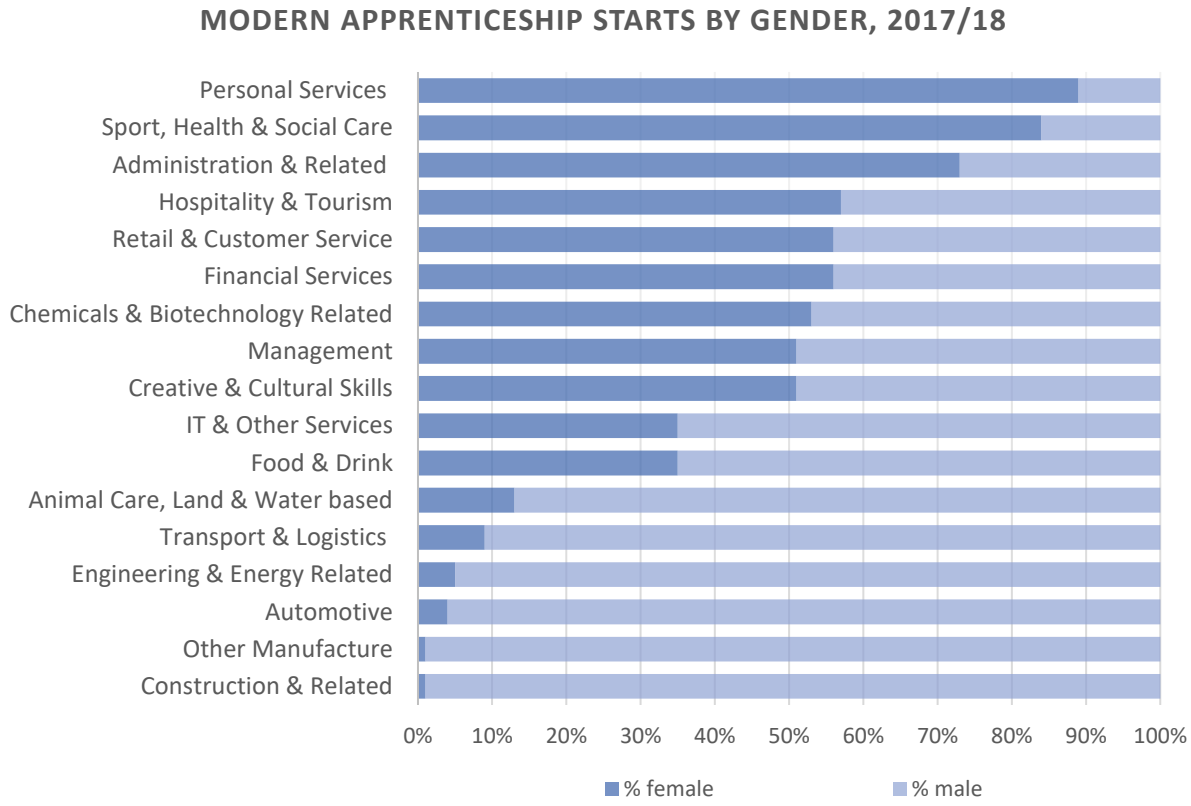
In 2016–17, there was a pronounced gender gap in **Higher Education (HE)** enrolments for STEM subjects at **colleges** in Scotland.[3] Only 16% of enrolments in these subjects were from female students. Female students also accounted for the minority of enrolments in Services to Industry (21%), Manufacturing (18%), Oil, Mining, Plastics, Chemicals (14%) and Transport Services (5%). On the other hand, they accounted for the majority of enrolments in Family Care, Personal Development, Personal Care, Appearance (88%), Health Care, Medicine, Health, Safety (85%) and many arts and humanities courses.

The story was similar at **Further Education (FE)** level at **colleges**, although in many areas the gender imbalances were less pronounced. Female students accounted for 29% of enrolments in STEM subjects, 59% in Family Care, Personal Development, Personal Care, Appearance, and 74% in Health Care, Medicine, Health, Safety. Manufacturing (32%), Oil, Mining, Plastics, Chemicals (13%), Services to Industry (8%) and Transport Services (7%) were again male-dominated.

Looking at entrants to **all HE courses** in 2016–17 (including those at Higher Education Institutions (HEIs) as well as colleges), 80% for Medical Studies were female while 65% for other Science and Engineering subjects were male.[4] Veterinary Science and 'Subjects allied to Medicine' had the highest proportion of female entrants (83% for each), and Computer Science and Engineering and Technology the lowest (20% and 16% respectively). Architecture, Building and Planning, Mathematical Sciences and Physical Sciences were the only other subject areas with less than 50% female entrants. These trends were similar to those seen with HE students across the UK as a whole.[5]

Modern Apprenticeships

Many Modern Apprenticeship occupation areas are heavily gender imbalanced, with 72% of MA frameworks having a gender balance of 75:25 or worse in 2017–18, a small increase of 1.4 percentage points from 2016–17.[6] The graph below illustrates the gender distribution of starts in some areas:



Overall, female representation in STEM frameworks has increased from 6.6% of STEM starts in 2016–17 to 9.1% in 2017–18 (up 2.5 percentage points).[7]

Some improvement has been made to the gender breakdown of occupational groupings since 2013–14. The proportion of starts who are female within the IT & Other Services occupational grouping has increased from 16% to 35%, and the proportion of female starts in Automotive has increased from 1.5% to 4.3%.

What do we know about why many subjects are gender-imbalanced?

UK research from the early 2000s found that young people's views of what traits and characteristics are 'masculine' and 'feminine' could be mapped across to subject choices – broadly, that girls are perceived to be better at communicating, understanding and helping people, and are therefore seen as better at arts,

humanities and caring subjects and jobs, while boys are considered better at technical and practical roles, and scientific subjects and jobs.[8]

Recent Scottish research found that amongst 11-18 year-old school pupils who had chosen or intended not to study STEM subjects, girls were more likely than boys to say that this was because they didn't think they were good at them (40% of girls, vs 17% of boys).[9] A similar trend was seen amongst students who had or intended to choose not to study a language other than English: girls were significantly more likely than boys to report that they didn't think they were very good at it (36% of girls vs 27% of boys). Amongst those who had chosen or intended to study a STEM subject, boys were significantly more likely than girls to say that this was because they enjoyed it (61% vs 52%) or were good at it (45% vs 33%).

International research has also suggested that boys in almost all countries have higher self-belief than girls about their capacities in science, even after controlling for performance.[10]

A small-scale study conducted in England found that two thirds of Year 11 girls (usually aged 15–16) agreed that STEM jobs were male-dominated, and this perception of male dominance, along with their experiences of boys' behaviour in the classroom, was given by girls as a reason for not pursuing Physics and Maths beyond GCSE.[11] However, it seems there has been some improvement in girls in the UK aged 7–16 enjoying traditionally male-dominated subjects like technology and ICT, science and maths since 2009, although progress is not uniform.[12]

Another study in England suggested that girls are concerned about how they would be treated in the workplace if they were to choose a traditionally male career, while boys worried about being teased, especially about their sexual orientation, if they trained for a traditionally female occupation.[13]

Current Position: Attainment

Experimental data[14] shows that a higher percentage of girls than boys are achieving the expected Curriculum for Excellence level across all the stages and 'organisers' of the curriculum: reading, writing, listening and talking and numeracy.[15] As the table below shows within the four organisers, the smallest differences are seen with numeracy, and the greatest with writing. The difference in performance between the genders was greatest across all four areas with respect to S3 pupils achieving 4th level.

Percentage of pupils achieving expected CfE[1] levels by gender, 2017–18

		Reading	Writing	Listening & Talking	Literacy[2]	Numeracy
P1 (early level)	**Girls**	85	83	90	80	86
	Boys	78	74	84	71	83
P4 (1st level)	**Girls**	81	78	88	75	77
	Boys	74	66	81	63	75
P7 (2nd level)	**Girls**	83	80	88	77	76
	Boys	74	66	80	63	73
S3 (3rd level or better)	**Girls**	93	93	94	92	91
	Boys	87	85	89	83	88
S3 (4th level)	**Girls**	61	59	62	54	59
	Boys	46	43	48	39	53

Notes:
1 – This data is classified as experimental statistics and continues to be data under development
2 – A pupil has achieved the expected level in Literacy if they have achieved the expected level in all three organisers: reading, writing and listening and talking

Qualifications of school leavers

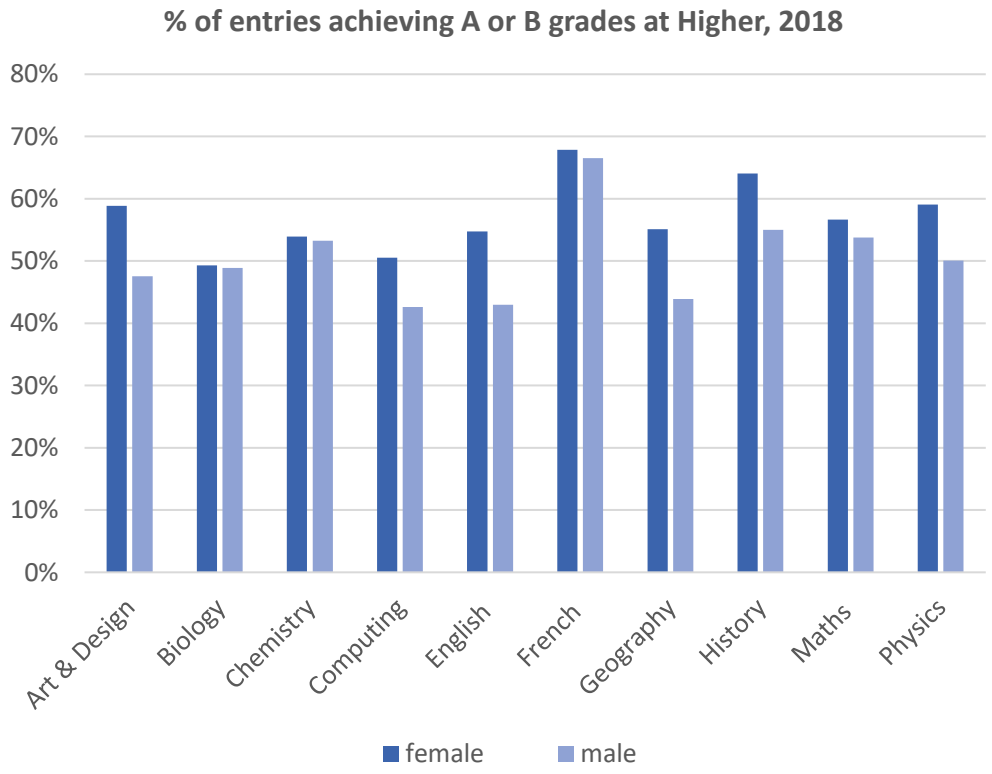
Female school leavers also have consistently higher levels of qualifications than male school leavers.[16] As this table shows, girls outperformed boys at all levels, with the greatest differences with the percentage of school leavers attaining 1 or more qualification at SCQF Level 6 (Higher or equivalent) or better. This gap has grown from the previous year (from 11 to 11.7 percentage points).

Percentage of school leavers by attainment at SCQF Level 4 to 6, by gender, 2016–17

	1 or more at SCQF Level 4 or better	1 or more at SCQF Level 5 or better	1 or more at SCQF Level 6 or better
Female	96.7	88.2	67.2
Male	95.9	84.1	55.5

Highers

As the chart below shows, a greater proportion of entries by girls received an A or B grade across many subject at Higher level in 2018, in subjects that were both male and female dominated in terms of the numbers of students taking them.[17]



Foundation Apprenticeships

Of the 176 pupils from cohort 1 who left their Foundation Apprenticeship early, 57% were female.[18] For cohort 2, as of January 2018 just over two-thirds of the 157 pupils who had left early were female (67%).

Higher and Further Education qualifications

At colleges, a slightly larger proportion of HE level courses begun by male than female students were **completed** either partly or fully (86.3% vs 85.4%), but the **successful completion** rate was higher for courses taken by female students (75.8% vs 72.8%).[19] Across all HE courses (at both college and HEIs), 56.7% of qualifiers were female.[20]

At FE level as well, more courses taken by male than female students were either partly or fully completed (90.7% vs 88.3%), and the successful completion rate here was also higher for courses taken by male students (83.3% vs 79.6%).[21]

At HEIs, a greater proportion of female than male undergraduate qualifiers received a First or 2:1 in Scotland: 81.0% of women compared to 74.9% of men.[22] This was higher than for the UK as a whole, where overall 76.8% of women received a First or 2:1.

Fewer HE college courses taken by female students from the **most deprived areas** were successfully completed than those taken by female students from less deprived areas (71.4% from the most deprived 20% of areas, as classified by the Scottish Index of Multiple Deprivation, compared to 77.3% from the other 80% of areas).[23] The same trend was seen for courses taken by male students (67.3% vs 73.6% successfully completed).

College courses (both FE and HE) taken by **disabled students** were less likely to be successfully completed than those taken by non-disabled students. This was true for both male and female students. However, the difference in successful completion rates was greater for female than male students: 73.7% of courses taken by disabled female students were successfully completed against 79.8% of non-disabled female students (difference of 6.1 percentage points), while for male students these figures were 82.1% and 77.9% respectively (difference of 4.2 percentage points).

A larger proportion of college courses taken by **BME female students** were successfully completed than those taken by white female students (82.4% and 78.7% respectively. The opposite was true for courses taken by male students, where 81.6% of those taken by white males and 79% of those taken by BME males were successfully completed.

Amongst all first degree undergraduate students across the UK, there was a significant ethnicity attainment gap for both genders. 81.0% of white female students received a First or 2:1 compared to 67.1% of BME female students.[24] For male students, these figures were 77.6% and 64.3% respectively. Among BME students, the highest attainment rates were seen with Chinese and Mixed students, and the lowest with Black students, for both genders.

Modern Apprenticeships

Similar percentages of male and female leavers achieve their Modern Apprenticeships: 77% of women and 78% of men, in 2017–18.

Current Position: Destinations

Destinations of school leavers

A slightly higher percentage of female than male 2016–17 school leavers were in a 'positive follow-up destination' (higher education, further education, training, voluntary work, employment or activity agreements): 93.8% of female leavers compared to 92.1% of male leavers.[25] There has been a consistent gender gap of between 1 and 3 percentage points for the past 5 years, although both genders show a positive change: 89.3% of male 2012–13 school leavers and 91.6% of female leavers were in positive destinations.

The Annual Participation Measure shows that girls and women aged 16–19 years old in Scotland are more likely to be classed as participating in some form (in education, employment or training) than boys or men of the same age (92.5% vs 91.2%).[26] The percentage of 16–19 year-olds participating increased for both genders from 2016 to 2018 (up from 91.0% and 89.7% respectively since 2016). As the below table shows, a higher proportion of girls and women aged 16–19 were participating in education in 2018, but a higher proportion of boys and men were in employment.

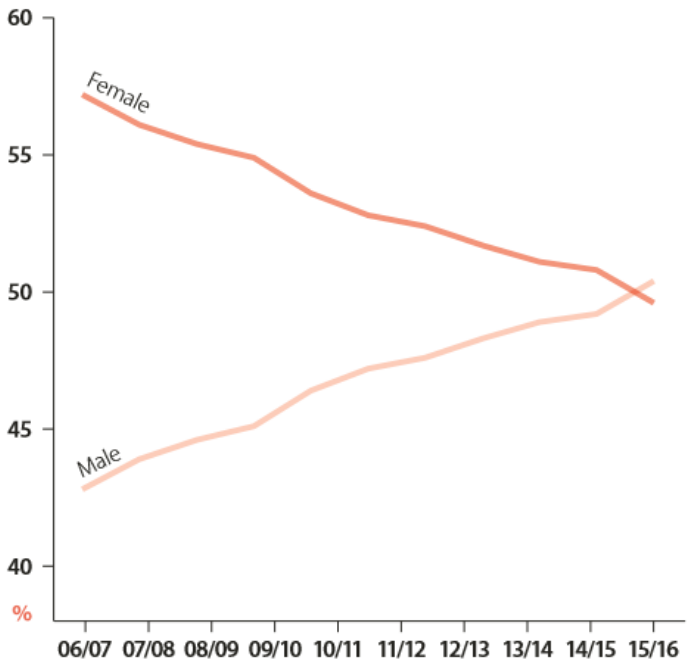
	Female	Male
Participating	92.5%	91.2%
Participating in education	76.0%	66.7%
Participating in employment	14.9%	22.3%
Participating in training & other development	1.6%	2.2%
Not participating	3.3%	3.6%
Unemployed – seeking employment, education or training	1.3%	2.1%
Unemployed - not seeking employment, education or training	2.0%	1.4%
Status unconfirmed	4.2%	5.2%

Almost two thirds (63.1%) of those who were unemployed and seeking employment, education or training were male, whereas the majority (56.9%) of those unemployed and not seeking employment, education or training were female.

Overall, 39% of **Modern Apprenticeships** started in 2017–18 were taken up by women.[27] The number of female starts is virtually unchanged since 2013–14 (from 10,445 to 10,451) but the percentage of female starts has fallen slightly from 41% in 2013–14. The proportion of female starts was highest for 20-24 year-olds (48%). A slightly higher percentage of female than male starts self-identified as having an impairment, health condition or learning difficulty (13% of female starts and 10% of male starts). 2.2% of female starts self-identified as having care experience, compared to 1.2% of male starts.

The proportions of male and female students at **Scotland's colleges** has changed notably in the last decade.[28] While female students accounted for 57.2% of enrolments in 2006/07, this fell to 49.6% in 2016–17. So, the gender gap has narrowed over time, as the graph on the right shows.

While enrolments have dropped for both male and female students over this period, the decline was most pronounced for female students, who showed a 46.1% drop from 2006/07, compared with 26.6% for male students.



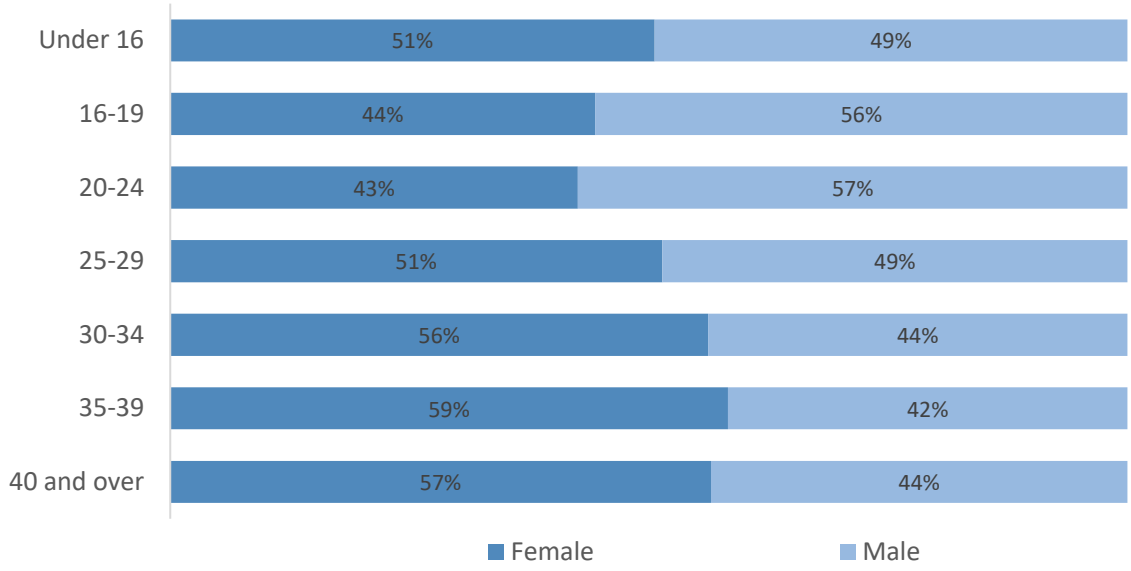
Student enrolments at Scotland's colleges over time, by gender

Source: Advance HE, *Equality + Colleges: Colleges in Scotland Statistical Report 2018.*[29]

While 49.6% of college enrolments overall were from female students in 2016–17, the proportion was highest at the higher HE levels: 73.5% of enrolments at SCQF levels 11–12 were from female students. 58.4% of all HE students in Scotland in 2016–17 were female; this was higher than the UK-wide figure of 56.7%.[30]

Looking at the age of students, the majority of enrolments to college courses came from male students among those aged 16–24, and from female students among those aged 25+, as the graph below shows.[31]

Student enrolments at Scotland's colleges in age groups, by gender (2016–17)
Source: Advance HE, *Equality + Colleges: Colleges in Scotland Statistical Report 2018.*[32]



Across the UK, women comprised the majority of HE students across all age groups, but the proportion of students who were female tended to rise with age.[33] 55% of students 21 and under were female, compared to 64% of those 36 and over.

Among different **ethnicities**, the proportion of female enrolments at Scottish colleges was highest for Asian (51.2% female) and 'other white' (61.2%) students.[34] The lowest proportion of female enrolments was seen with black students (43.5% female). However, the opposite was true for HE students UK-wide: the highest proportion of female students was seen among black students (59.2% female).[35]

Amongst all students at FE and HE colleges, female students were slightly more likely than male students to study **full-time** or to **self-study or distance learn** (29% of enrolments from female students were for full-time study compared to 25% from male students; 14% of female and 10% of male enrolments were for self-study/distance learning).[36] Of those at Higher Education Institutions (HEIs), however, male students were more likely to study full-time (77.6% of male enrolments were full time, compared to 74.8% of female).[37]

For the UK as a whole, a similar proportion of men (59.1%) and women (58.6%) were in full-time work six months after qualifying from an HE course, but a higher proportion of men (51.2%) than women (48.5%) were in professional full-time work (rather than non-professional or unknown work).[38] Men were more likely to be in full-time study (14.9% vs 13.3%), but they were also more likely to be unemployed (5.9% vs 3.9% of women).

Current position: Wider experiences of education

Career advice

UK-wide research has found that girls are more likely to say that the career advice they receive at school is ‘good or very good’ now, compared to 4 years ago.[39]

Influence

Girls are more likely than boys to say that they have little or no say over what they learn at school (60% of girls vs 51% of boys).[40]

Sexual harassment

A 2014 UK-wide survey found that 59% of girls and young women aged 13–21 had faced some form of sexual harassment at school or college in the past year.[41] In 2017, 39% of girls (aged 11–21) had seen or experienced girls having their bra strap pulled by boys in the previous week, and 27% had seen or experienced girls’ skirts being pulled up by boys at school.[42] 8% of girls aged 13–21 say that they have had photos of a sexual nature sent to other people at school, college, university or work (up from 5% in 2013), while 22% of girls aged 11–21 have had embarrassing photos of themselves sent to other people.[43] Over half (59%) of girls aged 11–21 said they felt confident to challenge sexual harassment at school when they see it.

Impact of periods

30% of girls aged 11–21 in a UK survey said that they had missed school, college, university or work because they had their period.[44] A recent survey in Scotland found that 26% of female students at secondary school, college or university had experienced difficulty accessing sanitary products in the previous year, mainly either because they didn’t have the products they needed or because they couldn’t afford to buy them.[45] Of this 26% who had experienced difficulty accessing products, 27% said that this specifically had led to them missing school, college or university, while 60% had felt unable to concentrate while they were at their place of education.

What can be done?

Based on UK evidence that gendered vocational preferences are already evident in pupils in primary school, it has been recommended that **career-related learning** and efforts to challenge the gendered patterns of subject preference should begin before secondary school.[46] Similarly, it has been shown that most young people's attitudes to science are quite fixed by age 14, and that if they aspire to a science career at this age they are more than 3 times as likely to get a physical science or engineering degree.[47] Therefore, it is also important to encourage aspirations to a science career with girls from a young age.

There are indications that girls are less likely to stereotype occupations and be more open to non-traditional options than boys.[48] Research conducted in England in 2006 also found that three quarters of the 14 and 15 year-olds surveyed would like to know more about what's actually involved in jobs which are normally done by either males or females, and that more girls (82%) than boys (70%) said this.[49] 66% of girls (and 54% of boys) responding to the survey indicated that they would be tempted to train for a job normally done by the other sex if there was more information about the type of work they would do. Encouragement from other people was considered a factor in making non-stereotypical choices in this area, especially for girls (64%, compared to 43% of boys).

Early Years

Children are thought to be most susceptible to **media influence** around the age that they begin to understand gender as a social category (gender stereotypes and gendered behaviours are evident by the age of three).[50] Research has shown that active mediation, which involves adults talking to children about the biased representations they see in media and presenting counter-stereotypes, can minimise young children's endorsement of gender stereotypes.[51]

Links have been made between the different types of games and activities that girls and boys are encouraged to play, and the fact that girls tend to have better social development while boys have better motor development.[52] Amongst undergraduate students, it has been found that 3D spatial-visualisation skills can be quickly improved with training, and that this training improved the likelihood of female engineering students staying in the field.[53]

The first study into the effects of **gender-equal preschools** on children's 'reliance on gender information' was conducted in 2017.[54] Gender-equal teaching uses gender-neutral language and teachers work to combat gender stereotypes. It aims to address social problems including 'social exclusion, gender stereotyping, and unequal treatment'. Initial findings suggested that overall, children attending a

gender-equal preschool were less likely to show beliefs conforming to gendered cultural stereotypes about what children like to do. Children attending a gender-equal preschool were more likely to be interested in playing with children that they have not met before who are of a different gender to themselves, although overall children remained equally likely to choose same-gender playmates regardless of school type.

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