SFC Corporate publication

Gender Action Plan: Technical Report

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Summary: This publication gives an overview of the analysis underpinning SFC's Gender Action Plan.

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Introduction

1. This publication gives an overview of the analysis underpinning SFC's Gender Action Plan and shows progress towards the targets set in the Plan. The first GAP Technical Report for academic year 2014-15 was published in August 2016 and this report provides an update of this data while introducing new areas of analysis.

2. This data is taken from the college FES collection and university HESA collections. In line with SFC and HESA data practices, all figures in this report have been rounded to the nearest 5.

3. Further information on college and university statistics can be found in the SFC annual statistical publications:

   - College Statistics.
   - College Performance Indicators.
   - HE Students and Qualifiers.

Colleges

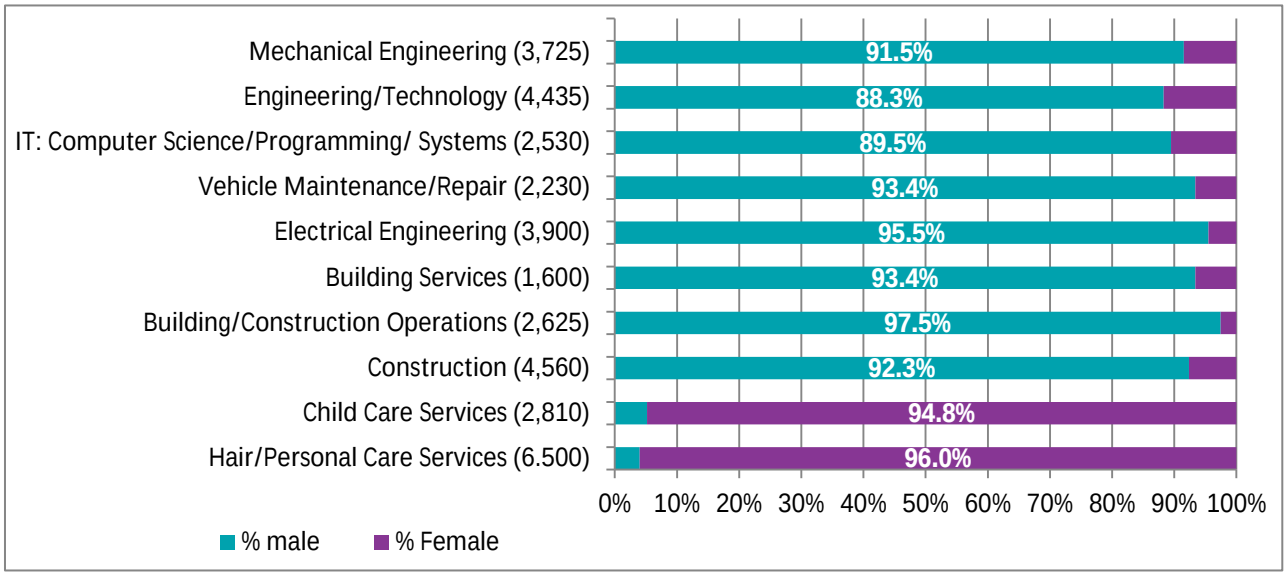
4. In Academic Year 2015-16 the gender imbalance between all male and female enrolments to college was 1.6 percentage points. Females accounted for 50.8% of total enrolments and males accounted for 49.2%. This is a reduction from the equivalent gender gap in 2014-15 which was 2.2 percentage points.

5. For 16 to 24 year olds, the focus of KPI 8 as explained below, is greater and has been increasing since 2011-12. In 2011-12 the gender gap in enrolments for this age group was 4.6 percentage points and this has increased each year to 10.3 percentage points, where females accounted for 55.1% of enrolments from 16-24 year olds.

KPI 8

6. Figure 1, below, shows the extent of the gender imbalance for 16-24 year olds in the College Superclass subjects of focus in the Gender Action Plan. These subjects and this analysis is based on KPI 8 for the Developing the Young Workforce programme (DYW) and the GAP ambition to "increase by 5 percentage points the minority gender share in each of the 10 largest and most imbalanced superclasses among 16-24 year olds by 2021."

Figure 1: Gender balance and number of enrolments at all levels of study in the most gender imbalanced Superclasses, 2015-16



7. Table 1 in the GAP Technical Report 2014-15 showed the gender imbalance average for the same subjects over the four year period from the KPI baseline year of 2011-12 rather than a single year of data shown above. Figure 1 shows that Building / Construction Operations had the highest level of imbalance in

2015-16 at 97.5% males, followed by Hair / Personal Care Services and Electrical Engineering, at 96.0% female and 95.5% male respectively.

8. Progress for all GAP subjects from 2011-12 is summarised in Table 1 below. The figure in the right-most 'Progress towards KPI 8' column will be positive if there has been positive progress towards the KPI, i.e. the proportion from the minority gender in that subject has increased. A negative number in this column indicates a widening of the gender imbalance.

Table 1: Progress Towards KPI 8 Update: 2011-12 and 2015-16

GAP superclass	Minority Share 2011-12	Minority Share 2015-16	Progress towards KPI 8
Hair/Personal Care Services	3.5%	4.0%	0.5%
Child Care Services	4.7%	5.2%	0.5%
Construction	6.6%	7.7%	1.1%
Building/Construction Operations	2.5%	2.5%	0.0%
Building Services	3.0%	6.6%	3.6%
Electrical Engineering	4.1%	4.5%	0.4%
Vehicle Maintenance/Repair	5.1%	6.6%	1.5%
IT: Computer Science/Programming/ Systems	12.2%	10.5%	-1.7%
Engineering/Technology	10.9%	11.7%	0.8%
Mechanical Engineering	6.1%	8.5%	2.4%

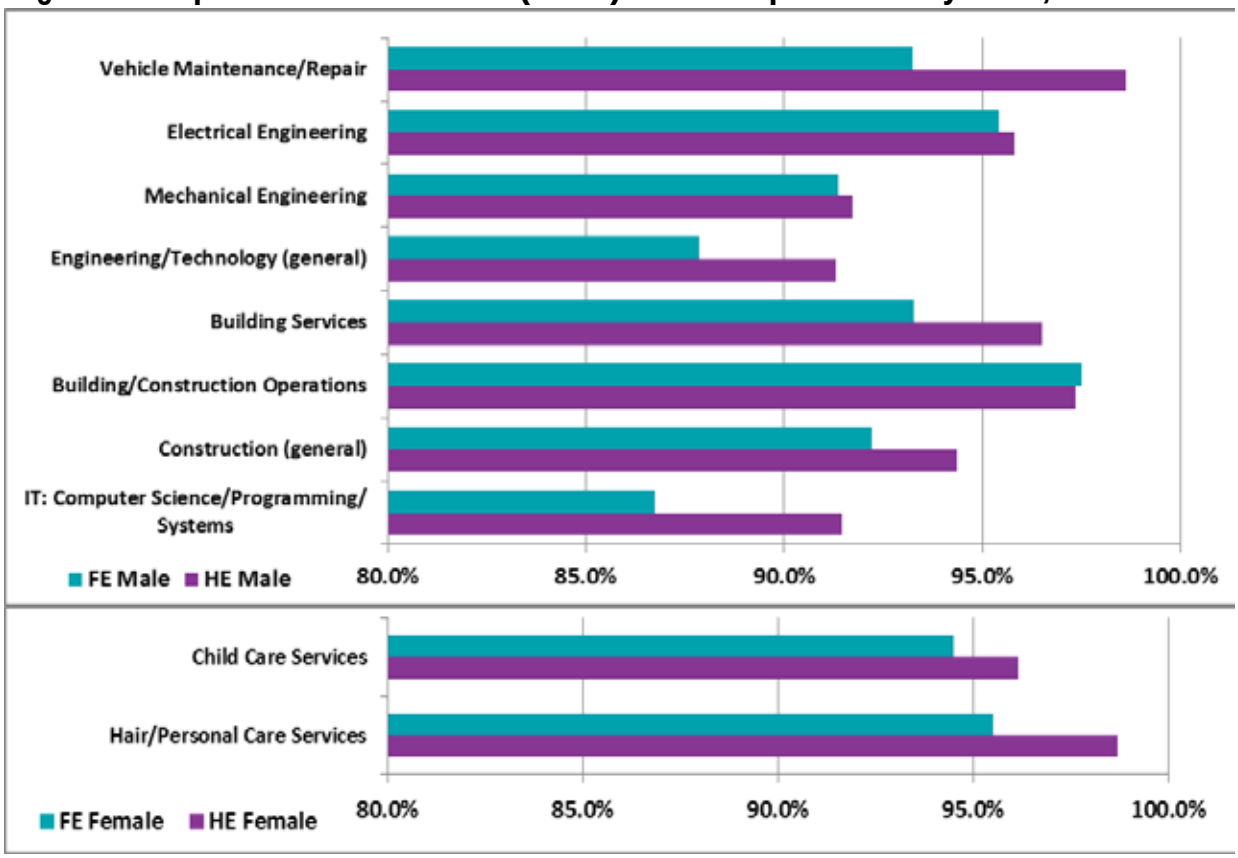
9. Table 1 shows that the greatest progress has been made in Building Services and Mechanical Engineering, and the least in IT: Computer Science / Programming / Systems and Building / Construction Operations.

10. Progress towards the KPI target has not been uniform across the subjects and there are a number of reasons. Firstly, SFC's Gender Action Plan was published in August 2016 meaning that we would not expect to see GAP progress in the data until the 2017-18 academic year at the earliest. Secondly, the overall enrolment count for each superclass is a broad and general measure. There are more detailed patterns across level and mode of study, shown below.

Mode and Level of Study

11. There are further differences in the subject gender imbalance when broken down to Further Education (FE) and Higher Education (HE) courses at college. Figure 2 below shows that the gender imbalance is notably worse at HE level for the Vehicle Maintenance / Repair, IT: Computer Science / Programming / Systems and Engineering / Technology superclasses.

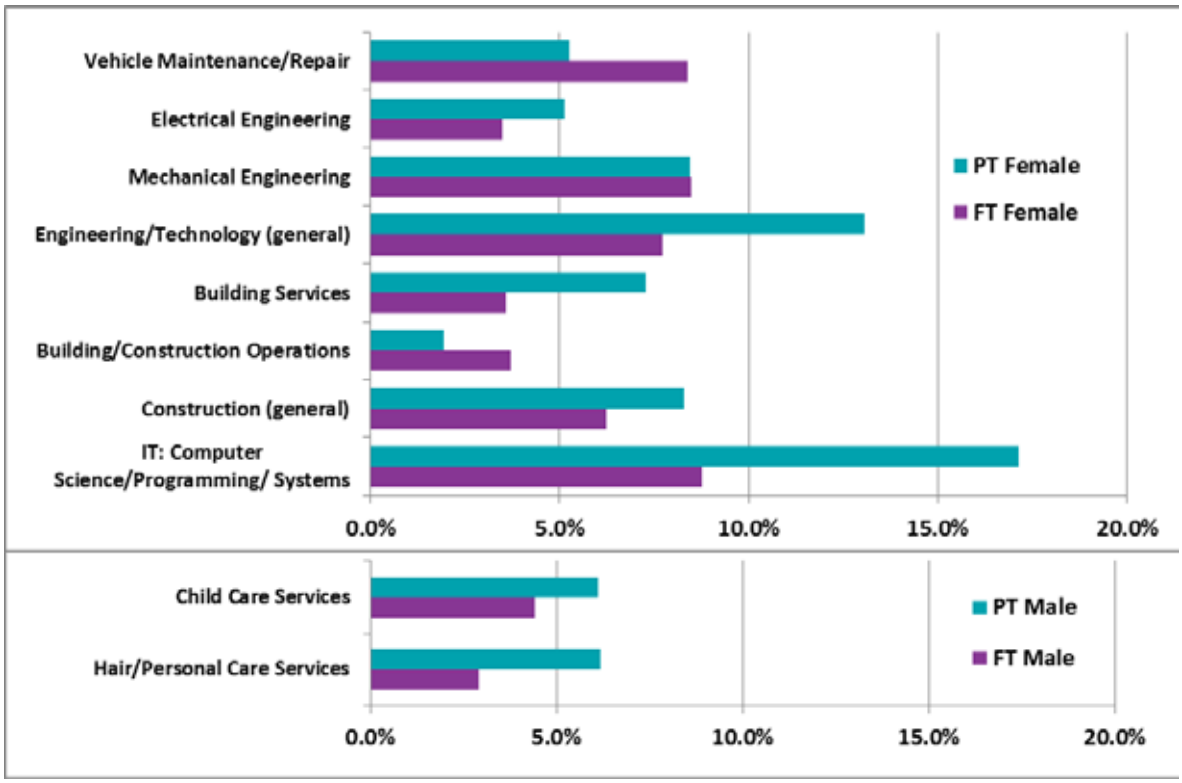
Figure 2: Proportion of Enrolments (16-24) in GAP Superclasses by Level, 2015-16



12. Across both male and female dominated subjects, shown in Figures 2 and 3, the imbalance is greater at HE level, with the exception of the Building / Construction Operations superclass, where the proportion of males at FE level is 0.1 percentage points higher than the proportion at HE level.

13. Figure 3, below, looks at the minority gender in each of the GAP superclasses and the proportion of which are part-time. Figure 3 shows that, in most cases, the minority gender share has a higher proportion at part-time level. Interestingly, a higher proportion of part-time enrolments to the Hair / Personal Care Services and Child Care Services superclasses were from males, compared to the proportion of full-time enrolments to these superclasses.

Figure 3: Proportion of Enrolments (16-24) in GAP Superclasses that are part-time by Gender, 2015-16



14. The data underlying Figure 3 shows that, of the 525 part-time enrolments to the IT: Computer Science / Programming / Systems, 17.1% were female compared to 8.8% of the full-time enrolments to IT: Computer Science / Programming / Systems. Similarly, of the 3,285 part-time enrolments to the Engineering / Technology (general) superclass 13.1% were female compared to 7.7% of the full-time enrolments to Engineering / Technology (general).

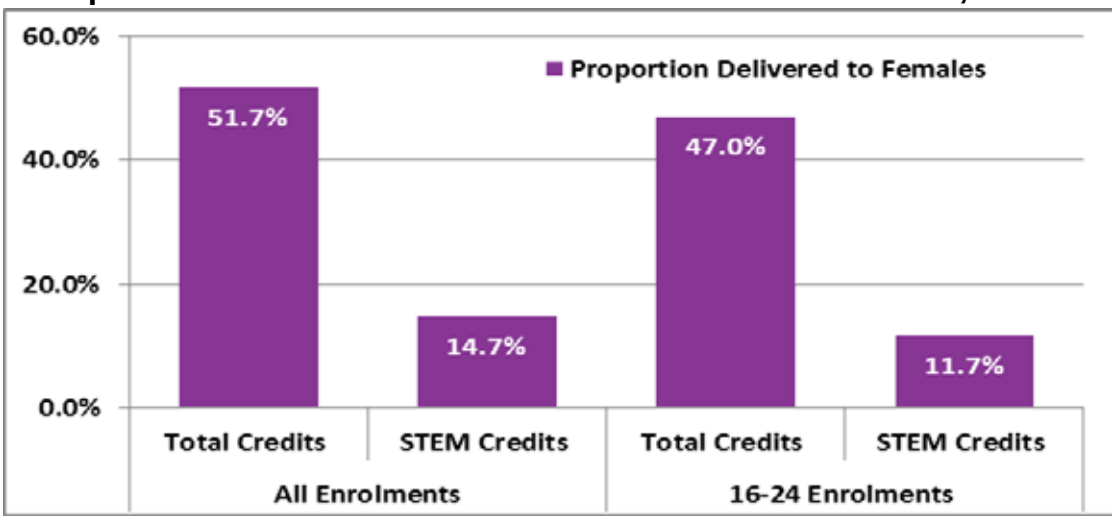
Overall STEM in Colleges

15. The college Outcome Agreement Measure 3 monitors the volume and proportion of Credits delivered to learners enrolled on STEM courses, shown in the OA Progress and Ambitions report and defined in the OA Technical Guidance. Many of the male dominated GAP superclass subjects are within the college STEM definition, which is the reason for the focus here.

16. The data for the OA measure on STEM, along with separate data for the 16 to 24 year olds within this group, is shown in Figure 4 below. The figure shows the proportion of STEM Credits that were delivered to female learners in 2015-16. Figure 4 also includes the proportion of the total sector Credits delivered to females for comparison.

17. The comparison shows a clear dominance of males in STEM subjects compared with all subjects offered by colleges. For the 16 to 24 age group of focus in the KPI, 11.7% of STEM Credits are delivered to females compared to 47.0% of all Credits.

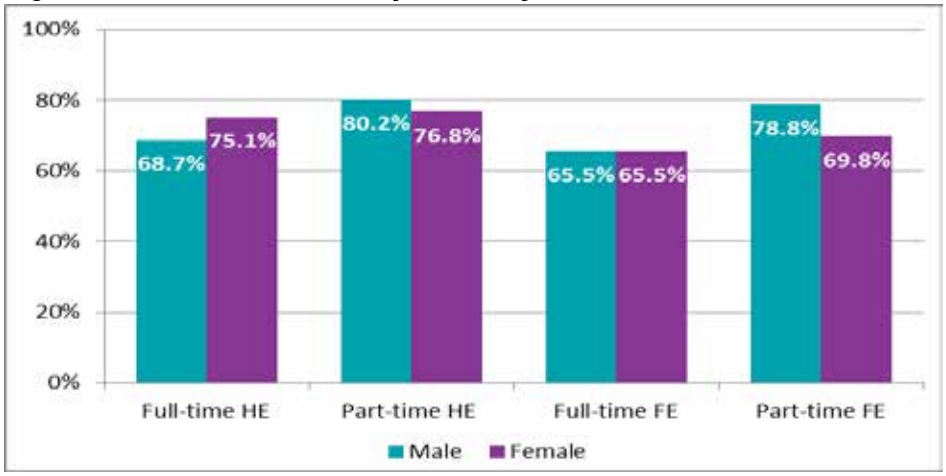
Figure 4: Proportion of All Credits and STEM Credits Delivered to Females, 2015-16



Successful completion rates

18. The imbalance between males and females can be seen not only in their uptake to these subject areas at college but also in their course outcomes. Using the SFC Performance Indicators methodology for successful completion, variances in performance rates between males and females at sector level are shown in Figure 5 below.

Figure 5: PI Successful Completion by Mode, Level and Gender, 2015-16



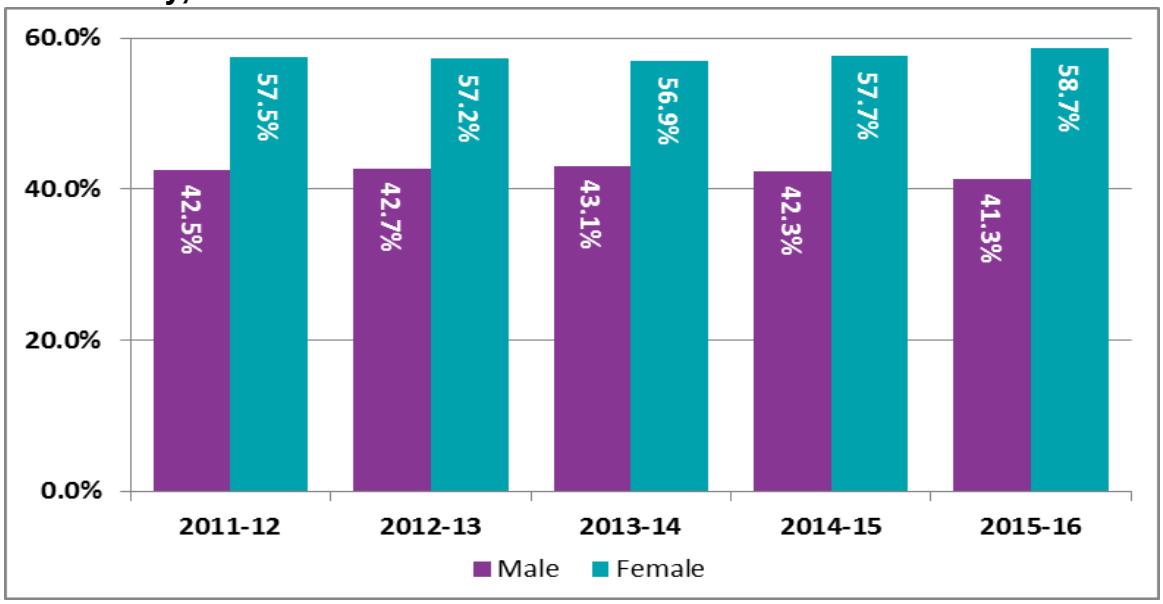
19. Figure 5 shows that for part-time courses at both HE and FE level, males have a higher rate of successful completion than females. At full-time HE level, females have a successful completion rate 6.4 percentage points higher than males.

Universities

Entrants

20. In Academic Year 2015-16 the gender imbalance between male and female Scottish-domiciled undergraduate entrants (SDUE)1 at university was 17.4 percentage points. Females accounted for 58.7% of total enrolments and males accounted for 41.3%. These sector level totals, and the gap in participation, are shown across a five year time period in Figure 6 and Table 2 below.

Figure 6: Overall Gender Balance across Scottish Domiciled Undergraduate Entrants to University, 2011-12 to 2015-16



21. Over the last 5 years, the gap in participation between males and females has increased from 14.9 percentage points to 17.4 in 2015-16. The gap between males and females showed a slight declining trend until 2013-14, but in the two academic years since then the gap has increased.

Table 2: Gender Gap in Participation, 2011-12 to 2015-16

Academic Year	2011-12	2012-13	2013-14	2014-15	2015-16
Percentage point gap in participation	14.9	14.5	13.8	15.3	17.4

22. The charts below show the extent of the gender imbalance in Scottish domiciled undergraduate entrants for the subjects of focus in Scotland's universities. They show participation rates for three years of data, starting with the baseline year of 2011-12 and showing the two most recent years; 2014-15

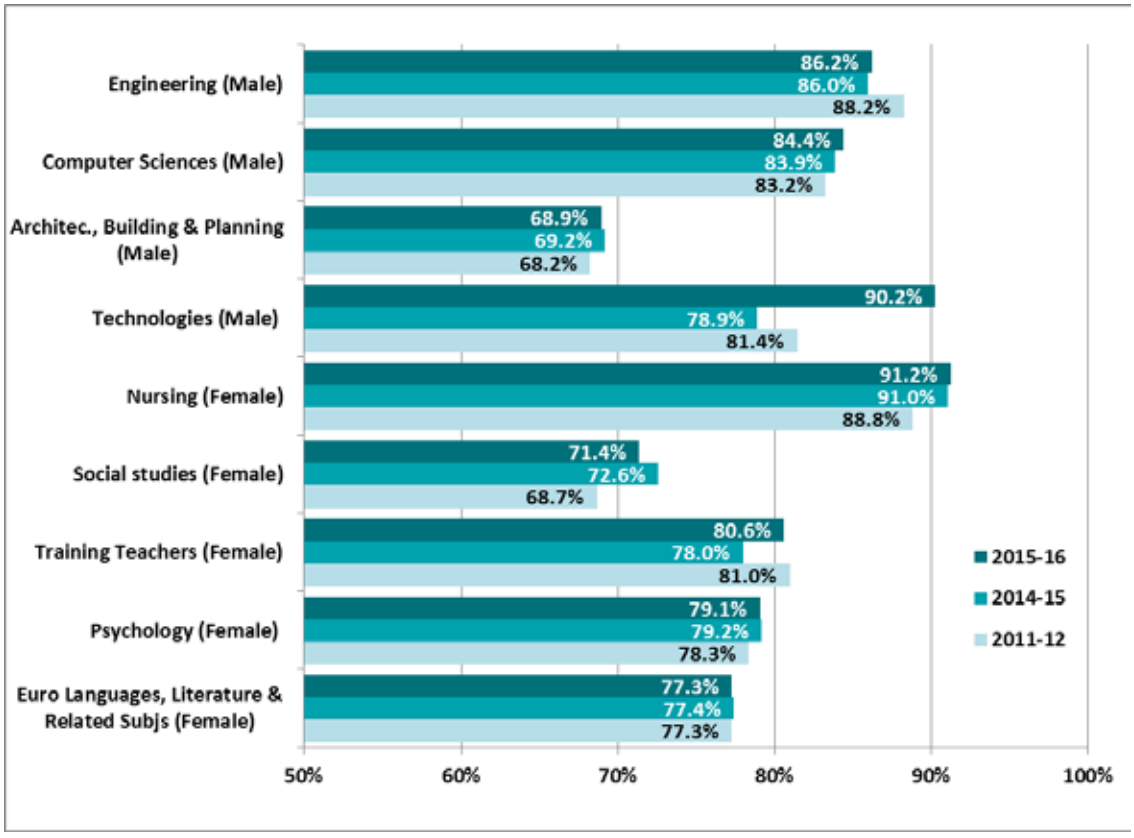
[1] SFC Outcome Agreement Definition

and 2015-16. The years in between are shown in Figure 8 of last year's GAP Technical Report.

23. The university JACS Group subjects of focus are those with an imbalance greater than 75:25, or where the imbalance was increasing between 2011-12 and 2013-14 towards an imbalance of 75:25. SFC's aim is for there to be no subject with an imbalance greater than 75 / 25 by 2030.

24. While the data for these broad curriculum areas (JACS Groups) shows striking gender imbalances, it should be noted that within these larger subject areas, some of the individual JACS subjects display more pronounced gender gaps.

Figure 7: Majority Gender Proportion of SDUE in GAP Subjects in Universities by AY[2]

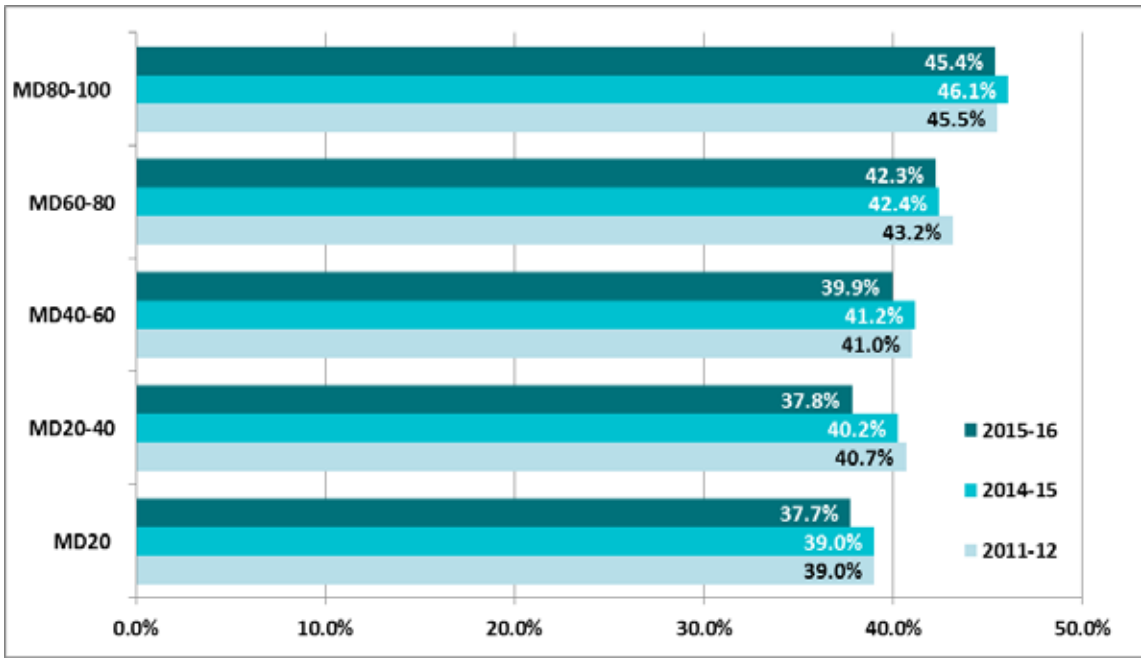


[2] Brackets include total number of students in the subject area over the four year period. Computer Sciences fell within Jacs Group 'Mathematics & Computer Science' in 2011-12 so is not shown here.

Students from the Most Deprived SIMD Areas

25. As shown in Figure 7 the overall proportion of male SDUE is 41.3%. This gap is greater for young men from the most deprived areas of Scotland and this is shown in the graph below. Again, data here shows the baseline year of 2011-12 and showing the two most recent years; 2014-15 and 2015-16.

Figure 8: Proportion of Male SDUE at Scottish Universities by SIMD Quintile by AY

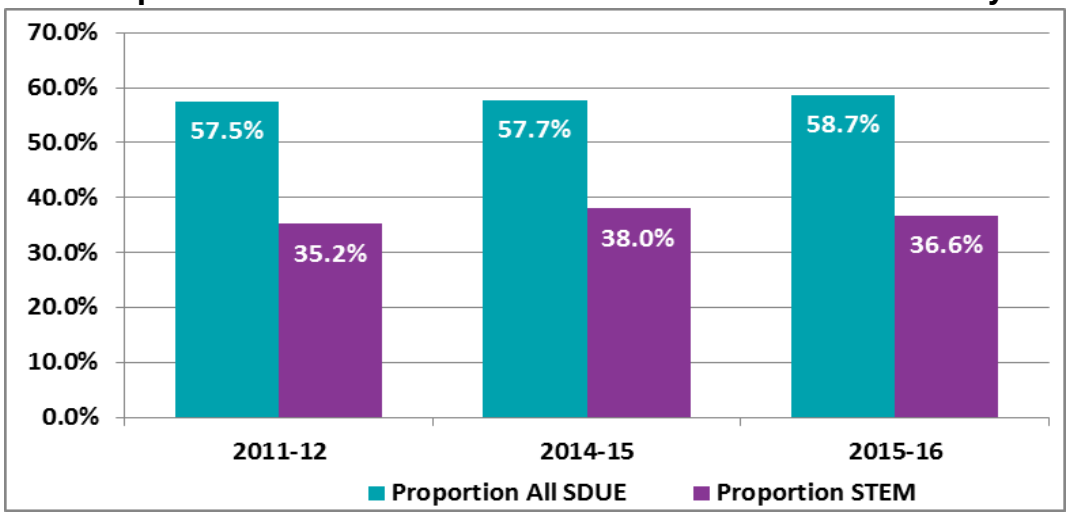


26. The gender imbalance is at its greatest for students from the 20% most deprived areas, where males accounted for 37.7% of students in 2015-16. The gender gap is smallest for students from the 20% least deprived areas, as the proportion of males from this quintile was 45.4% in 2015-16.

Overall STEM in Universities

27. The university Outcome Agreement Measure 8 monitors the number and proportion of Scottish-domiciled undergraduate entrants to STEM courses, shown in the OA Progress and Ambitions report and defined in the OA Technical Guidance. Many of the male dominated GAP superclass subjects are within the university STEM definition which, as in the college section above, is the reason for the focus here.

Figure 9: Proportion of All SDUE and STEM SDUE Delivered to Females by AY



28. The gender difference between students studying STEM courses and all courses is not as severe at university level as it is at college level. Figure 10, above, shows that in 2015-16, although 58.7% of SDUE were female, the proportion drops to 36.6% for SDUE studying STEM courses.

Retention Rates

29. Retention Rates measure those who remain in higher education, or who qualify, after their first year. Figure 11, below, shows the sector retention rate in the baseline year of 2011-12 and in 2014-15 and 2015-16 alongside the rate for males and females. Females are retained at a higher rate than males, with 92.0% of females retained in 2015-16 compared to 88.9% of males.

Figure 10: Retention rates for Scottish domiciled undergraduate full time students