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# Progression from GCSE to A level, 2017

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Tim Gill  
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## Contact details

Tim Gill  
Assessment Research and Development  
Research Division  
Cambridge Assessment  
The Triangle Building  
Shaftesbury Road  
Cambridge  
CB2 8EA  
United Kingdom

[gill.tim@cambridgeassessment.org.uk](mailto:gill.tim@cambridgeassessment.org.uk)

<http://www.cambridgeassessment.org.uk>

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## Introduction

This report investigates the progression of students from GCSE to A level; that is, the proportion of students who go on to take an A level in the same (or related) subject. Progression rates are presented by GCSE grade, and student gender. In addition, the report looks at the relationship between GCSE grades and A level grades.

A student's decision to study a subject beyond GCSE may be influenced by a number of factors (see Vidal Rodeiro, 2007), including enjoyment of the subject, ability, and usefulness for career plans. In addition there may be further constraints imposed by the school or college, such as whether the subject is actually offered, and whether the school restricts entry onto A level courses based on GCSE attainment. This report does not attempt to explain the reasons for any differences observed in subject progression.

## Data and Methods

The data for these analyses were taken from the National Pupil Database (NPD), maintained by the Department for Education. The Key Stage 4 (KS4) database for 2015 was used to obtain the GCSE results for all students who were in Year 11 in 2015 (regardless of when the GCSEs had been taken). GCSEs graded X were excluded from the dataset. Records for these pupils were then extracted from the Key Stage 5 (KS5) database in 2017, which contains results from any A levels they went on to take. A student was deemed to have progressed to A level from GCSE if an A level result for them in the same subject was present in the KS5 database.

Some common subjects at GCSE are not offered in the same form at A level, therefore specific matching had to be used. The most prominent example is the Science suite. Most students took the Core and Additional Science qualifications rather than separate sciences in 2015 (Gill & Williamson, 2016), while only separate sciences were offered at A level in 2017. Progression was therefore investigated from Additional Science to each of the separate sciences. Progression was also reported from Mathematics GCSE to Further Mathematics A level.

The analyses were restricted to the most popular GCSE subjects, with entries of over 10,000 students.

## Results

Table 1 presents the number of students taking each GCSE in 2015 and the percentage of these who went on to take an A level in the same subject. It also shows the number of students achieving grades A\* to C in the subject and the progression rate amongst these students, the progression rates by gender and the progression rates by gender for the A\* to C students only.

**Table 1 Percentage of candidates progressing from GCSE to A level.**

Subject progression	Number of GCSE students	Number of A*-C GCSE students	% progress - All	% progress - A*-C	% progress - Female	% progress - Female(A*-C)	% progress - Male	% progress - Male(A*-C)
AddSci - Biology	305120	197830	5	7	6	9	3	5
AddSci - Chemistry	305120	197830	3	5	3	5	3	5
AddSci - Physics	305120	197830	2	3	1	1	3	6
Art & Design	88001	65515	4	6	5	6	3	4
Art & Design (Fine Art)	51803	40886	12	15	14	17	8	12
Art & Design (Photography)	22091	17345	9	12	12	14	6	8
Biology	127844	116962	22	24	27	30	16	18
Business Studies	74066	49097	13	19	12	17	13	20
Chemistry	124757	114253	19	21	20	22	18	20
Computing	33425	21987	11	17	6	8	13	19
D&T Food	38373	23601	1	2	2	3	1	1
D&T Product Design	37880	22041	6	10	7	9	6	11
D&T Textiles	24176	17325	3	4	3	4	1	2
Dance	11982	7996	7	10	7	11	5	7
Drama	71460	52457	12	16	13	17	9	14
English Language	308092	252388	4	5	5	6	2	3
English Literature	407790	308993	8	10	12	14	4	5
French	151019	105802	4	6	5	7	3	4
Geography	211335	146840	14	20	15	21	12	18
German	52747	39303	4	6	5	6	4	5
History	228886	158267	16	23	17	24	15	22
ICT	99627	67153	3	4	2	3	3	5
Mathematics	549512	388861	10	15	8	12	12	18
Maths - Further Maths	549512	388861	2	3	1	1	3	4
Media/Film/TV Studies	52701	34714	10	15	13	16	8	14
Music	43649	32904	8	10	8	10	7	10
PE	110866	77739	7	10	9	12	6	9
Physics	123929	114415	13	15	6	6	21	22
Psychology	15949	10225	25	38	29	42	16	27
Religious Studies	268675	194796	6	8	8	10	4	6
Sociology	21329	14068	19	28	22	31	11	19
Spanish	85310	61739	6	9	8	10	5	7

The highest progression rates were in Psychology (25%), Biology (22%) and Sociology (19%). These subjects also had the highest progression rates amongst female students. However, for male students the highest rates were for Physics (21%), Chemistry (18%) and Biology and Psychology (both 16%)

Figure 1 shows progression from GCSE to A level, by GCSE grade and by gender. For most subjects, the differences in progression rates between gender were very small. However, some subjects did have some interesting differences: male students were much more likely to progress to Physics than female students (from either Physics or Additional Science GCSE), and the reverse was true for Biology (from either Biology or Additional Science GCSE).

Other subjects where male students were more likely than female students to progress to A level were Maths, Further Maths (progression from Maths GCSE) and Computing. Subjects where female students were more likely to progress included English Literature, Psychology and Sociology.

Interestingly, for Psychology and Sociology (both genders), those achieving an A\* grade at GCSE were less likely to progress on to A level than those achieving a grade A.

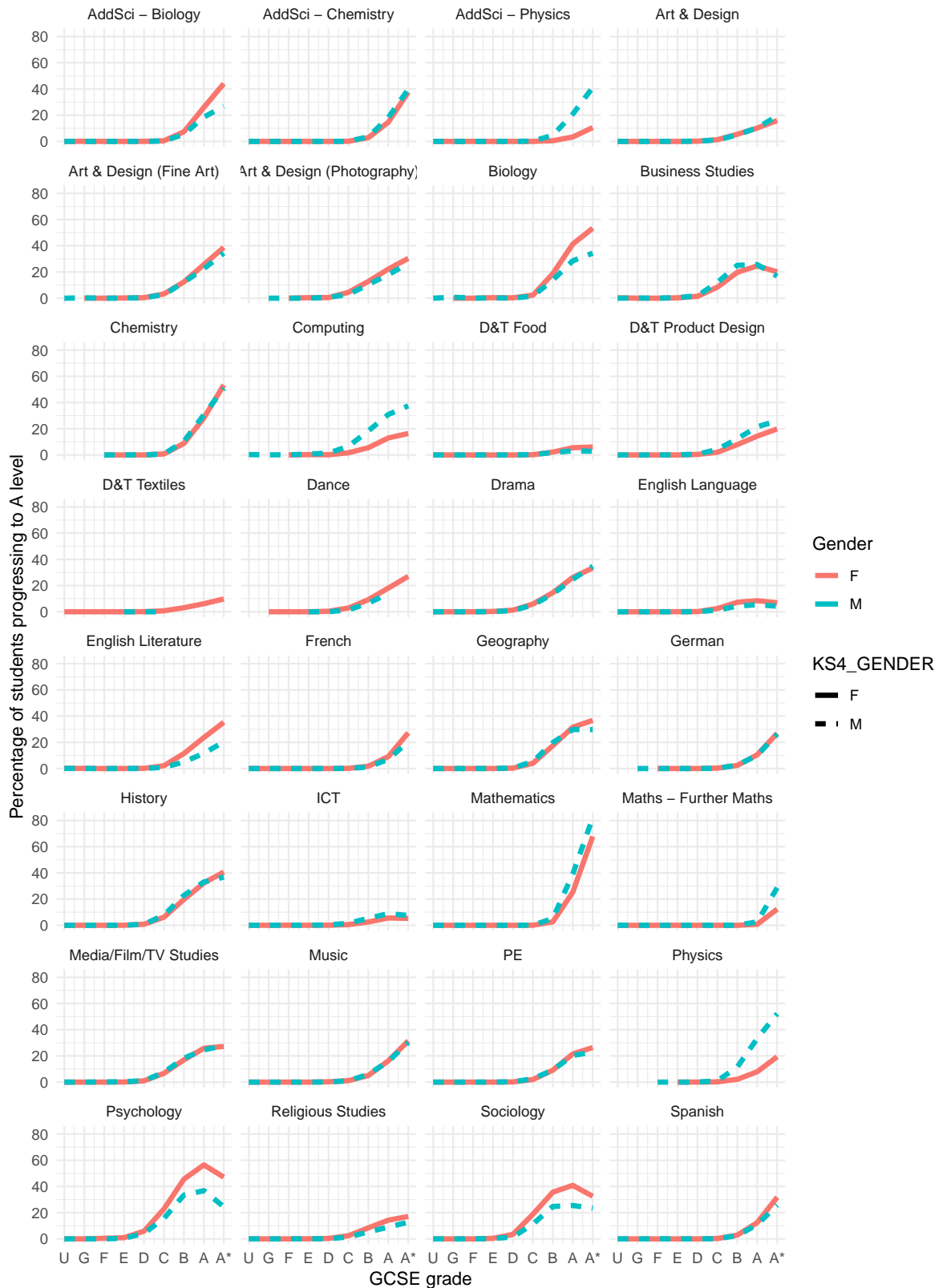


Table 2 presents the cumulative percentage of candidates achieving each grade at A level, given their performance at GCSE. Thus, of those achieving a grade A\* in GCSE biology, 29% went on to achieve a grade A\* at A level Biology, 69% achieved at least a grade A, 90% at least a grade B, and so on. The table does not have a column for grade U, which means that, for example, 19% of students achieving a grade C at GCSE Biology failed their

A level in the same subject (81% achieved at least a grade E).

The numbers are rounded to the nearest percentage so that a value of zero does not necessarily mean that no students achieved a given grade or above. This table only includes GCSE grades where at least 100 students achieving that grade progressed to A level.

**Table 2** *Cumulative percentage of candidates at each A level grade for each GCSE grade.*

Subject progression	GCSE grade	A*	A	B	C	D	E
Biology	A*	29	69	90	98	100	100
Biology	A	3	22	52	80	95	99
Biology	B	0	3	15	42	75	95
Biology	C	0	1	5	19	51	81
Chemistry	A*	20	60	85	95	99	100
Chemistry	A	2	18	47	74	91	98
Chemistry	B	0	4	17	42	72	92
Chemistry	C	0	2	5	20	46	75
Physics	A*	23	60	83	95	99	100
Physics	A	2	15	40	67	88	98
Physics	B	0	2	10	31	62	88
Physics	C	0	0	5	15	35	68
AddSci - Biology	A*	16	56	82	94	99	100
AddSci - Biology	A	1	11	37	69	91	98
AddSci - Biology	B	0	2	10	32	65	90
AddSci - Biology	C	0	0	1	11	32	60
AddSci - Chemistry	A*	13	51	80	94	98	100
AddSci - Chemistry	A	1	13	37	65	88	97
AddSci - Chemistry	B	0	3	14	38	68	90
AddSci - Chemistry	C	0	0	4	17	36	60
AddSci - Physics	A*	17	52	77	91	97	99
AddSci - Physics	A	1	12	34	61	83	96
AddSci - Physics	B	0	3	10	28	57	85
AddSci - Physics	C	0	0	1	10	26	56
Mathematics	A*	29	63	84	94	98	100
Mathematics	A	4	18	44	68	86	96
Mathematics	B	1	5	19	43	68	87
Mathematics	C	3	12	29	40	56	66
Maths - Further Maths	A*	31	63	82	92	97	99
Maths - Further Maths	A	5	20	44	64	85	95
Computing	A*	18	62	84	96	99	100
Computing	A	2	21	54	79	94	99
Computing	B	0	6	24	52	81	95
Computing	C	0	3	8	30	60	89
ICT	A*	4	35	73	91	97	100
ICT	A	1	12	39	71	92	99
ICT	B	0	3	18	48	78	96
ICT	C	0	0	9	34	65	90
Business Studies	A*	22	56	89	99	99	100
Business Studies	A	7	29	69	92	99	100
Business Studies	B	2	11	42	79	96	99

Subject progression	GCSE grade	A*	A	B	C	D	E
Business Studies	C	0	3	20	57	86	97
Business Studies	D	0	1	12	37	71	94
Art & Design	A*	34	62	89	98	100	100
Art & Design	A	12	32	66	90	97	99
Art & Design	B	4	12	43	75	93	99
Art & Design	C	2	5	23	55	84	97
Art & Design (Photography)	A*	22	47	80	96	99	100
Art & Design (Photography)	A	10	25	57	87	96	99
Art & Design (Photography)	B	3	12	44	78	94	99
Art & Design (Photography)	C	1	5	22	57	91	98
Art & Design (Fine Art)	A*	38	64	90	98	100	100
Art & Design (Fine Art)	A	11	29	71	91	98	100
Art & Design (Fine Art)	B	4	13	42	75	94	99
Art & Design (Fine Art)	C	1	5	21	56	84	96
Geography	A*	18	64	91	99	100	100
Geography	A	4	25	64	90	98	100
Geography	B	1	7	31	69	93	99
Geography	C	0	2	11	41	77	95
Geography	D	0	0	7	33	60	85
History	A*	18	57	89	98	100	100
History	A	4	22	63	90	98	100
History	B	1	6	32	72	94	99
History	C	0	2	13	48	84	97
History	D	0	2	10	36	68	92
Religious Studies	A*	15	52	85	96	99	100
Religious Studies	A	4	21	58	86	97	99
Religious Studies	B	1	7	32	67	89	98
Religious Studies	C	1	3	17	48	78	93
Psychology	A*	27	71	94	99	100	100
Psychology	A	11	37	74	92	99	100
Psychology	B	1	12	40	74	93	98
Psychology	C	0	3	19	52	82	95
Psychology	D	0	1	9	36	68	91
Sociology	A*	37	70	94	100	100	100
Sociology	A	14	45	81	96	99	100
Sociology	B	3	18	56	84	97	100
Sociology	C	1	5	30	64	90	98
English Language	A*	11	45	85	98	100	100
English Language	A	2	18	61	91	99	100
English Language	B	0	5	29	73	95	99
English Language	C	0	1	12	51	88	99
English Literature	A*	28	60	89	98	100	100
English Literature	A	6	24	61	88	98	100
English Literature	B	1	6	29	67	93	99
English Literature	C	0	1	12	43	80	97
Drama	A*	13	46	83	97	100	100
Drama	A	5	21	60	90	99	100
Drama	B	1	6	34	72	95	100
Drama	C	0	2	17	51	85	99



Subject progression	GCSE grade	A*	A	B	C	D	E
Drama	D	2	3	6	38	74	98
Media/Film/TV Studies	A*	13	54	92	100	100	100
Media/Film/TV Studies	A	3	21	69	95	100	100
Media/Film/TV Studies	B	0	6	39	83	98	100
Media/Film/TV Studies	C	0	1	16	60	90	99
French	A*	14	52	81	94	99	100
French	A	1	14	42	73	93	99
French	B	0	3	16	41	75	94
German	A*	14	59	89	98	100	100
German	A	1	15	49	81	95	100
German	B	0	5	22	53	80	96
Spanish	A*	14	50	81	95	99	100
Spanish	A	1	11	42	75	93	98
Spanish	B	0	4	17	48	76	96
Music	A*	16	52	84	97	100	100
Music	A	2	13	46	79	96	100
Music	B	0	1	13	46	81	99
PE	A*	14	48	79	93	98	100
PE	A	4	19	47	74	90	99
PE	B	1	7	24	51	76	96
PE	C	0	2	15	38	66	92
Dance	A*	18	56	93	99	99	100
Dance	A	7	25	67	94	99	99
Dance	B	2	8	44	82	97	100
D&T Food	A*	20	59	90	98	100	100
D&T Food	A	6	17	46	80	93	100
D&T Food	B	0	3	23	58	87	99
D&T Textiles	A*	11	43	72	92	99	100
D&T Textiles	A	1	12	37	72	91	100
D&T Textiles	B	1	3	15	36	73	97
D&T Product Design	A*	22	53	84	97	100	100
D&T Product Design	A	6	21	54	83	96	100
D&T Product Design	B	2	6	26	59	87	99
D&T Product Design	C	0	2	9	34	73	95

Table 3 presents the Pearson correlation coefficients between the grades achieved at GCSE and A level in the same (or a closely related) subject. In order to calculate these figures, GCSE grades were converted to a numeric scale so that A\*=8, A=7,...G=1, and U=0. Similarly, A level grades were converted to numbers so that A\*=6, A=5,...,E=1, and U=0. For context, the means and standard deviations of GCSE and A level grades amongst candidates doing both are included in this table.

The highest correlations were for Biology (0.629), German (0.618) and Physics (0.617), followed by Additional Science to Biology (0.615). The lowest correlations were between Maths and Further Maths (0.338), ICT (0.427) Art & Design Photography (0.429) and PE (0.437).

**Table 3** *Correlations between GCSE and A level grades in the same (or a related) subject.*

Subject progression	Number of matched students	Pearson correlation	SD of GCSE grade	SD of A level grade	Mean GCSE grade	Mean A level grade
Biology	27651	0.629	0.76	1.49	7.03	3.59
Chemistry	24141	0.577	0.73	1.48	7.28	3.69
Physics	16611	0.617	0.73	1.59	7.24	3.51
AddSci - Biology	13724	0.615	0.78	1.49	6.83	2.95
AddSci - Chemistry	9497	0.559	0.76	1.49	7.05	3.19
AddSci - Physics	6399	0.578	0.78	1.61	6.96	2.95
Mathematics	57350	0.541	0.65	1.59	7.46	3.92
Maths - Further Maths	9931	0.338	0.35	1.45	7.87	4.45
Computing	3823	0.568	1.02	1.47	6.59	3.20
ICT	2674	0.427	0.87	1.29	6.48	2.82
Business Studies	9346	0.468	0.88	1.21	6.14	3.38
Art & Design	3757	0.528	0.99	1.38	6.84	3.91
Art & Design (Photography)	2055	0.429	1.02	1.29	6.63	3.63
Art & Design (Fine Art)	6243	0.550	0.96	1.35	6.96	4.04
Geography	28755	0.588	0.91	1.27	6.79	3.68
History	36765	0.561	0.93	1.22	6.77	3.64
Religious Studies	16526	0.503	0.91	1.30	6.88	3.61
Psychology	3997	0.543	0.93	1.34	6.24	3.47
Sociology	4028	0.511	0.91	1.26	6.13	3.70
English Language	12119	0.482	0.81	1.07	6.32	3.26
English Literature	31608	0.548	0.83	1.28	6.77	3.63
Drama	8308	0.496	0.95	1.17	6.57	3.47
Media/Film/TV Studies	5429	0.535	0.94	1.06	6.26	3.44
French	5887	0.530	0.67	1.34	7.54	3.88
German	2291	0.618	0.77	1.29	7.35	3.88
Spanish	5395	0.533	0.69	1.31	7.53	3.87
Music	3429	0.611	0.80	1.31	7.12	3.55
PE	7872	0.437	0.86	1.45	6.65	3.12
Dance	839	0.480	0.92	1.13	6.72	3.80
D&T Food	547	0.527	0.81	1.34	6.82	3.41
D&T Textiles	690	0.608	0.90	1.43	6.94	3.12
D&T Product Design	2255	0.565	0.98	1.39	6.44	3.19

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