Uni Connect national evaluation

Annexes

Contents

These annexes refer to the main report, Uni Connect national evaluation (OfS 2021.11), which is available at www.officeforstudents.org.uk/publications/uni-connect-national-evaluation/.

Annex A: Proportion of learners with different characteristics

1. Table A1 shows the distributions of all personal characteristics used in modelling for the learners who completed their GCSEs between the summers of 2014 and 2017. They are shown separately for Uni Connect learners and non-Uni Connect learners. Numbers (rounded to the nearest 5) and proportions within each group are shown.

Table A1: Number and proportion of English 16-year-old learners with different characteristics

Factor	Number of Uni Connect learners	Proportion of Uni Connect learners	Number of non-Uni Connect learners	Proportion of non-Uni Connect learners
GCSEs summer 2014	90,445	25.9%	453,965	25.6%
GCSEs summer 2015	89,470	25.6%	449,530	25.4%
GCSEs summer 2016	86,410	24.7%	439,150	24.8%
GCSEs summer 2017	83,440	23.9%	429,330	24.2%
GCSEs: 0 GCSEs	71,530	20.5%	199,000	11.2%
GCSEs: 1 GCSE	37,745	10.8%	123,435	7.0%
GCSEs: 2 GCSEs	28,315	8.1%	99,790	5.6%
GCSEs: 3 GCSEs	24,405	7.0%	93,095	5.3%
GCSEs: 4 GCSEs	22,640	6.5%	92,295	5.2%
GCSEs: 5 GCSEs	22,310	6.4%	97,515	5.5%
GCSEs: 6 GCSEs	22,820	6.5%	108,610	6.1%
GCSEs: 7 GCSEs	25,565	7.3%	131,935	7.4%
GCSEs: 8 GCSEs	28,955	8.3%	173,335	9.8%
GCSEs: 9 GCSEs	30,030	8.6%	237,840	13.4%
GCSEs: 10 GCSE	22,315	6.4%	244,090	13.8%
GCSEs: 11 GCSE	9,970	2.9%	129,955	7.3%
GCSEs: 12 GCSE	3,175	0.9%	41,085	2.3%
English GCSE: No	144,410	41.3%	498,995	28.2%
English GCSE: Yes	205,355	58.7%	1,272,980	71.8%
Maths GCSE: No	146,185	41.8%	494,045	27.9%
Maths GCSE: Yes	203,585	58.2%	1,277,930	72.1%
Sex: Female	175,115	50.1%	874,475	49.4%
Sex: Male	174,655	49.9%	897,500	50.6%
Ethnicity: Asian or Asian British - Bangladeshi	2,415	0.7%	30,285	1.7%

Factor	Number of Uni Connect learners	Proportion of Uni Connect learners	Number of non-Uni Connect learners	Proportion of non-Uni Connect learners
Ethnicity: Asian or Asian British - Chinese	870	0.2%	6,865	0.4%
Ethnicity: Asian or Asian British - Indian	3,440	1.0%	50,275	2.8%
Ethnicity: Asian or Asian British - Other	3,675	1.1%	28,290	1.6%
Ethnicity: Asian or Asian British - Pakistani	7,370	2.1%	70,955	4.0%
Ethnicity: Black or Black British - African	8,230	2.4%	57,265	3.2%
Ethnicity: Black or Black British - Caribbean	2,470	0.7%	25,960	1.5%
Ethnicity: Black or Black British - Other	1,920	0.5%	10,570	0.6%
Ethnicity: Gypsy, Roma or Traveller	1,095	0.3%	3,335	0.2%
Ethnicity: Mixed - other	3,885	1.1%	27,010	1.5%
Ethnicity: Mixed - white and Asian	2,215	0.6%	17,020	1.0%
Ethnicity: Mixed - white and black African	1,580	0.5%	8,420	0.5%
Ethnicity: Mixed - white and black Caribbean	5,020	1.4%	23,070	1.3%
Ethnicity: Other ethnic group	2,870	0.8%	27,670	1.6%
Ethnicity: Unknown or refused	3,305	0.9%	17,720	1.0%
Ethnicity: White - English/Welsh/Scottish/Northern Irish/British	284,805	81.4%	1,285,355	72.5%
Ethnicity: White - Irish	640	0.2%	6,390	0.4%
Ethnicity: White - other	13,960	4.0%	75,525	4.3%
Free School Meal Status: Not Receiving FSM	215,100	61.5%	1,353,380	76.4%
Free School Meal Status: Receiving FSM	134,670	38.5%	418,595	23.6%

2. Table A2 is the same as Table A1 but shows the distributions only for learners who obtained five or more GCSE qualifications (or GCSE equivalencies) at grades A* to C (or 9 to 4 grades following the reform of GCSEs), i.e. for the learners who were included in the modelling. Learners who might have attended a Uni Connect school are excluded from the numbers in the counterfactual population presented here, in the same way they are excluded from the population in the model.

Table A2: Number and proportion of a subset of English 16-year-old learners with different characteristics who obtained five or more GCSE qualifications (or GCSE equivalencies) at grades A* to C (or 9 to 4 grades following the reform of GCSEs)

Factor	Number of Uni Connect learners	Proportion of Uni Connect learners	Number of non-Uni Connect learners	Proportion of non-Uni Connect learners
GCSEs summer 2014	39,435	23.9%	191,850	25.2%
GCSEs summer 2015	41,490	25.1%	191,270	25.2%
GCSEs summer 2016	41,805	25.3%	189,295	24.9%
GCSEs summer 2017	42,410	25.7%	187,700	24.7%
GCSEs: 5 GCSEs	22,310	13.5%	58,755	7.7%
GCSEs: 6 GCSEs	22,820	13.8%	66,045	8.7%
GCSEs: 7 GCSEs	25,565	15.5%	81,360	10.7%
GCSEs: 8 GCSEs	28,955	17.5%	107,655	14.2%
GCSEs: 9 GCSEs	30,030	18.2%	155,245	20.4%
GCSEs: 10 GCSE	22,315	13.5%	167,855	22.1%
GCSEs: 11 GCSE	9,970	6.0%	94,520	12.4%
GCSEs: 12 GCSE	3,175	1.9%	28,680	3.8%
English GCSE: No	11,790	7.1%	45,095	5.9%
English GCSE: Yes	153,345	92.9%	715,025	94.1%
Maths GCSE: No	10,080	6.1%	37,655	5.0%
Maths GCSE: Yes	155,055	93.9%	722,465	95.0%
Sex: Female	92,290	55.9%	401,330	52.8%
Sex: Male	72,845	44.1%	358,790	47.2%
Ethnicity: Asian or Asian British - Bangladeshi	1,500	0.9%	17,790	2.3%
Ethnicity: Asian or Asian British - Chinese	715	0.4%	4,365	0.6%
Ethnicity: Asian or Asian British - Indian	2,535	1.5%	32,430	4.3%
Ethnicity: Asian or Asian British - Other	2,425	1.5%	16,585	2.2%
Ethnicity: Asian or Asian British - Pakistani	3,735	2.3%	33,050	4.3%
Ethnicity: Black or Black British - African	5,105	3.1%	31,760	4.2%
Ethnicity: Black or Black British - Caribbean	1,130	0.7%	12,210	1.6%
Ethnicity: Black or Black British - Other	955	0.6%	4,885	0.6%

Factor	Number of Uni Connect learners	Proportion of Uni Connect learners	Number of non-Uni Connect learners	Proportion of non-Uni Connect learners
Ethnicity: Gypsy, Roma or Traveller	100	0.1%	220	0.0%
Ethnicity: Mixed - other	2,145	1.3%	14,240	1.9%
Ethnicity: Mixed - white and Asian	1,270	0.8%	9,195	1.2%
Ethnicity: Mixed - white and black African	840	0.5%	4,080	0.5%
Ethnicity: Mixed - white and black Caribbean	2,190	1.3%	9,350	1.2%
Ethnicity: Other ethnic group	1,550	0.9%	15,160	2.0%
Ethnicity: Unknown or refused	1,415	0.9%	8,130	1.1%
Ethnicity: White - English/Welsh/Scottish/Northern Irish/British	130,430	79.0%	507,510	66.8%
Ethnicity: White - Irish	315	0.2%	3,795	0.5%
Ethnicity: White - other	6,785	4.1%	35,365	4.7%
Free School Meal Status: Not Receiving FSM	121,575	73.6%	630,315	82.9%
Free School Meal Status: Receiving FSM	43,560	26.4%	129,805	17.1%

Annex B: Coefficient estimates of the factors and interactions included in the application model

1. In order to calculate the modelled rates for groups of students, we employ a statistical modelling approach. Use of statistical modelling allows for assessment of whether there is a statistically significant relationship between the characteristics used and the outcome.

2. Since the two outcomes here are binary, that is, they have two possible values (achieving the outcome or not achieving it), we use a binary logistic regression model. The models calculate the modelled rate of achieving the outcome using the characteristics we have chosen to use (known as the factors). The outcome in this case is either application to higher education, or received a place at a higher education institution.

3. The factors included in the final model are:

   - number of GCSEs at grade C (or 4) and above

   - English GCSE result

   - Maths GCSE result

   - sex

   - ethnicity

   - free school meal status indicator

   - the year (summer) of key stage 4 completion

   - Uni Connect target area status

   - a two-way interaction term between the year and Uni Connect target areas

   - a two-way interaction term between the year and number of GCSEs at grade C (or 4) and above.

   Details of the levels used in each factor and their distributions across the population are shown in Annex A.

   A two-way interaction between the year and the number of GCSEs at high grades was added to the model to account for the slight differences in the relationships between application rates and number of GCSEs between the four years in the time series.

   The two-way interaction between the year and the Uni Connect target area status is where we would expect to see the positive 'Uni Connect effect' for application rates in 2019 compared to earlier years had both the estimates been negative and the p-values – smaller than 0.05 (using a 95 per cent confidence interval). We also use the standard errors from those interactions to calculate the confidence intervals around the gaps between application rates for Uni Connect learners and non-Uni Connect learners between 2019 and earlier years.

4. Therefore, the final model is:

$logit(\pi_i) = \beta_0 + \tilde{\beta}_1 GCSE_i + \beta_2 English_i + \beta_3 Maths_i + \beta_4 sex_i + \tilde{\beta}_5 ethnicity_i + \beta_6 FSM_i + \tilde{\beta}_7 Year_i + \beta_8 Area_i + \tilde{\beta}_9 Year_i{}^* Area_i + \tilde{\beta}_{10} Year_i{}^* GCSE_i$

where i is an individual, π_i is a binary response variable which takes the value of 1 if the individual applied to (or was accepted at a) higher education institution aged 18 and 0 otherwise, $\tilde{\beta}$ represents vectors of different sizes and the interactions are as listed above. Full list of all the levels of factors included in the model, and the relevant reference groups are shown in Tables B1 and B2.

5. The matched counterfactual application model used data on 329,610 16-year-old learners resident in England and studying at state-funded maintained schools in England. This number includes 164,805 learners from Uni Connect areas learners with five or more GCSE qualifications (or GCSE equivalencies) at grades A* to C (or 9 to 4 grades following the reform of GCSEs) who were exactly matched to 164,805 learners outside of Uni Connect areas on the set of six personal characteristics listed in Annex A. In total, 44.5 per cent of Uni Connect learners applied to higher education aged 18 while 49.7 per cent of non-Uni Connect learners did.

6. The model was run 50 times for 50 different matched counterfactual replicates. Table B1 shows the coefficient estimates for each of the factors and for all the two-way interactions included in the final model for one example of a matched counterfactual replicate. This replicate is chosen as its actual application rates are very close to the average application rates across all 50 replicates and across all four years in the time series.

Table B1: Coefficient estimates of the factors and interactions included in the application model for one matched counterfactual replicate

Effect		Estimate	Standard error	p-value
Intercept		0.01	0.03	0.6160
Number of GCSEs at high grades (reference group: 8 GCSEs)	5 GCSEs	-1.06	0.03	<.0001
	6 GCSEs	-0.68	0.03	<.0001
	7 GCSEs	-0.36	0.02	<.0001
	9 GCSEs	0.51	0.02	<.0001
	10 GCSEs	0.91	0.03	<.0001
	11 GCSEs	1.21	0.04	<.0001
	12 GCSEs	1.20	0.09	<.0001
English GCSE (reference group: No high grade English GCSE)	English GCSE - High grade	0.06	0.02	0.0005
Maths GCSE (reference group: No high grade Maths GCSE)	Maths GCSE - High grade	0.05	0.02	0.0027

Effect		Estimate	Standard error	p-value
Sex (reference group: Female)	Male	-0.32	0.01	<.0001
Ethnicity (reference group: White – British)	Asian or Asian British - Bangladeshi	0.75	0.04	<.0001
	Asian or Asian British - Chinese	0.62	0.06	<.0001
	Asian or Asian British - Indian	0.97	0.03	<.0001
	Asian or Asian British - Other	0.77	0.03	<.0001
	Asian or Asian British - Pakistani	0.92	0.03	<.0001
	Black or Black British - African	0.90	0.02	<.0001
	Black or Black British - Caribbean	0.52	0.05	<.0001
	Black or Black British - Other	0.73	0.05	<.0001
	Ethnicity unknown or refused	0.22	0.04	<.0001
	Gypsy, Roma or Traveller	-0.40	0.20	0.0519
	Mixed - other	0.31	0.03	<.0001
	Mixed - white and Asian	0.40	0.04	<.0001
	Mixed - white and black African	0.35	0.05	<.0001
	Mixed - white and black Caribbean	0.10	0.03	0.0024
	Other ethnic group	0.69	0.04	<.0001
	White - Irish	0.34	0.09	0.0001
	White - other	0.37	0.02	<.0001
Free school meals marker (reference group: Did not receive free school meals)	Received free school meals	-0.30	0.01	<.0001
Summer of GCSEs (reference group: GCSEs summer 2017)	GCSEs summer 2014	-0.04	0.03	0.1730

Effect		Estimate	Standard error	p-value
	GCSEs summer 2015	-0.06	0.03	0.0276
	GCSEs summer 2016	-0.08	0.03	0.0017
Uni Connect target area (reference group: Did not live in a Uni Connect target area)	Lived in a Uni Connect target area	-0.22	0.01	<.0001
Two-way interactions	Uni Connect target area*GCSEs summer 2014	-0.02	0.02	0.4287
	Uni Connect target area*GCSEs summer 2015	-0.02	0.02	0.4638
	Uni Connect target area*GCSEs summer 2016	-0.02	0.02	0.3586
	5 GCSEs*GCSEs summer 2014	0.10	0.04	0.0118
	5 GCSEs*GCSEs summer 2015	0.15	0.04	0.0002
	5 GCSEs*GCSEs summer 2016	0.08	0.04	0.0416
	6 GCSEs*GCSEs summer 2014	0.06	0.04	0.1012
	6 GCSEs*GCSEs summer 2015	0.05	0.04	0.2000
	6 GCSEs*GCSEs summer 2016	0.01	0.04	0.7895
	7 GCSEs*GCSEs summer 2014	0.02	0.04	0.5691
	7 GCSEs*GCSEs summer 2015	-0.01	0.04	0.7444
	7 GCSEs*GCSEs summer 2016	-0.00	0.03	0.9653
	9 GCSEs*GCSEs summer 2014	-0.13	0.03	<.0001
	9 GCSEs*GCSEs summer 2015	-0.09	0.03	0.0073
	9 GCSEs*GCSEs summer 2016	-0.04	0.03	0.2654
	10 GCSEs*GCSEs summer 2014	-0.15	0.04	<.0001
	10 GCSEs*GCSEs summer 2015	-0.10	0.04	0.0072

Effect		Estimate	Standard error	p-value
	10 GCSEs*GCSEs summer 2016	-0.01	0.04	0.7654
	11 GCSEs*GCSEs summer 2014	-0.16	0.06	0.0046
	11 GCSEs*GCSEs summer 2015	-0.08	0.05	0.1364
	11 GCSEs*GCSEs summer 2016	-0.03	0.06	0.6420
	12 GCSEs*GCSEs summer 2014	0.06	0.10	0.5782
	12 GCSEs*GCSEs summer 2015	0.13	0.10	0.2085
	12 GCSEs*GCSEs summer 2016	0.17	0.11	0.1310

7. The application model on the whole population used data on 1,090,390 16-year-old learners resident in England and studying at state-funded maintained schools in England who obtained five or more GCSE qualifications (or GCSE equivalencies) at grades A* to C (or 9 to 4 grades following the reform of GCSEs). This number includes 165,135 learners from Uni Connect areas and 925,255 learners outside of Uni Connect. Approximately 44.5 per cent of Uni Connect learners applied to higher education aged 18 while approximately 54.5 per cent of non-Uni Connect learners did. Table B2 shows the coefficient estimates for each of the factors and for all the two-way interactions included in the final model for the whole population.

Table B2: Coefficient estimates of the factors and interactions included in the application model for the whole population

Effect		Estimate	Standard error	p-value
Intercept		0.07	0.02	<.0001
Number of GCSEs at high grades (reference group: 8 GCSEs)	5 GCSEs	-0.97	0.02	<.0001
	6 GCSEs	-0.64	0.02	<.0001
	7 GCSEs	-0.33	0.02	<.0001
	9 GCSEs	0.51	0.01	<.0001
	10 GCSEs	0.97	0.02	<.0001
	11 GCSEs	1.26	0.02	<.0001
	12 GCSEs	1.31	0.04	<.0001
English GCSE (reference group: No high grade English GCSE)	English GCSE - High grade	0.05	0.01	<.0001

Effect		Estimate	Standard error	p-value
Maths GCSE (reference group: No high grade Maths GCSE)	Maths GCSE - High grade	0.05	0.01	<.0001
Sex (reference group: Female)	Male	-0.29	0.00	<.0001
Ethnicity (reference group: White – British)	Asian or Asian British - Bangladeshi	0.58	0.02	<.0001
	Asian or Asian British - Chinese	0.61	0.03	<.0001
	Asian or Asian British - Indian	0.87	0.01	<.0001
	Asian or Asian British - Other	0.69	0.02	<.0001
	Asian or Asian British - Pakistani	0.74	0.01	<.0001
	Black or Black British - African	0.71	0.01	<.0001
	Black or Black British - Caribbean	0.43	0.02	<.0001
	Black or Black British - Other	0.52	0.03	<.0001
	Gypsy, Roma or Traveller	-0.37	0.13	0.0034
	Mixed - other	0.24	0.02	<.0001
	Mixed - white and Asian	0.36	0.02	<.0001
	Mixed - white and black African	0.22	0.03	<.0001
	Mixed - white and black Caribbean	0.05	0.02	0.0142
	Other ethnic group	0.48	0.02	<.0001
	Unknown or refused	0.20	0.02	<.0001
	White - Irish	0.28	0.03	<.0001
	White - other	0.27	0.01	<.0001
Free school meals marker (reference group: Did not receive free school meals)	Received free school meals	-0.33	0.01	<.0001

Effect		Estimate	Standard error	p-value
Summer of GCSEs (reference group: GCSEs summer 2017)	GCSEs summer 2014	-0.08	0.02	<.0001
	GCSEs summer 2015	-0.09	0.02	<.0001
	GCSEs summer 2016	-0.09	0.02	<.0001
Uni Connect target area (reference group: Did not live in a Uni Connect target area)	Lived in a Uni Connect target area	-0.28	0.01	<.0001
Two-way interactions	Uni Connect target area*GCSEs summer 2014	0.02	0.02	0.2252
	Uni Connect target area*GCSEs summer 2015	0.01	0.02	0.4682
	Uni Connect target area*GCSEs summer 2016	-0.00	0.02	0.9552
	5 GCSEs*GCSEs summer 2014	0.09	0.03	0.0010
	5 GCSEs*GCSEs summer 2015	0.12	0.03	<.0001
	5 GCSEs*GCSEs summer 2016	0.05	0.03	0.0619
	6 GCSEs*GCSEs summer 2014	0.03	0.03	0.2268
	6 GCSEs*GCSEs summer 2015	0.03	0.03	0.1727
	6 GCSEs*GCSEs summer 2016	0.00	0.03	0.9666
	7 GCSEs*GCSEs summer 2014	-0.02	0.02	0.4291
	7 GCSEs*GCSEs summer 2015	-0.00	0.02	0.8599
	7 GCSEs*GCSEs summer 2016	0.00	0.02	0.8887
	9 GCSEs*GCSEs summer 2014	-0.10	0.02	<.0001
	9 GCSEs*GCSEs summer 2015	-0.09	0.02	<.0001

Effect	Estimate	Standard error	p-value
9 GCSEs*GCSEs summer 2016	-0.03	0.02	0.1182
10 GCSEs*GCSEs summer 2014	-0.14	0.02	<.0001
10 GCSEs*GCSEs summer 2015	-0.10	0.02	<.0001
10 GCSEs*GCSEs summer 2016	-0.06	0.02	0.0052
11 GCSEs*GCSEs summer 2014	-0.12	0.03	<.0001
11 GCSEs*GCSEs summer 2015	-0.08	0.03	0.0032
11 GCSEs*GCSEs summer 2016	-0.01	0.03	0.6637
12 GCSEs*GCSEs summer 2014	0.06	0.05	0.1976
12 GCSEs*GCSEs summer 2015	0.14	0.05	0.0060
12 GCSEs*GCSEs summer 2016	0.10	0.05	0.0616

Annex C: Entry rates modelling

1. Throughout the main report we referred to the modelling for entry rate which showed similar results to the modelling done for application rates. The results from this analysis are shown in this section.

2. Figure C1 is analogous to Figure 10 in the main report and shows the relationship between the number of GCSEs at grades above C (or 4) and entry rate across the whole population. It once again shows that the relationship follows a similar pattern for each of the four years in the time series but that 2017 has a noticeably different relationship such that learners with lower numbers of GCSEs at grades A* to C (or 9 to 4) are slightly less likely to apply in 2017 than in earlier years, and learners with higher numbers of GCSEs are more likely to apply in 2017 than in earlier years. Overall, the proportion of a school cohort that is accepted at a higher education provider is very strongly related to the number of GCSEs at grades A* to C (or 9 to 4).

Figure C1: Entry rate by number of GCSEs at grades A* to C (or 9 to 4) by summer of key stage 4 completion
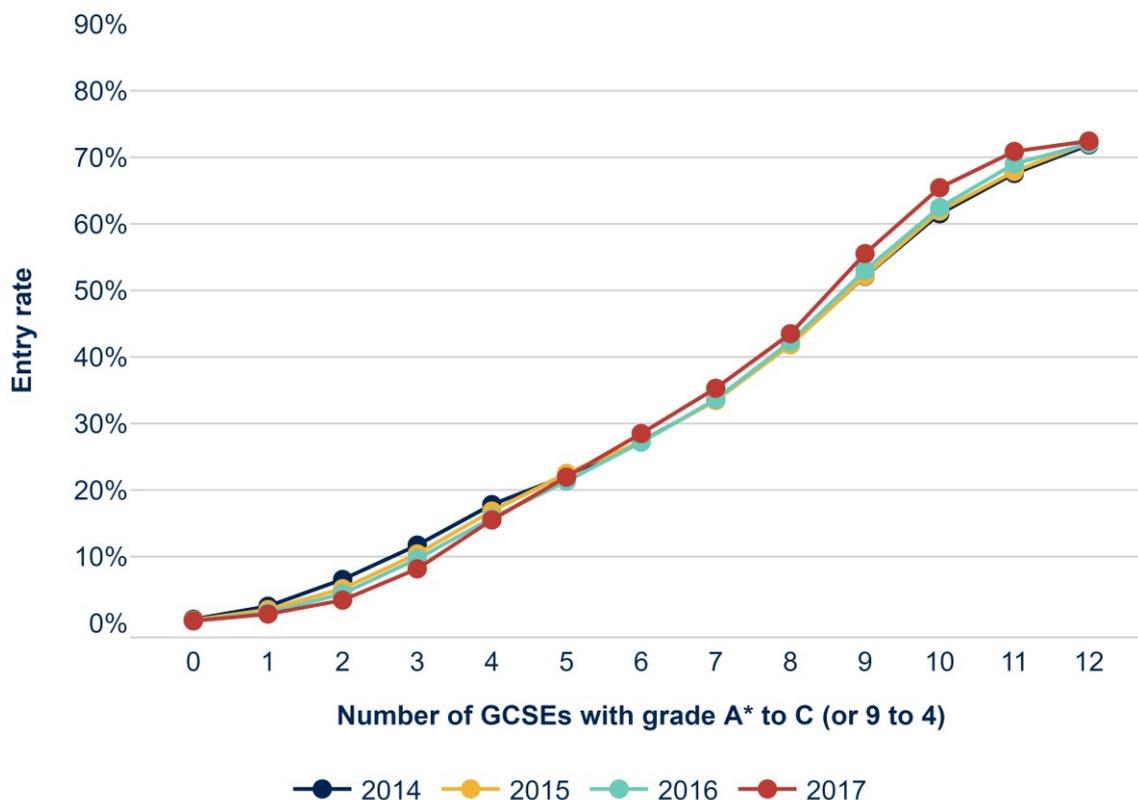
3. Figures C2 to C5 compare the entry rate for Uni Connect learners with the same rates for other non-Uni Connect learners. Again, once learners held four or five GCSEs at high grades a gap opened in the entry rate, in the same way it did for application rates. This gap appears to widen as GCSE attainment increases.

Figure C2: Entry rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and non-Uni Connect learners who completed key stage 4 in 2014
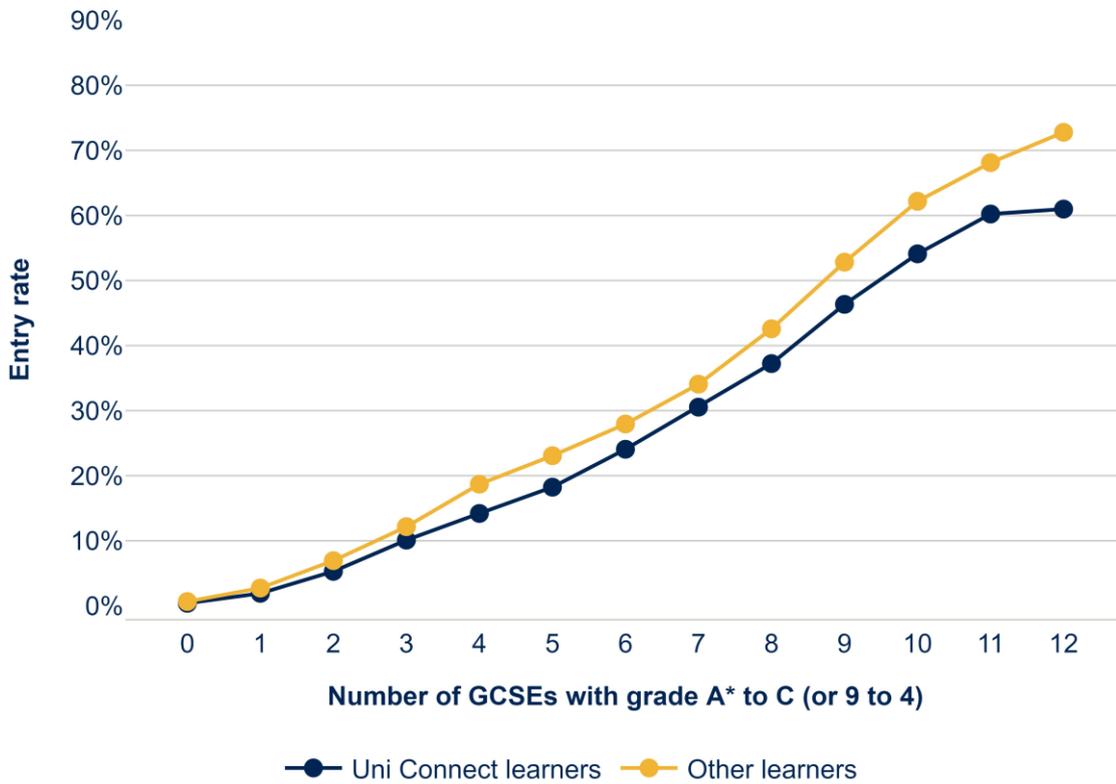
Figure C3: Entry rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and non-Uni Connect learners who completed key stage 4 in 2015
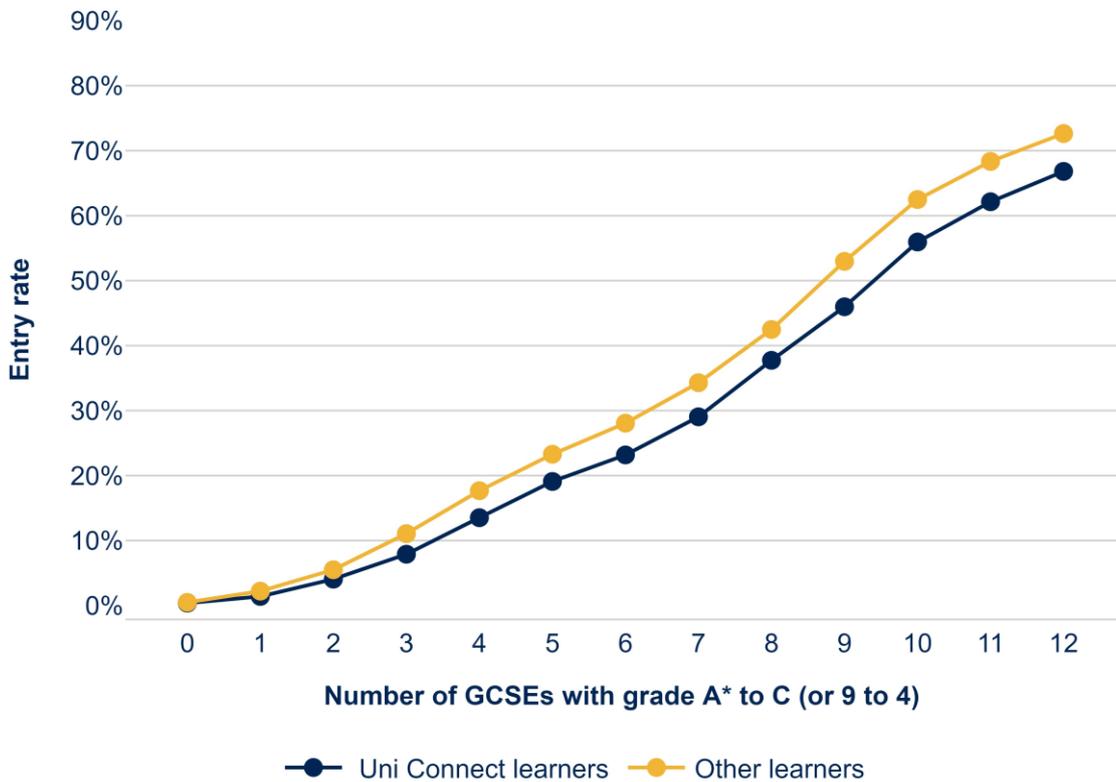
Figure C4: Entry rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and non-Uni Connect learners who completed key stage 4 in 2016
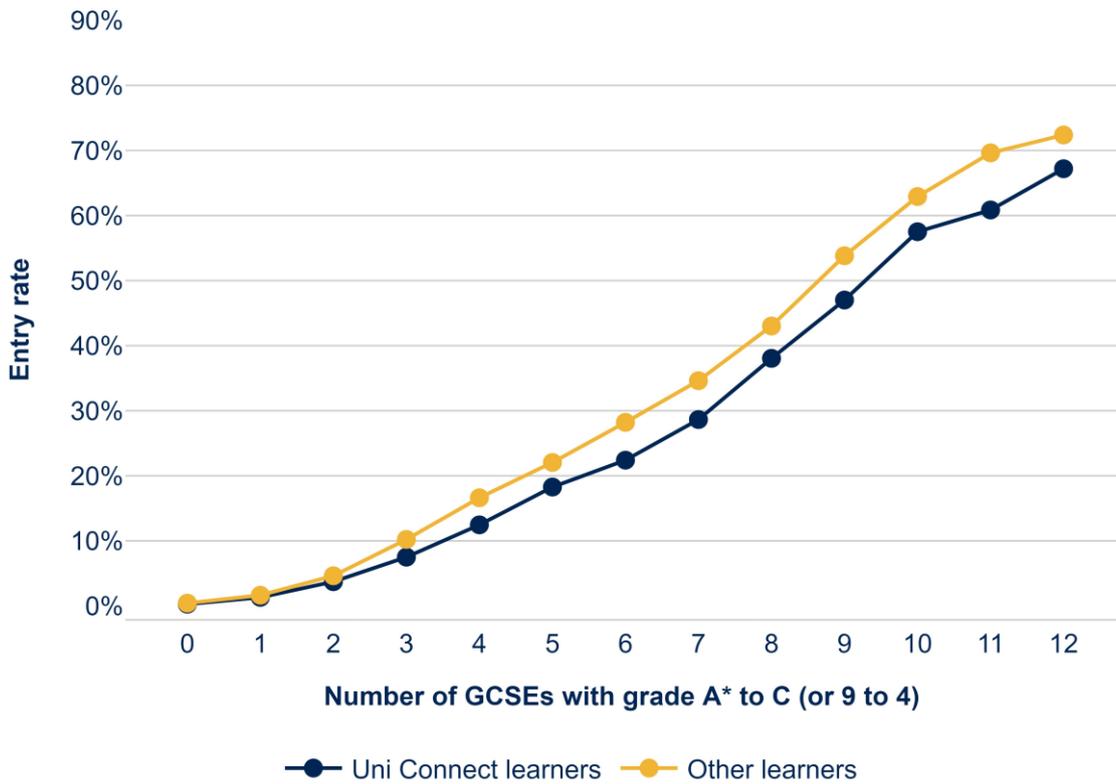

Figure C5: Entry rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and non-Uni Connect learners who completed key stage 4 in 2017
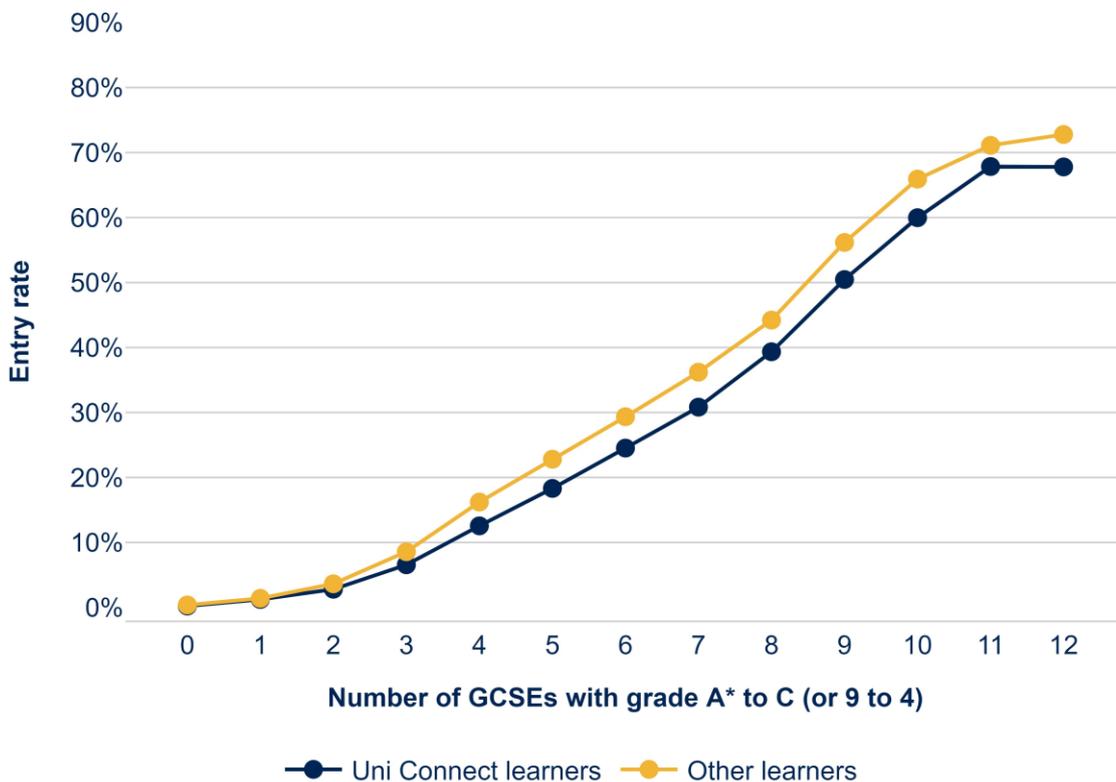
4. Figure C6 below is similar to Figure 15 from the main report and shows the entry rate gap between the Uni Connect learners and the average matched counterfactual group. The gap was 4.3 percentage points in 2019, which is much smaller than the 14.1 percentage points when considering the full population (as shown in Figure 7 in the main report).

Figure C6: Gaps in entry rates between Uni Connect and matched counterfactuals of non-Uni Connect learners
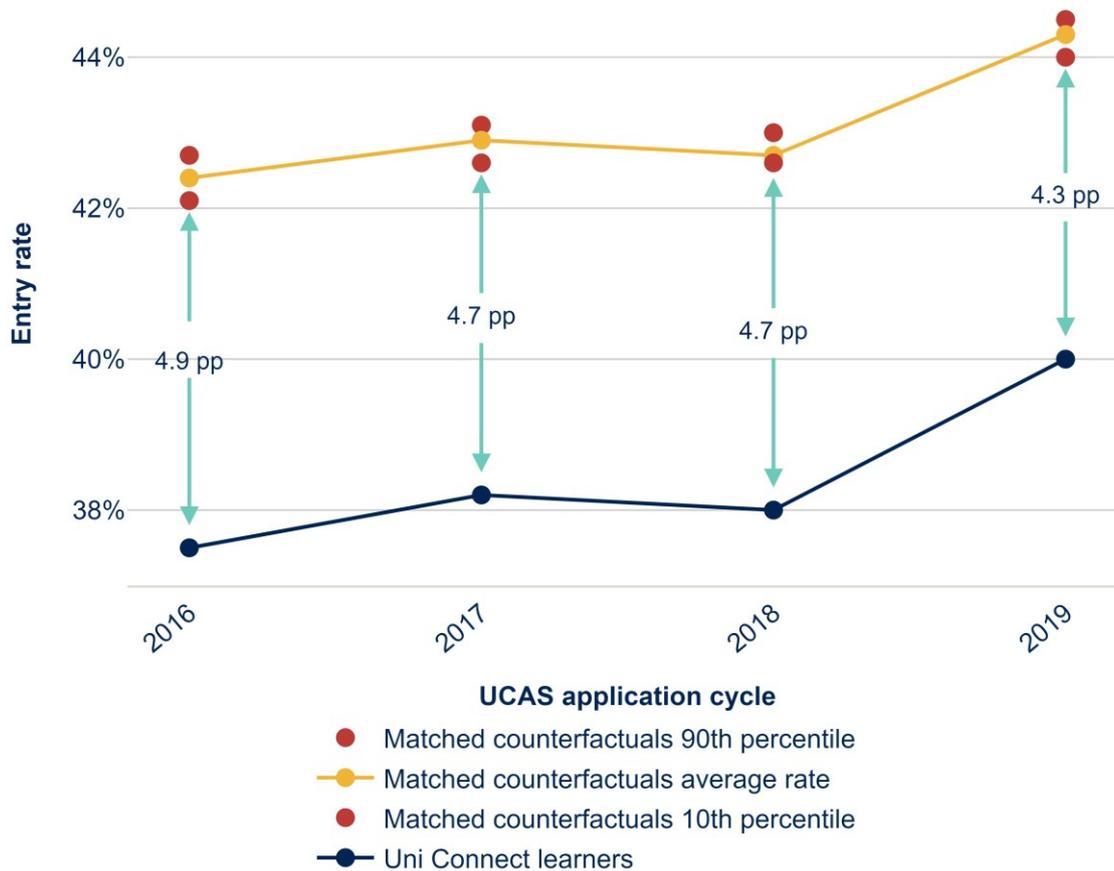
5. Additionally, Figure C7 shows the average modelled change in the gap between 2019 and each of the earlier years with the average 95 per cent confidence interval from across the 50 replicate matched counterfactuals. The estimated change in the gap is a reduction of 0.6 percentage points between 2016 and 2019, but the confidence interval indicates that we cannot conclude that there was a statistically significant change.

Figure C7: Estimated change between 2019 and earlier years in the average gap in entry rates between Uni Connect learners and 50 matched counterfactuals

Percentage point (pp) change in the gaps in entry rates between 2019 and the year
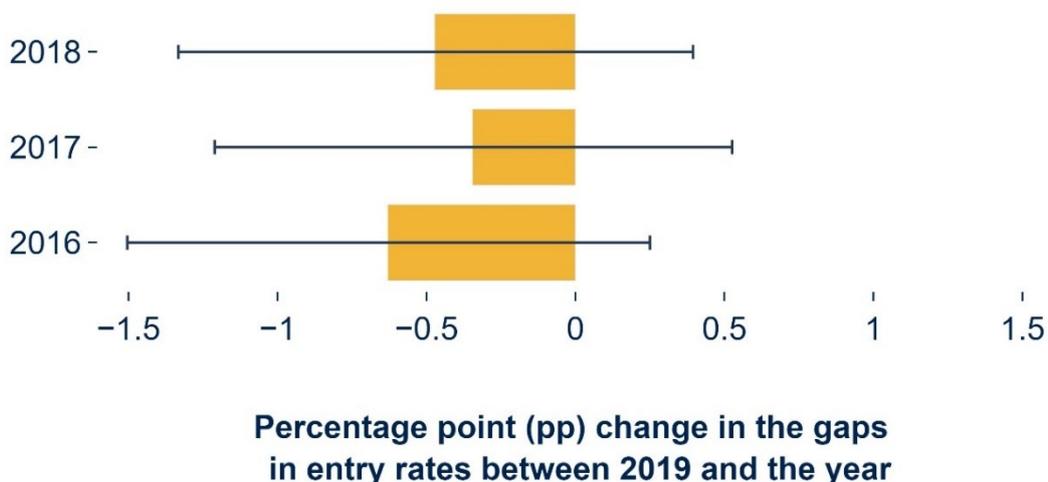
6. Table C1 shows the coefficient estimates for each of the factors and for all the two-way interactions included in the final entry rates model for one matched counterfactual replicate.

Table C1: Coefficient estimates of the factors and interactions included in the entry rate model for one matched counterfactual replicate

| Effect		Estimate	Standard error	p-value
Intercept		-0.31	0.03	<.0001
Number of GCSEs at high grades (reference group: 8 GCSEs)	5 GCSEs	-1.00	0.03	<.0001
	6 GCSEs	-0.62	0.03	<.0001
	7 GCSEs	-0.32	0.02	<.0001
	9 GCSEs	0.48	0.02	<.0001
	10 GCSEs	0.83	0.03	<.0001
	11 GCSEs	1.08	0.04	<.0001
	12 GCSEs	1.00	0.08	<.0001
English GCSE (reference group: No high grade English GCSE)	English GCSE - High grade	0.05	0.02	0.0031
Maths GCSE (reference group: No high grade Maths GCSE)	Maths GCSE - High grade	0.08	0.02	<.0001
Sex (reference group: Female)	Male	-0.28	0.01	<.0001

Effect		Estimate	Standard error	p-value
Ethnicity (reference group: White – British)	Asian or Asian British - Bangladeshi	0.72	0.04	<.0001
	Asian or Asian British - Chinese	0.74	0.06	<.0001
	Asian or Asian British - Indian	0.85	0.03	<.0001
	Asian or Asian British - Other	0.70	0.03	<.0001
	Asian or Asian British - Pakistani	0.78	0.02	<.0001
	Black or Black British - African	0.89	0.02	<.0001
	Black or Black British - Caribbean	0.51	0.04	<.0001
	Black or Black British - Other	0.72	0.05	<.0001
	Ethnicity unknown or refused	0.21	0.04	<.0001
	Gypsy, Roma or Traveller	-0.39	0.22	0.0670
	Mixed - other	0.28	0.03	<.0001
	Mixed - white and Asian	0.38	0.04	<.0001
	Mixed - white and black African	0.33	0.05	<.0001
	Mixed - white and black Caribbean	0.09	0.03	0.0055
	Other ethnic group	0.66	0.04	<.0001
	White - Irish	0.34	0.09	<.0001
	White - other	0.36	0.02	<.0001
Free school meals marker (reference group: Did not receive free school meals)	Received free school meals	-0.28	0.01	<.0001
Summer of GCSEs (reference group: GCSEs summer 2017)	GCSEs summer 2014	-0.01	0.03	0.6545
	GCSEs summer 2015	-0.04	0.03	0.1212
	GCSEs summer 2016	-0.05	0.03	0.0785

Effect		Estimate	Standard error	p-value
Uni Connect target area (reference group: Did not live in a Uni Connect target area)	Lived in a Uni Connect target area	-0.21	0.01	<.0001
Two-way interactions	Uni Connect target area*GCSEs summer 2014	-0.04	0.02	0.0741
	Uni Connect target area*GCSEs summer 2015	-0.02	0.02	0.2908
	Uni Connect target area*GCSEs summer 2016	-0.02	0.02	0.3758
	5 GCSEs*GCSEs summer 2014	0.05	0.04	0.2790
	5 GCSEs*GCSEs summer 2015	0.11	0.04	0.0067
	5 GCSEs*GCSEs summer 2016	0.04	0.04	0.3452
	6 GCSEs*GCSEs summer 2014	-0.00	0.04	0.9613
	6 GCSEs*GCSEs summer 2015	0.00	0.04	0.9509
	6 GCSEs*GCSEs summer 2016	-0.03	0.04	0.4490
	7 GCSEs*GCSEs summer 2014	-0.00	0.04	0.9232
	7 GCSEs*GCSEs summer 2015	-0.04	0.04	0.2504
	7 GCSEs*GCSEs summer 2016	-0.05	0.04	0.1366
	9 GCSEs*GCSEs summer 2014	-0.13	0.03	0.0002
	9 GCSEs*GCSEs summer 2015	-0.08	0.03	0.0186
	9 GCSEs*GCSEs summer 2016	-0.06	0.03	0.0728
	10 GCSEs*GCSEs summer 2014	-0.13	0.04	0.0004
	10 GCSEs*GCSEs summer 2015	-0.07	0.04	0.0489
	10 GCSEs*GCSEs summer 2016	-0.04	0.04	0.2952

| Effect		Estimate	Standard error	p-value
	11 GCSEs*GCSEs summer 2014	-0.13	0.05	0.0126
	11 GCSEs*GCSEs summer 2015	-0.07	0.05	0.1776
	11 GCSEs*GCSEs summer 2016	-0.06	0.05	0.2606
	12 GCSEs*GCSEs summer 2014	0.09	0.09	0.3377
	12 GCSEs*GCSEs summer 2015	0.20	0.09	0.0322
	12 GCSEs*GCSEs summer 2016	0.12	0.10	0.2153

7. The results from the second approach we took to the modelling (which included all learners, apart from those with lower GCSE attainment and those not from Uni Connect areas who studied in Uni Connect schools) are presented below. The entry rate and gaps in entry rates between learners from Uni Connect areas and other learners are shown in Figure C8 below. Again, the gaps are slightly smaller than the gaps for the whole population because learners with lower GCSE attainment are not included. The gap in entry rate showed no change between 2016 and 2019 and remained the same at 13.4 pp.

Figure C8: Gaps in entry rates between Uni Connect and non-Uni Connect learners with five or more GCSEs at grade C (or 4) and above
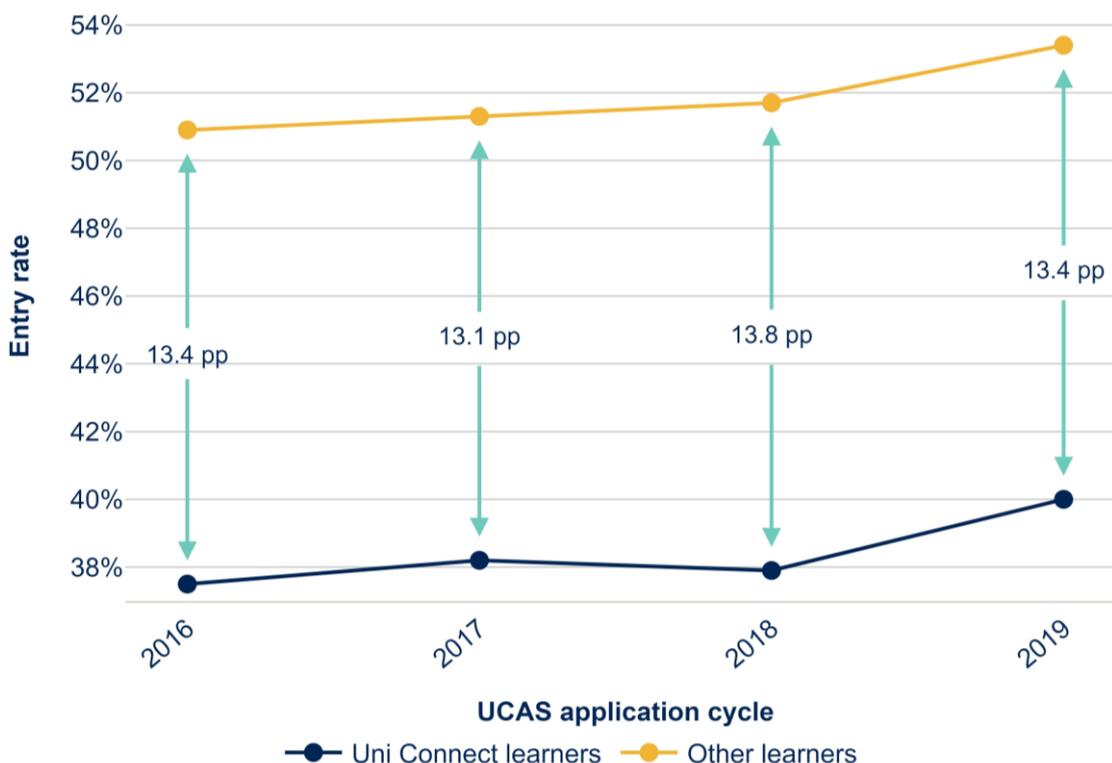
8. Figure C9 shows the modelled change in the gap between 2019 and each of the earlier years with the 95 per cent confidence interval for this change. The estimated change in the gap was a reduction of 0.1 percentage points between 2016 and 2019 but the result is not statistically significant.

Figure C9: Estimated change between 2019 and earlier years in the gap in **entry** rates between learners from Uni Connect areas and other learners with five or more GCSEs at grade C (or 4) and above
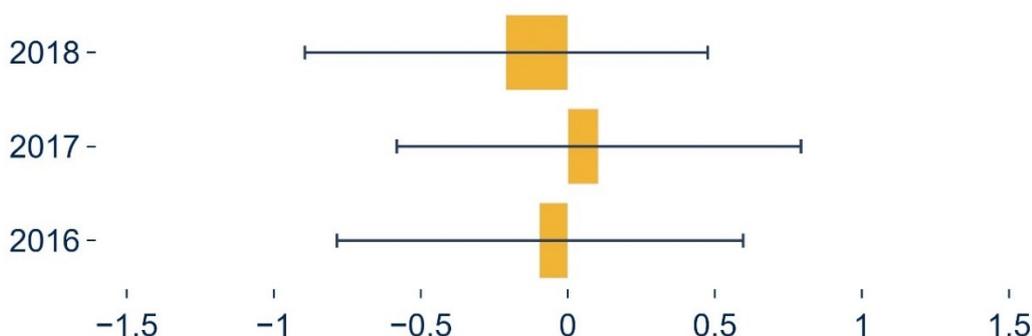
Percentage point (pp) change in the gaps
in entry rates between 2019 and the year

9. Table C2 shows the coefficient estimates for each of the factors and for all the two-way interactions included in the final entry rate model for the whole population.

Table C2: Coefficient estimates of the factors and interactions included in the entry rate model for the whole population

Effect		Estimate	Standard error	p-value
Intercept		-0.23	0.02	<.0001
Number of GCSEs at high grades (reference group: 8 GCSEs)	5 GCSEs	-0.92	0.02	<.0001
	6 GCSEs	-0.58	0.02	<.0001
	7 GCSEs	-0.31	0.02	<.0001
	9 GCSEs	0.45	0.01	<.0001
	10 GCSEs	0.83	0.01	<.0001
	11 GCSEs	1.05	0.02	<.0001
	12 GCSEs	1.10	0.04	<.0001
English GCSE (reference group: No high grade English GCSE)	English GCSE - High grade	0.03	0.01	0.0019

Effect		Estimate	Standard error	p-value
Maths GCSE (reference group: No high grade Maths GCSE)	Maths GCSE - High grade	0.07	0.01	<.0001
Sex (reference group: Female)	Male	-0.25	0.00	<.0001
Ethnicity (reference group: White – British)	Asian or Asian British - Bangladeshi	0.55	0.02	<.0001
	Asian or Asian British - Chinese	0.65	0.03	<.0001
	Asian or Asian British - Indian	0.72	0.01	<.0001
	Asian or Asian British - Other	0.60	0.02	<.0001
	Asian or Asian British - Pakistani	0.60	0.01	<.0001
	Black or Black British - African	0.69	0.01	<.0001
	Black or Black British - Caribbean	0.41	0.02	<.0001
	Black or Black British - Other	0.54	0.03	<.0001
	Gypsy, Roma or Traveller	-0.25	0.13	0.0501
	Mixed - other	0.19	0.02	<.0001
	Mixed - white and Asian	0.31	0.02	<.0001
	Mixed - white and black African	0.21	0.03	<.0001
	Mixed - white and black Caribbean	0.02	0.02	0.2243
	Other ethnic group	0.41	0.02	<.0001
	Unknown or refused	0.15	0.02	<.0001
	White - Irish	0.23	0.03	<.0001
	White - other	0.24	0.01	<.0001
Free school meals marker (reference group: Did not receive free school meals)	Received free school meals	-0.31	0.01	<.0001

Effect		Estimate	Standard error	p-value
Summer of GCSEs (reference group: GCSEs summer 2017)	GCSEs summer 2014	-0.07	0.02	<.0001
	GCSEs summer 2015	-0.08	0.02	<.0001
	GCSEs summer 2016	-0.06	0.02	<.0001
Uni Connect target area (reference group: Did not live in a Uni Connect target area)	Lived in a Uni Connect target area	-0.25	0.01	<.0001
Two-way interactions	Uni Connect target area*GCSEs summer 2014	-0.01	0.02	0.6056
	Uni Connect target area*GCSEs summer 2015	0.00	0.02	0.9155
	Uni Connect target area*GCSEs summer 2016	-0.01	0.02	0.4224
	5 GCSEs*GCSEs summer 2014	0.05	0.03	0.0849
	5 GCSEs*GCSEs summer 2015	0.09	0.03	0.0016
	5 GCSEs*GCSEs summer 2016	0.02	0.03	0.4880
	6 GCSEs*GCSEs summer 2014	-0.02	0.03	0.3913
	6 GCSEs*GCSEs summer 2015	0.01	0.03	0.8337
	6 GCSEs*GCSEs summer 2016	-0.03	0.03	0.2742
	7 GCSEs*GCSEs summer 2014	-0.03	0.02	0.2109
	7 GCSEs*GCSEs summer 2015	-0.01	0.02	0.7129
	7 GCSEs*GCSEs summer 2016	-0.01	0.02	0.5556
	9 GCSEs*GCSEs summer 2014	-0.08	0.02	<.0001
	9 GCSEs*GCSEs summer 2015	-0.06	0.02	0.0016

Effect	Estimate	Standard error	p-value
9 GCSEs*GCSEs summer 2016	-0.04	0.02	0.0654
10 GCSEs*GCSEs summer 2014	-0.09	0.02	<.0001
10 GCSEs*GCSEs summer 2015	-0.05	0.02	0.0178
10 GCSEs*GCSEs summer 2016	-0.05	0.02	0.0136
11 GCSEs*GCSEs summer 2014	-0.06	0.03	0.0273
11 GCSEs*GCSEs summer 2015	-0.03	0.03	0.3116
11 GCSEs*GCSEs summer 2016	0.00	0.03	0.8705
12 GCSEs*GCSEs summer 2014	0.08	0.04	0.0546
12 GCSEs*GCSEs summer 2015	0.13	0.04	0.0032
12 GCSEs*GCSEs summer 2016	0.08	0.05	0.0816