

Office for  
Students



# Associations between characteristics of students

Annexes

Read in conjunction with OfS 2019.34

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These annexes should be read alongside the report 'Associations between characteristics of students' (OfS 2019.34), available at [www.officeforstudents.org.uk/publications/associations-between-characteristics-of-students/](http://www.officeforstudents.org.uk/publications/associations-between-characteristics-of-students/).

# Annex A: Definitions

## Variable definitions

1. The variables used are all calculated from variables available on the national pupil database (NPD), the Education and Skills Funding Agency's (ESFA's) individualised learner record (ILR) or the Higher Education Statistics Authority's (HESA's) student record or alternative provider (AP) student record. Income Deprivation Affecting Children Index (IDACI)<sup>1</sup> and the Index of Multiple Deprivation (IMD) quintiles are obtained from the Office for National Statistics and are added to the NPD, ILR, HESA student and AP student records.

## Age

2. Age, as used in the continuation model, is defined as the age of the student on the 31 August in the year in which they started their course. This is calculated using their birth date as reported on the ILR or HESA student or AP student records.

## Disability

3. Disability information is only used from the ILR and HESA student and AP student records. Disability is self-reported by students at the point of starting their course.

## Ethnicity

4. Ethnicity information is taken from the NPD for the access model and from the ILR and HESA student and AP student records for the continuation model. The data is collected differently across the three agencies and so a new grouping that covers the different levels of collection has been created. Table A1 below gives the details of the variables used and the codes included in each of the 18 ethnicity groups.

**Table A1: ABCS ethnicity definitions**

ABCS ethnic group	ILR code <sup>2</sup>	HESA code <sup>3</sup>	NPD code
Asian or Asian British – Bangladeshi	41	33	ABAN
Asian or Asian British – Chinese	42	34	CHNE
Asian or Asian British – Indian	39	31	AIND
Asian or Asian British – Pakistani	40	32	APKN
Asian or Asian British – Other	43	39	AOTH
Black or Black British – African	44	22	BAFT
Black or Black British – Caribbean	45	21	BCRB
Black or Black British – Other	46	29	BOTH
Mixed – white and Asian	37	43	MWAS
Mixed – White and black African	36	42	MWBA

<sup>1</sup> See <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>

<sup>2</sup> See <https://www.gov.uk/government/publications/ilr-specification-validation-rules-and-appendices-2017-to-2018>

<sup>3</sup> See <https://www.hesa.ac.uk/collection/c17051/a/ethnic>

ABCS ethnic group	ILR code <sup>2</sup>	HESA code <sup>3</sup>	NPD code
Mixed – White and black Caribbean	35	41	MWBC
Mixed – Other	38	49	MOTH
White – English/Welsh/Scottish/Northern Irish/British	31	12, 13, 10	WBRI
White – Irish	32	11	WIRI
White – Other	34	19	WOTH
Gypsy, Roma or Traveller	33	14, 15	WIRT, WROM
Other ethnic group	47, 98	50, 80	OOth
Unknown or refused	99	98, 99	REFU, NOBT

## IDACI

5. The Income Deprivation Affecting Children Index (IDACI) measures the proportion of children under the age of 16 in low income households for a particular area in England. It is calculated at lower-layer super output area (LSOA) level and is a supplementary measure to the Index of Multiple Deprivation (IMD), and therefore is designed and curated by the Office for National Statistics. In this analysis, we use IDACI quintiles, where the most deprived areas are in quintile 1 and the least deprived are in quintile 5. For pupils or students domiciled outside of England, the value is set to not applicable, and data is not presented in the interactive tools.

## IMD

6. The Index of Multiple Deprivation (IMD) is a measure of levels of deprivation for a small area within England. It is calculated at lower-layer super output area (LSOA) level and uses a number of different measures to determine levels of deprivation. It is designed and curated by the Office for National Statistics<sup>4</sup>. In our analysis, we use IMD quintiles, where the most deprived areas are in quintile 1 and the least deprived are in quintile 5. For pupils or students domiciled outside of England, the value is set to not applicable, and data is not presented in the interactive tools.

## Local or distance learner

7. Local or distance learner is defined by comparing home travel to work area with study travel to work area, which are calculated from home postcode and study postcode respectively. Full details can be found in the OfS core algorithms<sup>5</sup> document under the variable B3MONLOCAL.

## POLAR4

8. POLAR4 is a measure of the proportion of the young population that participates in higher education<sup>6</sup>. It only applies to students under the age of 21, and so POLAR4 is recorded as 'mature' for those aged 21 or over at the start of their course.

<sup>4</sup> See <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>

<sup>5</sup> Available at [www.officeforstudents.org.uk/data-and-analysis/access-and-participation-data-dashboard/guide-to-the-access-and-participation-data-resources/](http://www.officeforstudents.org.uk/data-and-analysis/access-and-participation-data-dashboard/guide-to-the-access-and-participation-data-resources/)

<sup>6</sup> For more details of the POLAR measure, see [www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/](http://www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/)

## Sex

9. Sex is reported as either male or female. Very few records show a response of 'other' or are recorded as unknown. To avoid unnecessarily discarding data from the statistical model or having a group that is too small to use, responses other than male or female are grouped in with females (the larger of the two groups).

## School types

10. School types are defined using the variable NFTYPE from the NPD. Our access model includes schools that we define as 'maintained' schools. Those from independent school are also considered, whilst schools of any other description are omitted altogether.
11. The school types, and whether they are included in the model (maintained schools), included in the wider analysis (independent schools) or not included can be found in Table A2.

**Table A2: School types and level of inclusion in ABCS access model**

Included in access analysis?	School type
<b>Include in access model</b>	Academy – Converter
	Academy – Sponsor-led
	City Technology College
	Community School
	Foundation School
	Free School – Mainstream
	Free School – Studio School
	Free School – UTC
	Voluntary Aided School
	Voluntary Controlled School
	<b>Included in wider analysis</b>
Independent School approved to take pupils with Special Educational Needs	
Independent Special School	
Non-Maintained Special School	
<b>Not included in this analysis</b>	6th Form Centre/Consortium
	Academy – Converter AP
	Academy – Special School
	Academy – Sponsor Led AP
	Academy 16-19 Converter
	Academy 16-19 Sponsor Led
	Alternative Provision
	British Overseas School
	Community Hospital School
	Community Special School
	Converter Special Academy
	European Schools
	Federation
	Foundation Hospital School
	Foundation Special School

Included in access analysis?	School type
<b>Not included in this analysis (cont.)</b>	Free School – 16-19
	Free School – Alternative Provision
	Further Education Sector Institution
	Higher Education Institutions
	Institution funded by other Government department
	International School
	LA Nursery School
	Legacy types/Miscellaneous
	Offshore Schools
	Other Independent Special School
	Overseas Schools/Service Children's Education
	Playing for Success Centres
	Pupil Referral Unit
	Secure Unit
	Special Colleges
	Special Free School
	Welsh Establishment

## Annex B: The continuation model

12. Table B1 shows all the factors included in the continuation model, and the level within each of those factors.

**Table B1: Factors included in the continuation model**

<b>Variable</b>	<b>Categories</b>
<b>Age</b>	18 and under
	19
	20
	21-25
	26-50
	50+
<b>Disability</b>	Cognitive or learning difficulties
	Mental health condition
	Multiple impairments
	Sensory, medical or physical impairments
	Social or communication impairments
	No known disability
<b>Ethnicity</b>	Asian or Asian British - Bangladeshi
	Asian or Asian British - Chinese
	Asian or Asian British – Indian
	Asian or Asian British - Pakistani
	Asian or Asian British - Other
	Black or Black British - African
	Black or Black British - Caribbean
	Black or Black British – Other
	Mixed – white and Asian
	Mixed – White and black African
	Mixed – White and black Caribbean
	Mixed – Other
	White – English/Welsh/Scottish/Northern Irish/British
	White – Irish
	White – Other
	Gypsy, Roma or Traveller
	Other ethnic group
Unknown or refused	
<b>Income deprivation affecting children index (IDACI)</b>	Quintile 1 (most deprived)
	Quintile 2
	Quintile 3
	Quintile 4
	Quintile 5 (least deprived)
	Not English domiciled
<b>Index of multiple deprivation (IMD)</b>	Quintile 1 (most deprived)
	Quintile 2
	Quintile 3
	Quintile 4
	Quintile 5 (least deprived)
	Not English domiciled
<b>Local or distance learner marker</b>	Local or distance learner
	Not local or distance learner

Variable	Categories
<b>POLAR4</b>	Quintile 1 (least represented)
	Quintile 2
	Quintile 3
	Quintile 4
	Quintile 5 (most represented)
<b>Sex</b>	Mature
	Female
	Male

13. The continuation model used data on 1,938,565 full-time undergraduate students who were UK domiciled at the start of their course and studying at a provider in England. Of those, 1,756,975 continued into the second year of their full-time undergraduate studies and 181,590 did not. The coefficient estimates for each of the factors and for all the two-way interactions included in the final model are in Table B2.

**Table B2: Coefficient estimates of the factors and interactions included in the continuation model**

Effect		Estimate	Standard error	p-value
<b>Intercept</b>		3.44	0.01	<.0001
<b>Sex</b>	Male	-0.24	0.01	<.0001
<b>Ethnicity</b>	White - Irish	-0.68	0.12	<.0001
	Gypsy, Roma or Traveler	-0.76	0.16	<.0001
	Other - white	-0.76	0.08	<.0001
	Mixed - white and black Caribbean	-0.19	0.03	<.0001
	Mixed - white and black African	-0.06	0.05	0.2985
	Mixed - white and Asian	0.24	0.05	<.0001
	Mixed - other	-0.07	0.03	0.0176
	Asian or Asian British - Indian	0.71	0.04	<.0001
	Ethnicity unknown or refused	-0.38	0.03	<.0001
	Other ethnic group	0.21	0.05	<.0001
	Black or black British - other	-0.06	0.06	0.3165
	Black or black British - Caribbean	-0.27	0.05	<.0001
	Black or black British - African	0.17	0.03	<.0001
	Asian or Asian British - other	0.45	0.05	<.0001
	Asian or Asian British - Chinese	0.73	0.07	<.0001
	Asian or Asian British - Bangladeshi	0.29	0.05	<.0001
	Asian or Asian British - Pakistani	0.15	0.04	0.0005
<b>POLAR4</b>	POLAR4 quintile 1	-0.52	0.02	<.0001
	POLAR4 quintile 2	-0.44	0.02	<.0001
	POLAR4 quintile 3	-0.31	0.01	<.0001
	POLAR4 quintile 4	-0.20	0.01	<.0001
	POLAR4 - mature	-0.92	0.34	0.0063
<b>IMD</b>	IMD quintile 1	-0.39	0.02	<.0001
	IMD quintile 2	-0.20	0.02	<.0001



Effect		Estimate	Standard error	p-value
	IMD quintile 3	-0.11	0.01	<.0001
	IMD quintile 4	-0.08	0.01	<.0001
	IMD - not English domiciled	-0.17	0.02	<.0001
<b>Disability type</b>	Cognitive or learning difficulties	-0.04	0.02	0.0691
	Mental health condition	-0.64	0.03	<.0001
	Multiple impairments	-0.29	0.03	<.0001
	Sensory, medical or physical impairments	-0.15	0.02	<.0001
	Social or communication impairments	-0.49	0.07	<.0001
<b>Local or distance learner</b>	Local or distance learner	-0.76	0.02	<.0001
<b>IDACI</b>	IDACI quintile 1	-0.24	0.02	<.0001
	IDACI quintile 2	-0.18	0.02	<.0001
	IDACI quintile 3	-0.15	0.02	<.0001
	IDACI quintile 4	-0.04	0.01	0.0002
<b>Age</b>	19 year olds	-0.41	0.01	<.0001
	20 year olds	-0.92	0.02	<.0001
	21-25 year olds	-0.07	0.34	0.8249
	26-50 year olds	-0.07	0.34	0.8323
	51 and over	-0.71	0.34	0.0365
<b>Two-way interactions</b>	Male*Mixed - white and Asian	-0.12	0.05	0.0168
	Male*Asian or Asian British - Indian	-0.20	0.03	<.0001
	Male*other ethnic group	-0.13	0.04	0.0003
	Male*black or black British - other	-0.12	0.05	0.022
	Male*black or black British - Caribbean	-0.22	0.03	<.0001
	Male*black or black British - African	-0.16	0.02	<.0001
	Male*Asian or Asian British - other	-0.27	0.04	<.0001
	Male*Asian or Asian British - Bangladeshi	-0.24	0.04	<.0001
	Male*Asian or Asian British - Pakistani	-0.33	0.03	<.0001
	Male*POLAR4 quintile 1	0.05	0.02	0.0072
	Male*POLAR4 quintile 2	0.06	0.02	0.0004
	Other - white*POLAR4 - mature	0.32	0.07	<.0001
	Mixed - white and black Caribbean*POLAR4 - mature	-0.21	0.04	<.0001
	Mixed - white and black African*POLAR4 quintile 1	0.34	0.12	0.006
	Mixed - white and black African*POLAR4 quintile 2	0.37	0.13	0.003
	Mixed - white and black African*POLAR4 - mature	-0.37	0.07	<.0001
	Mixed - white and Asian*POLAR4 quintile 3	0.27	0.08	0.0014
	Mixed - white and Asian*POLAR4 - mature	-0.25	0.06	<.0001
	Mixed - other*POLAR4 quintile 1	0.35	0.10	0.0005
	Mixed - other*POLAR4 - mature	-0.28	0.04	<.0001

Effect	Estimate	Standard error	p-value
Asian or Asian British - Indian*POLAR4 quintile 1	0.30	0.08	0.0002
Asian or Asian British - Indian*POLAR4 quintile 2	0.27	0.06	<.0001
Asian or Asian British - Indian*POLAR4 quintile 3	0.20	0.05	<.0001
Asian or Asian British - Indian*POLAR4 - mature	-0.95	0.06	<.0001
Ethnicity unknown or refused*POLAR4 quintile 3	-0.35	0.05	<.0001
Other ethnic group*POLAR4 - mature	-0.58	0.05	<.0001
Black or black British - other*POLAR4 quintile 2	0.43	0.14	0.0022
Black or black British - other*POLAR4 - mature	-0.56	0.06	<.0001
Black or black British - Caribbean*POLAR4 quintile 1	0.51	0.09	<.0001
Black or black British - Caribbean*POLAR4 quintile 2	0.54	0.08	<.0001
Black or black British - Caribbean*POLAR4 quintile 3	0.28	0.07	<.0001
Black or black British - Caribbean*POLAR4 quintile 4	0.14	0.06	0.0164
Black or black British - Caribbean*POLAR4 - mature	-0.37	0.05	<.0001
Black or black British - African*POLAR4 quintile 1	0.38	0.05	<.0001
Black or black British - African*POLAR4 quintile 2	0.31	0.04	<.0001
Asian or Asian British - other*POLAR4 quintile 1	0.35	0.08	<.0001
Asian or Asian British - other*POLAR4 quintile 2	0.30	0.07	<.0001
Asian or Asian British - other*POLAR4 - mature	-0.65	0.05	<.0001
Asian or Asian British - Chinese*POLAR4 - mature	-0.68	0.09	<.0001
Asian or Asian British - Bangladeshi*POLAR4 quintile 1	0.25	0.10	0.0099
Asian or Asian British - Bangladeshi*POLAR4 quintile 2	0.21	0.07	0.0016
Asian or Asian British - Bangladeshi*POLAR4 - mature	-0.83	0.04	<.0001
Asian or Asian British - Pakistani*POLAR4 quintile 1	0.36	0.07	<.0001
Asian or Asian British - Pakistani*POLAR4 quintile 2	0.21	0.05	<.0001
Asian or Asian British - Pakistani*POLAR4 quintile 3	0.17	0.05	0.0002
Asian or Asian British - Pakistani*POLAR4 quintile 4	0.13	0.05	0.0053
Asian or Asian British - Pakistani*POLAR4 - mature	-0.84	0.05	<.0001

Effect	Estimate	Standard error	p-value
Other - white*IMD quintile 1	0.25	0.07	0.0003
Mixed - white and black Caribbean*IMD quintile 1	0.19	0.04	<.0001
Asian or Asian British - Indian*IMD quintile 2	-0.10	0.04	0.0094
Asian or Asian British - Indian*IMD quintile 3	-0.14	0.04	0.0004
Ethnicity unknown or refused*IMD quintile 4	0.13	0.05	0.0168
Ethnicity unknown or refused*IMD - not English domiciled	-0.90	0.10	<.0001
Other ethnic group*IMD quintile 1	0.14	0.04	0.0002
Other ethnic group*IMD - not English domiciled	0.53	0.23	0.0213
Black or black British - Caribbean*IMD quintile 1	0.15	0.03	<.0001
Black or black British - African*IMD quintile 1	0.19	0.02	<.0001
Black or black British - African*IMD quintile 2	0.07	0.03	0.0098
Asian or Asian British - other*IMD quintile 1	0.18	0.04	<.0001
Asian or Asian British - Chinese*IMD quintile 1	0.36	0.09	0.0001
Asian or Asian British - Chinese*IMD quintile 2	0.22	0.10	0.0211
POLAR4 quintile 1*IMD - not English domiciled	-0.21	0.05	<.0001
POLAR4 quintile 3*IMD quintile 1	0.06	0.02	0.0042
POLAR4 - mature*IMD quintile 1	0.12	0.02	<.0001
POLAR4 - mature*IMD quintile 2	0.04	0.01	0.0025
Male*mental health condition	0.08	0.03	0.0164
Male*multiple impairments	0.10	0.03	0.0031
Male*sensory, medical or physical impairments	0.12	0.03	0.0003
Male*social or communication impairments	0.38	0.07	<.0001
White - Irish*mental health condition	-1.44	0.67	0.0313
Other - white*social or communication impairments	-1.19	0.42	0.0046
Mixed - white and Asian*multiple impairments	0.58	0.21	0.0053
Ethnicity unknown or refused*Cognitive or learning difficulties	0.36	0.09	<.0001
Ethnicity unknown or refused*mental health condition	0.28	0.12	0.0193
Ethnicity unknown or refused*sensory, medical or physical impairments	0.33	0.13	0.0109
Black or black British - African*Cognitive or learning difficulties	0.18	0.05	0.0002
Asian or Asian British - Chinese*mental health condition	-0.68	0.25	0.006
Asian or Asian British - Bangladeshi*sensory, medical or physical impairments	0.50	0.19	0.0096

Effect	Estimate	Standard error	p-value
POLAR4 quintile 1*mental health condition	0.23	0.06	0.0001
POLAR4 quintile 1*multiple impairments	0.14	0.06	0.023
POLAR4 quintile 2*mental health condition	0.22	0.05	<.0001
POLAR4 quintile 3*mental health condition	0.17	0.05	0.0016
POLAR4 quintile 3*multiple impairments	0.21	0.06	0.0002
POLAR4 quintile 4*mental health condition	0.13	0.05	0.013
POLAR4 - mature*Cognitive or learning difficulties	0.13	0.03	<.0001
IMD quintile 4*multiple impairments	-0.12	0.04	0.0085
Male*local or distance learner	-0.08	0.01	<.0001
Other - white*local or distance learner	0.25	0.07	0.0005
Mixed - white and black Caribbean*local or distance learner	-0.13	0.04	0.0022
Asian or Asian British - Indian*local or distance learner	0.17	0.03	<.0001
Other ethnic group*local or distance learner	0.21	0.04	<.0001
Asian or Asian British - other*local or distance learner	0.09	0.03	0.0083
Asian or Asian British - Bangladeshi*local or distance learner	0.28	0.04	<.0001
Asian or Asian British - Pakistani*local or distance learner	0.41	0.03	<.0001
POLAR4 quintile 1*local or distance learner	0.21	0.02	<.0001
POLAR4 quintile 2*local or distance learner	0.21	0.02	<.0001
POLAR4 quintile 3*local or distance learner	0.14	0.02	<.0001
POLAR4 quintile 4*local or distance learner	0.13	0.02	<.0001
POLAR4 - mature*local or distance learner	0.90	0.05	<.0001
IMD quintile 1*local or distance learner	0.09	0.01	<.0001
Mental health condition*local or distance learner	0.13	0.03	0.0001
Multiple impairments*local or distance learner	0.15	0.03	<.0001
Social or communication impairments*local or distance learner	0.29	0.06	<.0001
Mixed - white and black African*IDACI quintile 4	-0.24	0.10	0.0173
Mixed - white and Asian*IDACI quintile 2	-0.15	0.06	0.0101
Ethnicity unknown or refused*IDACI quintile 3	-0.13	0.03	<.0001
Asian or Asian British - Pakistani*IDACI quintile 1	0.08	0.03	0.0036
POLAR4 - mature*IDACI quintile 3	0.04	0.01	0.0117
IMD quintile 4*IDACI quintile 3	0.05	0.02	0.0087
Mental health condition*IDACI quintile 1	0.18	0.04	<.0001
Mental health condition*IDACI quintile 2	0.14	0.04	0.0011
Mental health condition*IDACI quintile 3	0.13	0.04	0.0039
Local or distance learner*IDACI quintile 4	-0.04	0.02	0.0092
Male*21-25 year olds	-0.05	0.01	0.0002

Effect	Estimate	Standard error	p-value
Male*51 and over	0.15	0.04	0.0004
Mixed - white and black African*20-year olds	-0.28	0.10	0.0052
Mixed - white and Asian*20-year olds	-0.21	0.08	0.0079
Asian or Asian British - Indian*19-year olds	-0.27	0.04	<.0001
Asian or Asian British - Indian*20-year olds	-0.54	0.05	<.0001
Asian or Asian British - Indian*21-25 year olds	0.22	0.06	0.0002
Ethnicity unknown or refused*21-25 year olds	-0.37	0.04	<.0001
Ethnicity unknown or refused*26-50-year olds	-0.29	0.04	<.0001
Other ethnic group*19-year olds	-0.16	0.06	0.0042
Other ethnic group*20-year olds	-0.27	0.06	<.0001
Black or black British - other*20-year olds	-0.23	0.10	0.0183
Black or black British - other*51 and over	0.54	0.14	<.0001
Black or black British - Caribbean*20-year olds	-0.22	0.05	<.0001
Black or black British - Caribbean*51 and over	0.35	0.09	<.0001
Black or black British - African*19-year olds	-0.21	0.03	<.0001
Black or black British - African*20-year olds	-0.42	0.04	<.0001
Black or black British - African*21-25 year olds	-0.78	0.03	<.0001
Black or black British - African*26-50-year olds	-0.34	0.03	<.0001
Asian or Asian British - other*19-year olds	-0.14	0.05	0.0059
Asian or Asian British - other*20-year olds	-0.28	0.06	<.0001
Asian or Asian British - other*21-25 year olds	0.12	0.05	0.019
Asian or Asian British - Chinese*19-year olds	-0.29	0.09	0.0018
Asian or Asian British - Bangladeshi*20-year olds	-0.46	0.06	<.0001
Asian or Asian British - Bangladeshi*51 and over	0.53	0.14	0.0002
Asian or Asian British - Pakistani*20-year olds	-0.32	0.04	<.0001
Asian or Asian British - Pakistani*21-25 year olds	0.32	0.04	<.0001
POLAR4 quintile 1*19-year olds	0.13	0.02	<.0001
POLAR4 quintile 1*20-year olds	0.42	0.03	<.0001
POLAR4 quintile 2*19-year olds	0.05	0.02	0.0111
POLAR4 quintile 2*20-year olds	0.32	0.03	<.0001
POLAR4 quintile 3*20-year olds	0.23	0.03	<.0001
POLAR4 quintile 4*20-year olds	0.13	0.03	<.0001
IMD quintile 3*51 and over	0.13	0.05	0.0157
IMD - not English domiciled*26-50-year olds	-0.18	0.06	0.0031

Effect	Estimate	Standard error	p-value
Cognitive or learning difficulties*19-year olds	0.14	0.03	<.0001
Cognitive or learning difficulties*20-year olds	0.19	0.04	<.0001
Social or communication impairments*26-50 year olds	-0.32	0.13	0.0103
Local or distance learner*19-year olds	0.14	0.02	<.0001
Local or distance learner*20-year olds	0.34	0.02	<.0001
Local or distance learner*21-25 year olds	-0.38	0.05	<.0001
Local or distance learner*26-50 year olds	-0.25	0.05	<.0001
IDACI quintile 2*51 and over	0.17	0.05	0.001
IDACI quintile 4*19-year olds	0.04	0.02	0.0126

## Annex C: The access model

14. Table C1 shows all the factors included in the continuation model, and the level within each of those factors.

**Table C1: Factors included in the continuation model**

<b>Factor</b>	<b>Level</b>
<b>Ethnicity</b>	Asian or Asian British – Bangladeshi
	Asian or Asian British – Chinese
	Asian or Asian British – Indian
	Asian or Asian British – Pakistani
	Asian or Asian British – Other
	Black or Black British – African
	Black or Black British – Caribbean
	Black or Black British – Other
	Mixed – white and Asian
	Mixed – White and black African
	Mixed – White and black Caribbean
	Mixed – Other
	White – English/Welsh/Scottish/Northern Irish/British
	White – Irish
	White – Other
	Gypsy, Roma or Traveller
	Other ethnic group
	Unknown or refused
	<b>Free school meals marker</b>
Did not receive free school meals	
<b>Income deprivation affecting children index (IDACI)</b>	Quintile 1 (most deprived)
	Quintile 2
	Quintile 3
	Quintile 4
	Quintile 5 (least deprived)
	Not English domiciled
<b>Index of multiple deprivation (IMD)</b>	Quintile 1 (most deprived)
	Quintile 2
	Quintile 3
	Quintile 4
	Quintile 5 (least deprived)
	Not English domiciled
<b>POLAR4</b>	Quintile 1 (least represented)
	Quintile 2
	Quintile 3
	Quintile 4
	Quintile 5 (most represented)
<b>Sex</b>	Mature
	Female
	Male

15. The access model used data on 2,761,960 pupils from maintained schools. Of those, 1,112,900 accessed higher education aged 18 or 19 and 1,649,060 did not. The coefficient estimates for each of the factors and for all the two-way interactions included in the final model are in Table C2.

**Table C2: Coefficient estimates of the factors and interactions included in the continuation model**

Effect		Estimate	Standard error	p-value
<b>Intercept</b>		0.62	0.01	<.0001
<b>Sex</b>	Male	-0.36	0.01	<.0001
<b>Free school meal status</b>	Received free school meals	-1.16	0.02	<.0001
<b>Ethnicity</b>	Asian or Asian British – Bangladeshi	0.72	0.07	<.0001
	Asian or Asian British – Indian	1.25	0.04	<.0001
	Asian or Asian British – other	0.70	0.04	<.0001
	Asian or Asian British – Pakistani	0.63	0.04	<.0001
	Black or black British – African	0.63	0.05	<.0001
	Other ethnic group	0.33	0.04	<.0001
	White – other	0.12	0.02	<.0001
	Black or black British – Caribbean	0.28	0.04	<.0001
	Black or black British – other	0.42	0.05	<.0001
	Mixed – white and black Caribbean	-0.12	0.04	0.0021
	Mixed – white and black African	0.31	0.07	<.0001
	Mixed – white and Asian	0.66	0.02	<.0001
	Mixed – other	0.45	0.02	<.0001
	White – Irish	0.65	0.03	<.0001
	Ethnicity unknown or refused	0.20	0.03	<.0001
	Gypsy, Roma or Traveler	-2.26	0.11	<.0001
	Asian or Asian British – Chinese	1.18	0.05	<.0001
<b>POLAR4</b>	POLAR4 quintile 1	-0.92	0.03	<.0001
	POLAR4 quintile 2	-0.70	0.01	<.0001
	POLAR4 quintile 3	-0.55	0.01	<.0001
	POLAR4 quintile 4	-0.34	0.01	<.0001
<b>IMD</b>	IMD quintile 1	-0.34	0.02	<.0001
	IMD quintile 2	-0.30	0.02	<.0001
	IMD quintile 3	-0.27	0.01	<.0001
	IMD quintile 4	-0.18	0.01	<.0001
<b>IDACI</b>	IDACI quintile 1	-0.69	0.02	<.0001
	IDACI quintile 2	-0.50	0.02	<.0001
	IDACI quintile 3	-0.31	0.01	<.0001
	IDACI quintile 4	-0.26	0.01	<.0001
<b>Two-way interactions</b>	Male*received free school meals	0.05	0.01	<.0001
	Male*Asian or Asian British – Bangladeshi	-0.22	0.02	<.0001
	Male*Asian or Asian British – Indian	-0.08	0.02	<.0001



Effect	Estimate	Standard error	p-value
Male*Asian or Asian British – other	-0.14	0.02	<.0001
Male*Asian or Asian British – Pakistani	-0.08	0.01	<.0001
Male*Black or black British – African	-0.15	0.02	<.0001
Male*black or black British – Caribbean	-0.36	0.02	<.0001
Male*black or black British – other	-0.18	0.03	<.0001
Male*mixed – white and black Caribbean	-0.16	0.02	<.0001
Male*mixed – white and black African	-0.12	0.04	0.0028
Male*Asian or Asian British – Chinese	0.10	0.05	0.0278
Received free school meals*Asian or Asian British – Bangladeshi	0.45	0.02	<.0001
Received free school meals*Asian or Asian British – Indian	0.25	0.03	<.0001
Received free school meals*Asian or Asian British – other	0.43	0.03	<.0001
Received free school meals*Asian or Asian British – Pakistani	0.49	0.02	<.0001
Received free school meals*Black or black British – African	0.42	0.02	<.0001
Received free school meals*other ethnic group	0.76	0.03	<.0001
Received free school meals*white – other	0.66	0.02	<.0001
Received free school meals*black or black British – Caribbean	0.35	0.03	<.0001
Received free school meals*black or black British – other	0.37	0.04	<.0001
Received free school meals*mixed – white and black Caribbean	0.18	0.03	<.0001
Received free school meals*mixed – white and black African	0.39	0.05	<.0001
Received free school meals*mixed – white and Asian	0.17	0.04	0.0001
Received free school meals*mixed – other	0.32	0.03	<.0001
Received free school meals*white – Irish	-0.35	0.07	<.0001
Received free school meals*ethnicity unknown or refused	0.26	0.04	<.0001
Received free school meals*Gypsy, Roma or Traveler	0.37	0.16	0.0162
Received free school meals*Asian or Asian British - Chinese	0.59	0.08	<.0001
Male*POLAR4 quintile 1	-0.05	0.01	<.0001
Male*POLAR4 quintile 2	-0.05	0.01	<.0001
Male*POLAR4 quintile 3	-0.04	0.01	<.0001
Male*POLAR4 quintile 4	-0.02	0.01	0.0019
Received free school meals*POLAR4 quintile 1	0.03	0.01	0.0275
Asian or Asian British – Bangladeshi*POLAR4 quintile 2	0.07	0.03	0.0281
Asian or Asian British – Indian*POLAR4 quintile 1	0.38	0.04	<.0001

Effect	Estimate	Standard error	p-value
Asian or Asian British – Indian*POLAR4 quintile 2	0.29	0.03	<.0001
Asian or Asian British – Indian*POLAR4 quintile 3	0.11	0.03	<.0001
Asian or Asian British – Indian*POLAR4 quintile 4	0.06	0.03	0.0165
Asian or Asian British – other*POLAR4 quintile 1	0.16	0.04	<.0001
Asian or Asian British – Pakistani*POLAR4 quintile 1	0.13	0.03	<.0001
Asian or Asian British – Pakistani*POLAR4 quintile 2	0.06	0.02	0.0028
Black or black British – African*POLAR4 quintile 1	0.64	0.03	<.0001
Black or black British – African*POLAR4 quintile 2	0.56	0.03	<.0001
Black or black British – African*POLAR4 quintile 3	0.35	0.03	<.0001
Black or black British – African*POLAR4 quintile 4	0.31	0.03	<.0001
Other ethnic group*POLAR4 quintile 1	0.19	0.04	<.0001
White – other*POLAR4 quintile 1	-0.15	0.02	<.0001
White – other*POLAR4 quintile 2	-0.19	0.02	<.0001
White – other*POLAR4 quintile 3	-0.06	0.02	0.0034
Black or black British – Caribbean*POLAR4 quintile 1	0.42	0.05	<.0001
Black or black British – Caribbean*POLAR4 quintile 2	0.37	0.04	<.0001
Black or black British – Caribbean*POLAR4 quintile 3	0.33	0.03	<.0001
Black or black British – Caribbean*POLAR4 quintile 4	0.19	0.03	<.0001
Black or black British – other*POLAR4 quintile 1	0.38	0.06	<.0001
Black or black British – other*POLAR4 quintile 2	0.23	0.06	0.0002
Black or black British – other*POLAR4 quintile 3	0.27	0.06	<.0001
Black or black British – other*POLAR4 quintile 4	0.28	0.05	<.0001
Mixed – other*POLAR4 quintile 4	0.09	0.03	0.0005
Ethnicity unknown or refused*POLAR4 quintile 1	-0.61	0.05	<.0001
Ethnicity unknown or refused*POLAR4 quintile 2	-0.48	0.04	<.0001
Ethnicity unknown or refused*POLAR4 quintile 3	-0.31	0.04	<.0001
Ethnicity unknown or refused*POLAR4 quintile 4	-0.27	0.04	<.0001
Gypsy, Roma or Traveler*POLAR4 quintile 4	0.45	0.17	0.0067
Asian or Asian British – Chinese*POLAR4 quintile 1	0.36	0.07	<.0001

Effect	Estimate	Standard error	p-value
Asian or Asian British – Chinese*POLAR4 quintile 2	0.25	0.06	<.0001
Asian or Asian British – Chinese*POLAR4 quintile 3	0.16	0.06	0.0094
Male*IMD quintile 3	-0.02	0.01	0.0188
Received free school meals*IMD quintile 1	0.23	0.03	<.0001
Received free school meals*IMD quintile 2	0.19	0.03	<.0001
Received free school meals*IMD quintile 3	0.11	0.02	<.0001
Received free school meals*IMD quintile 4	0.05	0.02	0.0493
Asian or Asian British – Indian*IMD quintile 1	-0.68	0.06	<.0001
Asian or Asian British – Indian*IMD quintile 2	-0.58	0.06	<.0001
Asian or Asian British – Indian*IMD quintile 3	-0.32	0.05	<.0001
Asian or Asian British – Indian*IMD quintile 4	-0.15	0.05	0.0013
Asian or Asian British – other*IMD quintile 1	-0.11	0.04	0.0037
Asian or Asian British – other*IMD quintile 3	0.10	0.03	0.002
Asian or Asian British – other*IMD quintile 4	0.16	0.04	0.0001
Asian or Asian British – Pakistani*IMD quintile 1	-0.14	0.02	<.0001
Asian or Asian British – Pakistani*IMD quintile 4	0.09	0.04	0.0153
Black or black British – African*IMD quintile 1	-0.15	0.04	<.0001
Black or black British – African*IMD quintile 2	-0.07	0.03	0.023
Other ethnic group*IMD quintile 2	0.08	0.03	0.0084
Other ethnic group*IMD quintile 3	0.12	0.04	0.0042
Other ethnic group*IMD quintile 4	0.18	0.05	0.0002
White – other*IMD quintile 1	-0.17	0.03	<.0001
White – other*IMD quintile 2	-0.08	0.02	0.0009
Mixed – white and black Caribbean*IMD quintile 1	0.46	0.04	<.0001
Mixed – white and black Caribbean*IMD quintile 2	0.32	0.04	<.0001
Mixed – white and black Caribbean*IMD quintile 3	0.33	0.05	<.0001
Mixed – white and black Caribbean*IMD quintile 4	0.17	0.05	0.0005
Mixed – white and black African*IMD quintile 1	-0.13	0.07	0.0478
Mixed – white and Asian*IMD quintile 1	-0.15	0.06	0.0069
Mixed – other*IMD quintile 1	0.28	0.03	<.0001
Mixed – other*IMD quintile 2	0.18	0.03	<.0001
Mixed – other*IMD quintile 3	0.12	0.03	0.0003
White – Irish*IMD quintile 1	-0.14	0.06	0.0159
Asian or Asian British – Chinese*IMD quintile 3	0.22	0.07	0.0007
Asian or Asian British – Chinese*IMD quintile 4	0.19	0.07	0.0061
POLAR4 quintile 1*IMD quintile 2	0.07	0.02	0.0001

Effect	Estimate	Standard error	p-value
POLAR4 quintile 1*IMD quintile 3	0.12	0.02	<.0001
POLAR4 quintile 1*IMD quintile 4	0.11	0.02	<.0001
POLAR4 quintile 2*IMD quintile 1	0.06	0.02	0.0091
POLAR4 quintile 2*IMD quintile 2	0.11	0.02	<.0001
POLAR4 quintile 2*IMD quintile 3	0.11	0.02	<.0001
POLAR4 quintile 2*IMD quintile 4	0.08	0.02	<.0001
POLAR4 quintile 3*IMD quintile 1	0.07	0.02	0.0018
POLAR4 quintile 3*IMD quintile 2	0.10	0.02	<.0001
POLAR4 quintile 3*IMD quintile 3	0.10	0.02	<.0001
POLAR4 quintile 3*IMD quintile 4	0.12	0.01	<.0001
POLAR4 quintile 4*IMD quintile 2	0.04	0.02	0.0092
POLAR4 quintile 4*IMD quintile 3	0.05	0.01	0.0001
POLAR4 quintile 4*IMD quintile 4	0.05	0.01	<.0001
Received free school meals*IDACI quintile 1	0.10	0.02	<.0001
Received free school meals*IDACI quintile 2	0.04	0.02	0.0166
Asian or Asian British – Bangladeshi*IDACI quintile 1	0.63	0.07	<.0001
Asian or Asian British – Bangladeshi*IDACI quintile 2	0.50	0.07	<.0001
Asian or Asian British – Bangladeshi*IDACI quintile 3	0.44	0.08	<.0001
Asian or Asian British – Bangladeshi*IDACI quintile 4	0.37	0.09	<.0001
Asian or Asian British – Indian*IDACI quintile 1	0.92	0.06	<.0001
Asian or Asian British – Indian*IDACI quintile 2	0.69	0.06	<.0001
Asian or Asian British – Indian*IDACI quintile 3	0.48	0.05	<.0001
Asian or Asian British – Indian*IDACI quintile 4	0.35	0.05	<.0001
Asian or Asian British – other*IDACI quintile 1	0.82	0.05	<.0001
Asian or Asian British – other*IDACI quintile 2	0.56	0.05	<.0001
Asian or Asian British – other*IDACI quintile 3	0.40	0.05	<.0001
Asian or Asian British – other*IDACI quintile 4	0.25	0.05	<.0001
Asian or Asian British – Pakistani*IDACI quintile 1	0.54	0.05	<.0001
Asian or Asian British – Pakistani*IDACI quintile 2	0.38	0.04	<.0001
Asian or Asian British – Pakistani*IDACI quintile 3	0.22	0.04	<.0001
Asian or Asian British – Pakistani*IDACI quintile 4	0.10	0.05	0.0497
Black or black British – African*IDACI quintile 1	0.80	0.06	<.0001
Black or black British – African*IDACI quintile 2	0.59	0.06	<.0001
Black or black British – African*IDACI quintile 3	0.40	0.06	<.0001

Effect	Estimate	Standard error	p-value
Black or black British – African*IDACI quintile 4	0.26	0.06	<.0001
Other ethnic group*IDACI quintile 1	0.68	0.04	<.0001
Other ethnic group*IDACI quintile 2	0.43	0.04	<.0001
Other ethnic group*IDACI quintile 3	0.19	0.04	<.0001
White – other*IDACI quintile 1	0.76	0.04	<.0001
White – other*IDACI quintile 2	0.41	0.03	<.0001
White – other*IDACI quintile 3	0.19	0.03	<.0001
White – other*IDACI quintile 4	0.14	0.03	<.0001
Black or black British – Caribbean*IDACI quintile 1	0.24	0.04	<.0001
Black or black British – Caribbean*IDACI quintile 2	0.18	0.04	<.0001
Black or black British – Caribbean*IDACI quintile 3	0.14	0.05	0.0024
Black or black British – other*IDACI quintile 1	0.46	0.05	<.0001
Black or black British – other*IDACI quintile 2	0.28	0.05	<.0001
Mixed – white and black African*IDACI quintile 1	0.75	0.09	<.0001
Mixed – white and black African*IDACI quintile 2	0.51	0.08	<.0001
Mixed – white and black African*IDACI quintile 3	0.26	0.08	0.0013
Mixed – white and black African*IDACI quintile 4	0.24	0.09	0.0052
Mixed – white and Asian*IDACI quintile 1	0.28	0.06	<.0001
Mixed – white and Asian*IDACI quintile 2	0.22	0.04	<.0001
Ethnicity unknown or refused*IDACI quintile 1	0.61	0.05	<.0001
Ethnicity unknown or refused*IDACI quintile 2	0.43	0.04	<.0001
Ethnicity unknown or refused*IDACI quintile 3	0.30	0.04	<.0001
Ethnicity unknown or refused*IDACI quintile 4	0.14	0.04	0.001
Gypsy, Roma or Traveler*IDACI quintile 1	0.43	0.15	0.0038
Asian or Asian British – Chinese*IDACI quintile 1	0.37	0.07	<.0001
Asian or Asian British – Chinese*IDACI quintile 2	0.23	0.06	0.0003
POLAR4 quintile 1*IDACI quintile 1	0.21	0.03	<.0001
POLAR4 quintile 1*IDACI quintile 2	0.18	0.03	<.0001
POLAR4 quintile 1*IDACI quintile 3	0.08	0.03	0.0023
POLAR4 quintile 1*IDACI quintile 4	0.13	0.03	<.0001
POLAR4 quintile 2*IDACI quintile 1	0.13	0.03	<.0001
POLAR4 quintile 2*IDACI quintile 2	0.16	0.02	<.0001
POLAR4 quintile 2*IDACI quintile 3	0.10	0.02	<.0001
POLAR4 quintile 2*IDACI quintile 4	0.12	0.02	<.0001
POLAR4 quintile 3*IDACI quintile 1	0.12	0.03	<.0001
POLAR4 quintile 3*IDACI quintile 2	0.11	0.02	<.0001
POLAR4 quintile 3*IDACI quintile 3	0.06	0.02	<.0001

Effect	Estimate	Standard error	p-value
POLAR4 quintile 3*IDACI quintile 4	0.10	0.01	<.0001
POLAR4 quintile 4*IDACI quintile 1	0.14	0.02	<.0001
POLAR4 quintile 4*IDACI quintile 2	0.12	0.02	<.0001
POLAR4 quintile 4*IDACI quintile 3	0.04	0.01	0.0039
POLAR4 quintile 4*IDACI quintile 4	0.11	0.01	<.0001
IMD quintile 1*IDACI quintile 4	-0.58	0.19	0.0017
IMD quintile 2*IDACI quintile 2	-0.04	0.01	<.0001
IMD quintile 3*IDACI quintile 4	0.06	0.01	<.0001
IMD quintile 4*IDACI quintile 4	0.04	0.01	<.0001



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