ABCS: Associations Between Characteristics of Students

Full-time completion measure

Contents

Introduction to ABCS

1. Associations between characteristics of students (ABCS) provides a set of measures which aims to improve our understanding of the outcomes different groups of people are likely to experience across the student lifecycle. We define groups of people by looking at a set of characteristics so that we can determine the effect of not just one characteristic on an outcome, but the effect of multiple characteristics. ABCS full-time (FT) completion is one of these measures.

2. This report builds on the core ABCS methodology document, which outlines the methodology that underpins all ABCS measures.[1]

3. To accompany this report, an interactive dashboard is provided to allow the user to explore the results for the ABCS FT completion measure.[2]

What does ABCS FT completion measure?

4. ABCS FT completion measures the proportion of full-time undergraduate higher education entrants who have a successful completion outcome within four years of starting their course, this includes students who are still studying after four years. The definition matches that used for the completion (cohort tracking) indicator as detailed in the description of student outcome and experience measures definitions document.[3] Student data is obtained from the Higher Education Statistics Agency (HESA) and the Education and Skills Funding Agency's (ESFA) Individual Learner Record (ILR), as outlined in the ABCS methodology document. Free school meal (FSM) eligibility data is taken from the Department for Education's National Pupil Database (NPD).

Population

5. The ABCS FT completion measure is based on entrants to full-time undergraduate study; the precise definition can be found in the cohort tracking section in the description of student outcome and experience measures definitions document. We further restrict to UK-domiciled students at English providers. We have used five cohorts of entrants, from academic years 2012-13 to 2016-17. This is so that their outcomes can be measured four years later, with the last cohort having their outcomes measured in 2020-21 (the latest student data currently available). We have combined five cohorts to ensure that there are sufficient students in each of the characteristic groups to allow us to carry out analysis regarding their completion behaviour. This also allows us to maximise the number of students that we can derive ABCS FT completion quintiles for.

6. Postgraduate students and apprenticeship students are not included in the modelling data. For postgraduate students, this aligns with other OfS analysis and regulatory approaches,

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[1] See https://www.officeforstudents.org.uk/data-and-analysis/associations-between-characteristics-of-students/.

[2] See www.officeforstudents.org.uk/data-and-analysis/associations-between-characteristics-of-students/.

[3] See https://www.officeforstudents.org.uk/data-and-analysis/student-outcome-and-experience-measures/documentation/ (Description of student outcome and experience measures used in OfS regulation: definitions and methods used).

recognising that a number of the student characteristics that represent those experiencing disadvantage or who are underrepresented in higher education are not available, or otherwise not meaningful, in respect of postgraduate students. Our approach also results from the very different behaviours and outcomes we observe for postgraduate students compared with undergraduate students. For apprenticeship students, our approach recognises that the potential for conducting the appropriate statistical modelling is more limited, on account of the more limited spread and characteristics of apprenticeship students across the sector. When considered at the level of detail necessary within the ABCS models, there are insufficient student numbers for those models to be robust (in technical terms, the models do not converge when constructed for apprenticeship students only).

Successful outcomes

7. Completion outcomes constructed using the cohort-tracking method are measured by identifying a cohort of entrants to higher education qualifications at the provider and following them through subsequent years of their course to track how many are still in active study, or qualify, by a given census date. Successful completion outcomes are identified in the description of student outcome and experience measures definitions document.[4]

Selection of characteristics

8. In selecting the factors for use in the FT completion model, as well as having good availability of data, we were looking for characteristics that should not influence a person's likelihood of completing higher education, but where the evidence showed that they did.

9. The eleven characteristics used in the FT completion model are as follows: age group, care experience, ethnicity, disability, free school meal (FSM) eligibility, income deprivation affecting children index (IDACI), index of multiple deprivation (IMD), local or distance learner status, parental higher education, sex, and TUNDRA. For details of these characteristics, see the characteristics section in the ABCS methodology document.[5]

10. As described in the section on selecting the characteristics in the methodology document, we found that the number of students with an unknown or missing age was too low to leave in their own group, so they were combined with the 51-years old and over age group as this had the closest completion rate. Similarly, the 'Gypsy or Traveller' ethnic group has been combined with the ethnic group 'other ethnic group'.

11. The model includes data on 1,801,790 students, 1,575,365 of whom had a successful completion outcome. Table 1 shows the categories within each of the characteristics used for the model, and the number and proportion of students who are in each of these categories.

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[4] See https://www.officeforstudents.org.uk/data-and-analysis/student-outcome-and-experience-measures/documentation/ (Description of student outcome and experience measures used in OfS regulation: definitions and methods used).

[5] See www.officeforstudents.org.uk/data-and-analysis/associations-between-characteristics-of-students/.

Table 1: Characteristics in the ABCS FT completion model

Characteristic	Category	Total number of individuals in the five cohorts	Per cent
Age group	*18 and under	837,060	46.5%
	19	384,235	21.3%
	20	127,085	7.1%
	21-25	205,215	11.4%
	26-30	82,090	4.6%
	31-40	95,640	5.3%
	41-50	52,950	2.9%
	51+	17,385	1.0%
	Unknown or N/A	125	0.0%
Care experience	Care experienced	6,725	0.4%
	*Not care experienced	799,695	44.4%
	Unknown or N/A	995,370	55.2%
Disability	Cognitive or learning difficulties	105,890	5.9%
	Mental health condition	33,925	1.9%
	Multiple or other impairments	33,385	1.9%
	*No disability reported	1,583,110	87.9%
	Sensory, medical or physical impairments	35,645	2.0%
	Social or communication impairment	9,835	0.5%
Ethnicity	Asian or Asian British - Bangladeshi	31,610	1.8%
	Asian or Asian British - Chinese	14,570	0.8%
	Asian or Asian British - Indian	66,690	3.7%
	Asian or Asian British - Pakistani	65,995	3.7%
	Asian or Asian British - other	39,855	2.2%
	Black or black British - African	113,475	6.3%
	Black or black British - Caribbean	35,820	2.0%
	Black or black British - other	9,325	0.5%
	Gypsy or Traveller	225	0.0%
	Mixed - other	21,475	1.2%
	Mixed - white and Asian	22,315	1.2%
	Mixed - white and black African	9,830	0.5%
	Mixed - white and black Caribbean	22,555	1.3%
	Other ethnic group	29,455	1.6%
	Refused or unknown	28,670	1.6%

	*White	1,289,915	71.6%
FSM eligibility	Eligible for FSM	162,240	9.0%
	*Not eligible for FSM	990,585	55.0%
	Unknown or N/A	648,965	36.0%
IDACI	Quintile 1 (most deprived)	325,185	18.0%
	Quintile 2	336,510	18.7%
	Quintile 3	331,440	18.4%
	Quintile 4	345,875	19.2%
	*Quintile 5 (least deprived)	392,745	21.8%
	Unknown or N/A	70,035	3.9%
IMD	Quintile 1 (most deprived)	323,270	17.9%
	Quintile 2	338,880	18.8%
	Quintile 3	329,415	18.3%
	Quintile 4	345,140	19.2%
	*Quintile 5 (least deprived)	395,045	21.9%
	Unknown or N/A	70,035	3.9%
Local or distance learner	Distance	3,625	0.2%
	Local	511,815	28.4%
	*Neither	1,286,350	71.4%
Parental higher education	*Higher education qualification held by parent(s)	675,110	37.5%
	Higher education qualification not held by parent(s)	664,365	36.9%
	Unknown or N/A	462,310	25.7%
Sex	*Female	1,008,240	56.0%
	Male	793,075	44.0%
	Other	475	0.0%
TUNDRA	Quintile 1 (least represented)	149,360	8.3%
	Quintile 2	203,400	11.3%
	Quintile 3	249,290	13.8%
	Quintile 4	301,245	16.7%
	*Quintile 5 (most represented)	387,245	21.5%
	Unknown or N/A	511,245	28.4%
Total number of individuals		1,801,790	100%

* Indicates a reference category in the statistical model

The statistical model

12. We have used a binary logistic regression model to predict the probability of completing. We have included all eleven characteristics as main effects and used a statistical approach (stepwise) to determine which of the two-way interactions should be included. See the methodology document for details. This has resulted in the inclusion of the following interactions shown in Table 2.

Table 2: Interactions in the ABCS FT completion model

Interactions
Age*Adult HE
Ethnicity*Age
Ethnicity*Local or distance learner
Ethnicity*Adult HE
Ethnicity*IDACI
Disability*Age
Disability*Local or distance learner
Local or distance learner*Age
Local or distance learner*Adult HE
IDACI*Local or distance learner
IDACI*Adult HE
IMD*Age
IMD*Local or distance learner
IMD*Adult HE
Sex*Age
Sex*Ethnicity
Sex*Disability
Sex*Local or distance learner
Sex*Adult HE
Sex*IDACI
Sex*IMD

13. The model is:

$$logit(\pi_i) = \beta_0 + \tilde{\beta}_1 age_i + \tilde{\beta}_2 care\ experience_i + \tilde{\beta}_3 disability_i + \tilde{\beta}_4 ethnicity_i$$
$$+ \tilde{\beta}_5 FSM\ eligibility_i + \tilde{\beta}_6 IDACI_i + \tilde{\beta}_7 IMD_i + \tilde{\beta}_8 local\ or\ distance_i$$
$$+ \tilde{\beta}_9 parental\ higher\ education_i + \tilde{\beta}_{10} sex_i + \tilde{\beta}_{11} TUNDRA_i + interactions$$

Where i is an individual, πi is a binary response variable which takes the value of 1 if the individual successfully completed their course and 0 otherwise, β represents vectors of different sizes and the interactions are as listed above.

Model results

14. The coefficient estimates for each of the factors and for all the two-way interactions included in the final model can be found in the Excel/CSV files.[6]

Derivation of ABCS FT completion quintiles

15. Using the model's predicted completion rates for each of the student groups, we then used these predicted rates to split the students included in the modelling into five quintiles. Those student groups with the lowest modelled rates will be in the lowest completion quintile and those with the highest will be in the highest completion quintile. Table 3 shows the number and proportion of students in each quintile, as well as the mean, minimum and maximum predicted completion rates. The minimum predicted rates are also the breakpoints, which determine the quintile boundaries.

Table 3: Description of ABCS FT completion quintiles

FT completion quintile	Number of students	Proportion of students	Mean modelled FT completion rate	Minimum modelled FT completion rate	Maximum modelled FT completion rate
Quintile 1	360,355	20.0%	72.9%	0.0%*	81.0%
Quintile 2	360,360	20.0%	84.8%	81.0%	87.8%
Quintile 3	360,390	20.0%	89.8%	87.8%	91.7%
Quintile 4	360,280	20.0%	93.3%	91.7%	94.8%
Quintile 5	360,400	20.0%	96.3%	94.8%	100.0%

* This low modelled completion rate is based on a small group and may not reflect their observed completion rate.

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[6] See www.officeforstudents.org.uk/data-and-analysis/associations-between-characteristics-of-students/.