ABCS: Associations Between Characteristics of Students

Part-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 part-time (PT) 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 PT completion measure.[2]

What does ABCS PT completion measure?

4. ABCS PT completion measures the proportion of part-time undergraduate higher education entrants who have a successful completion outcome within six years of starting their course or are still studying. 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.

Population

5. The ABCS PT completion measure is based on entrants to part-time undergraduate study; the precise definition can be found in the cohort tracking section of 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 2010-11 to 2014-15. This is so that their outcomes can be measured six 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 PT 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, 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

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[1] See 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 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).

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 PT 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 eight characteristics used in the PT completion model are as follows: adult HE quintile, age group, disability, ethnicity, income deprivation affecting children index (IDACI), index of multiple deprivation (IMD), local or distance learner status and sex. 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 sex 'Other' was too low to leave in their own group, so they were combined with the 'Male' group, as this had the closest completion rate. Similarly, the 'Gypsy or Traveller' ethnic group has been combined with the ethnic group 'Mixed – white and black Caribbean'.

11. The model includes data on 532,840 students, 313,330 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.

Table 1: Characteristics in the ABCS PT completion model

Characteristic	Category	Total number of individuals in the five cohorts	Per cent

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[4] See 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/.

Adult HE quintile	Quintile 1 (lowest proportion holding HE qualification)	82,735	15.5%
	Quintile 2	93,790	17.6%
	Quintile 3	97,975	18.4%
	Quintile 4	99,410	18.7%
	*Quintile 5 (highest proportion holding HE qualification)	104,910	19.7%
	Unknown or N/A	54,020	10.1%
Age group	18 and under	16,720	3.1%
	19	16,135	3.0%
	20	17,850	3.4%
	21-25	102,785	19.3%
	*26-30	91,960	17.3%
	31-40	137,725	25.8%
	41-50	104,250	19.6%
	51+	45,205	8.5%
	Unknown or N/A	205	0.0%
Disability	Cognitive or learning difficulties	14,125	2.7%
	Mental health condition	5,250	1.0%
	Multiple or other impairments	17,565	3.3%
	*No disability reported	485,280	91.1%
	Sensory, medical or physical impairments	9,950	1.9%
	Social or communication impairment	665	0.1%
Ethnicity	Asian or Asian British - Bangladeshi	2,440	0.5%
	Asian or Asian British - Chinese	1,700	0.3%
	Asian or Asian British - Indian	10,980	2.1%
	Asian or Asian British - Pakistani	7,205	1.4%
	Asian or Asian British - other	7,955	1.5%
	Black or black British - African	18,630	3.5%
	Black or black British - Caribbean	10,455	2.0%
	Black or black British - other	2,410	0.5%
	Mixed - other	4,090	0.8%
	Mixed - white and Asian	2,280	0.4%
	Mixed - white and black African	1,635	0.3%
	Mixed - white and black Caribbean	3,795	0.7%
	Other ethnic group	5,535	1.0%
	Refused or unknown	13,680	2.6%
	*White	440,045	82.6%

IDACI	Quintile 1 (most deprived)	90,270	16.9%
	Quintile 2	102,100	19.2%
	Quintile 3	103,510	19.4%
	Quintile 4	100,350	18.8%
	*Quintile 5 (least deprived)	95,650	18.0%
	Unknown or N/A	40,955	7.7%
IMD	Quintile 1 (most deprived)	87,555	16.4%
	Quintile 2	103,530	19.4%
	Quintile 3	103,430	19.4%
	Quintile 4	101,315	19.0%
	*Quintile 5 (least deprived)	96,055	18.0%
	Unknown or N/A	40,955	7.7%
Local or distance learner	Distance	202,420	38.0%
	Local	175,805	33.0%
	*Neither	154,615	29.0%
Sex	*Female	322,195	60.5%
	Male	210,645	39.5%
Total number of individuals		532,840	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 eight 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.[6] This has resulted in the inclusion of the following interactions shown in Table 2.

Table 2: Interactions in the ABCS PT 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

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

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:

$$logit(\pi_i) = \beta_0 + \tilde{\beta}_1 age_i + \tilde{\beta}_2 disability_i + \tilde{\beta}_3 ethnicity_i + \tilde{\beta}_4 IDACI_i + \tilde{\beta}_5 IMD_i + \tilde{\beta}_6 local\ or\ distance_i + \tilde{\beta}_7 sex_i + \tilde{\beta}_8 AdultHE_i + interactions$$

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.[7]

Derivation of ABCS PT 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 PT completion quintiles

PT completion quintile	Number of students	Proportion of students	Mean modelled PT	Minimum modelled PT	Maximum modelled PT

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

			completion rate	completion rate	completion rate
Quintile 1	106,500	20.0%	34.1%	1.4%*	40.0%
Quintile 2	106,635	20.0%	45.5%	40.0%	56.9%
Quintile 3	106,515	20.0%	64.9%	56.9%	69.6%
Quintile 4	106,545	20.0%	71.9%	69.6%	74.1%
Quintile 5	106,645	20.0%	77.6%	74.1%	98.9%

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