ABCS: Associations Between Characteristics of Students

Part-time progression 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) progression 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. An interactive dashboard is also provided to allow the user to explore the results for the ABCS PT progression measure.[2]

What does ABCS PT progression measure?

4. ABCS PT progression measures the proportion of students progressing to managerial or professional employment, further study or other positive graduate outcomes after they completed a part-time higher education qualification. The data used to produce this measure is based on graduates' responses to the Graduate Outcomes (GO) survey, reflecting graduates' outcomes approximately 15 months after they have been awarded a higher education qualification.

Population

5. As the data we are using to produce this measure is from the GO survey, we only had three years of data available to us (as of August 2022). This gave us progression rates for the GO years 2017, 2018 and 2019. Table 1 shows how a GO year relates to the period when those students qualified from their higher education course and when they were surveyed. Note that these are the same periods as the graduates that had studied full-time.

Table 1: The periods Graduate Outcomes data relates to

GO year	Period students completed their studies	Period graduates were surveyed
2017	August 2017 to July 2018	December 2018 to November 2019
2018	August 2018 to July 2019	December 2019 to November 2020
2019	August 2019 to July 2020	December 2020 to November 2021

6. As can be seen in Table 1, the period that graduates were surveyed for GO 2018 coincided with the start of the COVID-19 pandemic, which was declared by the World Health Organisation on

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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/.

11 March 2020. The GO 2019 results saw these graduates surveyed entirely during the pandemic period.

7. We analysed how ABCS quintiles changed over the pandemic years and decided that the latest year of data, GO 2019, was anomalous and therefore we would change our standard approach and only use GO 2017 and 2018 for our modelling data. Once we have GO 2020 we will revisit this decision. This approach is described in more detail in the section on principles for updating ABCS in the ABCS methodology document.[3]

8. HESA has analysed the impact of the pandemic on GO survey responses.[4]

9. Data for modelling was restricted to those graduates that had completed an undergraduate course at an English provider and had studied part-time. By using the same population restrictions as the progression indicators (see the student outcome and experience measures core algorithms document for details), the population is restricted to UK-domiciled students.[5]

10. 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 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

11. Broadly speaking, progression to managerial or professional employment or further study is counted as a successful outcome. See the student outcome and experience measures core algorithms document for more detailed information about how positive progression outcomes are calculated.

12. The student outcome and experience measures core algorithms document describes that a response from an employed graduate which cannot be mapped to a Standard Occupational Classification (SOC) code would be apportioned to both a positive and negative outcome based on the ratio derived for the provider, mode and level of study associated with that graduate. However, due to the way the statistical model works, we are not able to include such responses in our modelling data.

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

[4] See www.hesa.ac.uk/insight/16-06-2022/impact-covid-19-graduate-outcomes.

[5] See www.officeforstudents.org.uk/data-and-analysis/student-outcome-and-experience-measures/documentation/ (Technical algorithms for student outcome and experience measures: September 2022 core algorithms).

Selection of characteristics

13. In selecting the factors for use in the PT progression model, as well as having good availability of data, we were looking for characteristics that should not influence a person's likelihood of having a positive progression outcome, but where the evidence showed that they did.

14. The eight characteristics used in the PT progression 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 ABCS methodology document.[6]

15. As described in the section on selecting the characteristics in the ABCS methodology document, we found that the number of students reporting sex as 'Other' was too low to leave in their own attribute group, so they were combined with the 'Male' group as this had the closest progression rate. Similarly, the Gypsy or Traveller ethnic group has been combined with Asian or Asian British – Bangladeshi, and the Asian or Asian British – Chinese ethnic group has been combined with the Black or black British – African group.

16. The model includes data on 32,435 graduates, 26,015 of which had a positive progression outcome. Table 2 shows the attribute groups within each of the eight characteristics used for the model and the number and proportion of the graduates who are in each of these groups.

Table 2: Characteristics in the ABCS PT progression model

Characteristic	Category	Total number of individuals in the two cohorts	Per cent
Adult HE	Quintile 1 (lowest proportion holding HE qualification)	4,900	15.1%
	Quintile 2	5,705	17.6%
	Quintile 3	5,850	18.0%
	Quintile 4	5,900	18.2%
	*Quintile 5 (highest proportion holding HE qualification)	5,495	16.9%
	Unknown or N/A	4,590	14.1%
Age group	18 and under	1,495	4.6%
	19	1,410	4.4%
	20	1,580	4.9%
	21-25	7,020	21.6%
	*26-30	5,125	15.8%
	31-40	7,920	24.4%
	41-50	5,230	16.1%

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

	51+	2,655	8.2%
Disability	Cognitive or learning difficulties	1,390	4.3%
	Mental health condition	625	1.9%
	Multiple or other impairments	1,370	4.2%
	*No disability reported	28,095	86.6%
	Sensory, medical or physical impairments	860	2.7%
	Social or communication impairment	100	0.3%
Ethnicity	Asian or Asian British - Bangladeshi	150	0.5%
	Asian or Asian British - Indian	570	1.8%
	Asian or Asian British - Pakistani	475	1.5%
	Asian or Asian British - other	350	1.1%
	Black or black British - African	1,070	3.3%
	Black or black British - Caribbean	505	1.6%
	Black or black British - other	130	0.4%
	Mixed - other	230	0.7%
	Mixed - white and Asian	140	0.4%
	Mixed - white and black African	105	0.3%
	Mixed - white and black Caribbean	210	0.6%
	Other ethnic group	275	0.8%
	Refused or unknown	520	1.6%
	*White	27,710	85.4%
IDACI	Quintile 1 (most deprived)	4,910	15.1%
	Quintile 2	5,675	17.5%
	Quintile 3	6,315	19.5%
	Quintile 4	6,525	20.1%
	*Quintile 5 (least deprived)	6,410	19.8%
	Unknown or N/A	2,600	8.0%
IMD	Quintile 1 (most deprived)	4,805	14.8%
	Quintile 2	5,715	17.6%
	Quintile 3	6,215	19.2%
	Quintile 4	6,635	20.5%
	*Quintile 5 (least deprived)	6,465	19.9%
	Unknown or N/A	2,600	8.0%
Local or distance learner	Distance	13,085	40.3%
	Local	9,630	29.7%
	*Neither	9,720	30.0%
Sex	*Female	17,550	54.1%

	Male	14,885	45.9%
Total number of individuals		32,435	100%

* Indicates a reference category in the statistical model

The statistical model

17. We have used a binary logistic regression model to predict the probability of having a positive progression outcome having studied part-time. 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 ABCS methodology document for details.[7] This has resulted in the inclusion of the following interactions shown in Table 3.

Table 3: Interactions in the ABCS PT progression model

Interactions
Age*Local or distance learner
Ethnicity*IDACI
Sex*Local or distance learner

18. 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 has a positive progression outcome and 0 otherwise, β represents vectors of different sizes and the interactions are as listed above.

Model results

19. 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.[8]

Derivation of ABCS PT progression quintiles

20. Using the model's predicted progression rates for each of the graduate groups, we then used these predicted rates to split the graduates included in the modelling into five quintiles. Those groups with the lowest modelled rates are in the lowest PT progression quintile and those with the highest are in the highest PT progression quintile. Table 4 shows the number and proportion of graduates in each quintile, as well as the mean, minimum and maximum predicted rate. The minimum predicted rates are also the breakpoints, which determine the quintile boundaries.

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

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

Table 4: Description of ABCS PT progression quintiles

PT progression quintile	Number of students	Proportion of students	Mean modelled PT progression rate	Minimum modelled PT progression rate	Maximum modelled PT progression rate
Quintile 1	6,485	20.0%	70.3%	18.7%	74.8%
Quintile 2	6,485	20.0%	77.3%	74.9%	79.1%
Quintile 3	6,490	20.0%	80.9%	79.1%	82.7%
Quintile 4	6,490	20.0%	84.3%	82.7%	85.9%
Quintile 5	6,485	20.0%	88.3%	85.9%	100.0%

Note: in cases where the maximum rate in one quintile does not match the minimum rate in the next quintile, this is due to groups having discrete rates that do not round to the same value.