

Annex A

PhD completion rates by ethnicity and disability status

Introduction

1. The 2005 report 'PhD research degrees: Entry and completion' (HEFCE 2005/02) examined the rates of completion for a cohort of students attending UK higher education institutions who started on a doctorate degree, mainly by research, in academic year 1996-97. Their progress was followed for seven academic years, from their start in 1996-97 through to 2002-03; the most recent data available at the time.
2. The 2005 report did not include information regarding the PhD students' ethnicity profile and disability status. This update looks to provide this equal opportunities information as an addition to HEFCE 2005/02 by re-examining the original data over the same seven-year period. We have ascertained disability and ethnicity profiles for the 1996-97 cohort and analysed the seven-year period from 1996-97 through to 2002-03 to identify trends in the time and rate of PhD completion with respect to these attributes.
3. In addition, we have made comparisons between the findings of this seven-year analysis and the 10-year analysis reported in the main body of the update. The primary differences between the two sets of results are discussed to provide a more concise overview of these student attributes.

Starting cohort

4. This analysis uses largely the same methods to link HESA student records as were used in the original 'PhD research degrees: Entry and completion' report¹. These methods are described in Annex A of HEFCE 2005/02 and enable us to identify the 1996-97 cohort. Further, the data definitions within this report remain the same as described in Annex B of HEFCE 2005/02. Additional definitions regarding ethnicity and disability data are detailed in Annex D of this report.
5. The total cohort reported in HEFCE 2005/02 consisted of 18,523 PhD students. Note that the numbers of students reported here are slightly different². These differences are slight and insignificant; the proportions of students, in terms of entry to PhD programmes and the starting cohort remain unchanged from those reported originally.
6. The starting cohort reported on in the following analysis consists of 18,317 PhD students. Of this cohort, 13,568 were on full-time PhD programmes and 4,749 were on

¹ A revision made to the methods and definitions used in this updated analysis ensures that we now exclude students who fail to be active on either a PhD or MPhil programme after the first year of study.

² A result of the revision described in footnote 1 above is that a larger number of students are excluded from our analysis and as such the 1996-97 reported here is smaller than that discussed in HEFCE 2005/02.

part-time PhD programmes. Note that the same starting cohort is used for all the analysis in this update, whatever time period for completion is being considered.

7. Analysis has shown that completion rates are sensitive to small numbers. Consequently any conclusions drawn in relation to categorisations involving small numbers can be unsafe and misleading. For this reason PhD completion rates and results of the propensity modelling are not reported in cases where a categorisation includes less than 50 students. In the summary tables that follow, such cases are denoted by an asterisk (*).

Propensity modelling

8. Modelling the propensity of full-time and part-time students to complete a PhD proved to be a useful tool in our 2005 analysis of the 1996-97 cohort and we have repeated this approach to consider ethnicity and disability information. Propensity modelling allows the differences in the completion rates for students with different characteristics to be isolated and identified, and is described more fully in HEFCE 2005/02, paragraphs 53 to 58 and 62 to 64.

9. This modelling approach requires a reference category for each attribute being examined. These are marked as REF in the relevant tables below.

10. The extension of the seven-year analysis of the 1996-97 cohort to include ethnicity and disability data involved modification of the original propensity models to include these attributes. The original models are detailed in Annex C of HEFCE 2005/02 and the modified versions are detailed at Annex E of this report.

PhD completion by disability status

11. Table A1 shows the disability profile of the cohort of PhD students³. Numbers returned as having either a registered or unregistered disability are relatively small, particularly when split by mode of study. In all cases, 98 per cent of PhD starters describe their disability status as 'none'.

Table A1 Disability profile of PhD students

Disability	Full-time		Part-time		All	
	No. of students	% of students	No. of students	% of students	No. of students	% of students
None	13,297	98%	4,675	98%	17,972	98%
Not known/not given	38	0%	15	0%	53	0%
Disability – registered	36	0%	9	0%	45	0%
Disability – unregistered	197	1%	50	1%	247	1%
Total	13,568	100%	4,749	100%	18,317	100%

³ Changes to the collection of disability information were introduced to the 1998-99 HESA student record. These changes are discussed in the data definitions provided at Annex D, and as a result in all analyses discussed by this report we have only considered a student's disability status in the year of entry.

12. Table A2 shows the rates of completion for starters on full-time PhD programmes split by the student's disability status. It shows that the PhD completion rate for full-time students returned as having an unregistered disability is lower than that of students with no disability; 69 per cent compared to 72 per cent where disability status is returned as 'none'.

13. The full-time modelling shows that after other factors are taken into account, full-time students with an unregistered disability have lower relative rates of PhD completion than those returned as 'none'. This is both consistent with the actual rates of PhD completion and consistent for all such students.

Table A2 PhD completion by disability status for full-time students

Disability status	No. of students	Actual		Model	
		% PhD award or active	% PhD award	Relative % PhD award	Consistency (% higher)
None	13,297	83%	72%	REF	REF
Not known/not given	*	*	*	*	*
Registered disability	*	*	*	*	*
Unregistered disability	197	80%	69%	-5%	100%
Total	13,568	83%	72%	N/A	N/A

Note: * Less than 50 students.

14. Table A3 shows the equivalent information to Table B2 for part-time students. We see that, as with full-time students, those returned with an unregistered disability have the lower actual completion rate; 32 per cent compared to 35 per cent for students with no disability. However, the part-time modelling shows that once other factors are taken into account students with an unregistered disability have a relative PhD completion rate of 0 per cent. This indicates that there is no distinction between the two groups of students.

Table A3 PhD completion by disability status for part-time starters

Disability status	No. of students	Actual		Model	
		% PhD award or active	% PhD award	Relative % PhD award	Consistency (% higher)
None	4,675	65%	35%	REF	REF
Not known/not given	*	*	*	*	*
Registered disability	*	*	*	*	*
Unregistered disability	50	58%	32%	0%	0%
Total	4,749	62%	34%	N/A	N/A

Note: * less than 50 students.

Comparison of PhD completion rates by disability status

15. Tables A4 and A5 provide a summary of results obtained for starters in the 1996-97 cohort returned as having an unregistered disability. We have compared results

obtained in the seven-year analysis to those obtained in the 10-year analysis to identify any changes that may become apparent when we consider a longer period of analysis. Note that students returned as having an unregistered disability is the only group other than the reference category of 'no disability' that is of sufficient size to enable the publication of results.

16. After seven academic years students with an unregistered disability had a relative PhD completion rate of -5 per cent. This indicates that, after taking account of other factors, they are less likely to complete a PhD within seven years than those with no disability. The modelling of the 10-year analysis shows a relative PhD completion rate of 0 per cent for those with an unregistered disability; after 10 academic years these students and students with no disability are equally likely to have completed a PhD, and there is no longer any distinction between the two groups.

Table A4 PhD completions for full-time students returned as having an unregistered disability

Period examined	Actual results		Model results
	% PhD completion	% PhD completion or active	Relative % PhD completion
Seven years	69%	80%	-5%
Ten years	72%	74%	0%

Note: See Table A2 above, and Table 9 of the main document for related information.

17. When we consider part-time students with an unregistered disability in Table A5 we see that the situation identified amongst full-time students is reversed. Those studying part-time have a relative PhD completion rate of 0 per cent in the seven-year analysis, changing to a negative value when we consider 10 academic years.

Table A5 PhD completions for part-time students returned as having an unregistered disability

Period examined	Actual results		Model results
	% PhD completion	% PhD completion or active	Relative % PhD completion
Seven years	32%	58%	0%
Ten years	42%	52%	-3%

Note: See Table A3 above, and Table 10 of the main document for related information.

18. Analysis has shown that, despite completion rates being lower, the distribution of time it takes students with an unregistered disability to complete their PhD is not materially different to that of students with no disability.

PhD completion by ethnicity

19. Table A6 shows the distribution of the ethnicity of PhD students. It shows that the majority of PhD students describe their ethnicity as White (48 per cent).

20. It is important to note that there are a substantial number of instances where ethnicity information has not been provided; 41 per cent of the cohort is returned as 'not known/not given'. Consequently numbers from different ethnic backgrounds are relatively small, particularly when the cohort is split by mode of study.

Table A6 Ethnicity of PhD students

Ethnicity	Full-time		Part-time		All	
	No. of students	% of students	No. of students	% of students	No. of students	% of students
Asian/Asian British	751	6%	123	3%	874	5%
Black/Black British	174	1%	77	2%	251	1%
Chinese	336	2%	83	2%	419	2%
Not known/not given	5,724	42%	1,741	37%	7,465	41%
Other	357	3%	119	3%	476	3%
White	6,226	46%	2,606	55%	8,832	48%
Total	13,568	100%	4,749	100%	18,317	100%

21. Table A7 shows the rates of PhD completion for starters on full-time PhD programmes split by the student's ethnicity. The actual completion rate for students whose ethnicity is not known or not given is a little higher than that for students describing their ethnicity as White. However, when the other factors we have included in our modelling are taken into account, students with unknown ethnicity have a lower relative completion rate than White students.

22. Indeed, the relative completion rate is lower for all students whose ethnicity is not described as White. Table A7 shows that the lower relative rates are consistent with many of the actual rates of PhD completion; only full-time students with unknown ethnicity have an actual PhD completion rate higher than that of the reference category. Students who describe their ethnicity as Black/Black British exhibit the lowest rates of PhD completion (59 per cent) and the lowest relative PhD completion rates (-7 per cent).

Table A7 PhD completion by ethnicity for full-time students

Ethnicity	No. of students	Actual		Model	
		% PhD award or active	% PhD award	Relative % PhD award	Consistency (% higher)
Asian/Asian British	763	83%	68%	-3%	95%
Black/Black British	174	78%	59%	-7%	78%
Chinese	336	82%	68%	-2%	54%
Not known/not given	5,746	84%	73%	-2%	85%
Other	360	80%	65%	-5%	100%
White	6,287	83%	72%	REF	REF
Total	13,666	83%	72%	N/A	N/A

23. Table A8 shows the information given in Table A7 but for starters on part-time PhD programmes. It shows that part-time Chinese students have the highest rates of PhD completion or are still active on a PhD course; 71 per cent of students describing their

ethnicity as Chinese are still active in a PhD course in 2002-03, or have completed a PhD seven years after starting. Black/Black British students have the lowest PhD completion rates, and the lowest PhD completion or still active rates.

Table A8 PhD completion by ethnicity for part-time students

Ethnicity	No. of students	Actual		Model	
		% PhD award or active	% PhD award	Relative % PhD award	Consistency (% higher)
Asian/Asian British	127	54%	27%	-10%	1%
Black/Black British	81	48%	17%	-13%	1%
Chinese	83	71%	34%	-4%	87%
Not known/not given	1,760	69%	41%	2%	0%
Other	121	68%	32%	-3%	12%
White	2,681	63%	32%	REF	REF
Total	4,853	65%	35%	N/A	N/A

24. The part-time modelling shows that there a student's ethnicity show significant differences which are dependent on the source of funding and previous entry qualifications of the student. After other factors have been taken into account, students whose ethnicity is unknown are the only group to have relative completion rates higher than White students; as with full-time students, all other ethnic groups have lower relative completion rates.

Comparison of PhD completion rates by ethnicity

25. We now consider the progression of PhD students, split by ethnicity. In both the seven-year and 10-year analyses of the 1996-97 cohort those students returned with Black/Black British ethnicity had particularly low rates of PhD completion.

26. Tables A9 and A10 provide a summary of results for full-time and part-time PhD students with Black/Black British ethnicity respectively. It is important to note that the numbers of Black/Black British students are relatively small and care should be taken when interpreting these results.

Table A9 PhD completions for full-time students returned as having Black/Black British ethnicity

Period examined	Actual results		Model results
	% PhD completion	% PhD completion or active	Relative % PhD completion
Seven years	59%	78%	-7%
Ten years	67%	75%	-4%

Note: See Table A7 above, and Table 12 of the main report for related information.

Table A10 PhD completions for part-time students returned as having Black/Black British ethnicity

Period examined	Actual results		Model results
	% PhD completion	% PhD completion or active	Relative % PhD completion
Seven years	17%	48%	-13%
Ten years	31%	49%	-9%

Note: See Table A8 above, and Table 13 of the main report for related information.

27. We see from Tables A9 and A10 that the relative rates of PhD completion for Black/Black British students are higher in the 10-year analysis than their equivalent figures in the seven-year analysis. This indicates that although the propensity to complete a PhD, after accounting for other factors, remains lower in this group than in other ethnic groups, it is to a lesser extent when we consider the longer time period.

28. Table A10 shows that, in particular, the observed PhD completion rate amongst part-time students with Black/Black British ethnicity increases considerably, by 14 percentage points. However, analysis has shown that this percentage increase is in line with the increases experienced by all ethnic groups when comparing seven years to 10 years; the average increase is 16 percentage points. This is also the case amongst full-time students, where the average increase is seven percentage points.