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Investigating the accuracy of predicted A level grades as part of the 2010 UCAS admission process

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RESEARCH

Authors: UCAS, Rosehill, New Barn Lane, Cheltenham GL52 3LZ

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Department for Business, Innovation and Skills

1 Victoria Street

London, SW1H 0ET

[www.bis.gov.uk](http://www.bis.gov.uk)

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# Contents

<b>1 Executive summary .....</b>	<b>4</b>
2 Introduction .....	5
3 Methodology .....	6
3.1 Sample .....	6
3.2 Analysis .....	7
4 Findings .....	8
4.1 Overall accuracy of predicted grades .....	8
4.2 Over- and under-prediction .....	10
5 Predictions by applicant characteristics .....	14
5.1 Gender .....	14
5.2 National Statistics Socio-Economic Classification (NS-SEC).....	17
5.3 Ethnicity.....	22
5.4 Centre-type attended.....	28
5.5 Disability .....	34
5.6 Age .....	38
6 Conclusion .....	43
7 Bibliography .....	44
Appendix 1 - The sample compared to all A level applicants and total applicant cohort .....	45

# 1. Executive summary

This report presents an analysis investigating the accuracy of A level grades predicted for applicants entering higher education in 2010. As was the case with last year's report (BIS 2011), this work analyses data on the accuracy of A level predictions by cross-referencing grade predictions by grade achievement, and then filtering by various demographic characteristics. This work has been re-cast using more recent data following a change in the grading structure of GCE A levels.

Key findings identified within this report are highlighted below:

- The introduction of a new attainable grade (A\*) at A level for 2010 admissions has lowered the overall prediction accuracy by over 10 percentage points, falling from 52% in 2009 to 42% in 2010.
- Overall over-prediction (predictions at least one grade higher than result achieved) has risen to 48% (+6 percentage points) since 2009.
- Overall under-prediction remains very low, although percentages have risen from 7% in 2009 to 11% in 2010.
- Over half (55%) of all A\* grade predictions were inaccurate.
- The largest decline in grade prediction accuracy was seen among A grade predictions, where accuracy rates fell from 64% in 2009 to 43% in 2010.
- In 2010, the highest **percentage** of accurate predictions was seen among E grade predictions, where 54% accuracy was observed; however, this percentage constituted only 785 cases within the sample used. The highest **number** of accurate predictions was seen among A grade predictions where 24,692 cases out of 58,044 (43%) were accurately predicted.

## 2. Introduction

This research aims to present findings and inform discussion on accuracy rates of predicted GCE A level grades. The focus of the current iteration of the investigation is grades predicted for applicants who were planning to enter HE in September 2010. The main aims of this report are:

1. to provide an overview of the status of GCE A level prediction accuracy within the UK 2010 admissions process
2. to observe the ways in which the introduction of the new A\* grade at A level has impacted upon grade prediction accuracy

This work forms part of longitudinal research, which UCAS has undertaken on behalf of the UK Department for Business, Innovation and Skills (BIS). It updates DfES-commissioned analysis published by UCAS in 2005, which examined A level awards in 2004 (Hayward, 2005).

The first report in the series (*Investigating the accuracy of predicted A level grades as part of the 2009 UCAS admissions process*, BIS 2011), provided an overview detailing the varying levels of prediction accuracy across different groups within the UK. Its purpose was to identify whether or not specific applicant characteristics appeared to influence the accuracy of predicted grades, and it achieved this by cross-referencing nine different applicant characteristics<sup>1</sup> with figures being based upon grade-by-grade analysis of prediction accuracy. The findings clearly indicated that certain demographic factors looked likely to be having an effect on accuracy. This study has been completed to update the previous report so as to provide insight as to the impact that the new A\* A level grade has had on grade prediction accuracy.

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<sup>1</sup> Gender; social class; ethnicity; centre type; disability; age; region (within England); country (UK only); and number of choices made by the applicant.

# 3. Methodology

As was the case with the 2009 research into the accuracy of predicted GCE A level grades, the following points should be borne in mind with relation to the dataset used for this work.

- The data sample for this research is of A level predictions for HE applicants in the 2010 admissions cycle.
- The units of analysis are the grades of each subject and not the applicants.
- Only UK-domiciled applicants are included in the sample.
- Cases are selected only where a predicted and an achieved grade exist.
- Any failed or unclassified grades are not included in the sample.
- Not all subjects taken have a predicted grade, and these are omitted from the dataset, for obvious reasons.
- Some predictions may not have been entered correctly.
- Some predictions have not been included due to disparities between the subject name provided at the time of prediction and the subject name received from the awarding body; an element of cleansing of this data has been undertaken to improve this matching process.
- Where an exam has been retaken only the highest achieved grade has been compared to the predicted grade.
- If applicants applied independently, they may not have had a referee to enter the prediction, and so will not be included within the dataset.

## Sample

The sample of applicants represents 30% of A levels taken by UK-domiciled applicants within the 2010 HE admission cycle. In order to determine the sample's overall accuracy, it has been compared with the total population of UCAS applicants (UK-domiciled) as well as the population of UCAS applicants holding at least one A level (UK-domiciled) in 2010.

For comprehensive details regarding the comparativeness of the sample to the two aforementioned applicant groups, please refer to [Appendix 1](#); however, in summary, the predicted grade data sample is reasonably representative of the overall UCAS applicant

A level population, and is, therefore, an adequate sample for the purposes of this analytical research. As was to be expected, due to the very different characteristics of the different groups being considered, the sample was not representative of the total UCAS (UK-domiciled) applicant population.

## **Analysis**

The analyses within this report are presented as follows:

Section 4 provides details of overall grade prediction accuracy comparing findings, where appropriate, to the 2009 admission cycle.

Section 5 then elaborates on these findings by cross referencing grade prediction by grade attainment and filtering these results by the following variables:

- gender
- NS-SEC
- ethnicity
- centre-type
- disability
- age
- region (including UK country overviews)

## 4. Findings

### Overall accuracy of predicted grades

To construct the 2010 admissions dataset, a random sample was created which matched 177,094 predicted A level grades to their relevant achieved grades. This number did not relate to individual applicants but to individual A levels on a subject-by-subject basis. This sample represented the UK portion of approximately 30% of the total number of A levels passed by all students in 2010 who applied for HE admission that same year.

Throughout this report percentages of accuracy were calculated using totals of grade predictions (not achievement). For further details on the differences between these two methodological approaches, please refer to Chapter 4, and Appendix 2, within '*Investigating the accuracy of predicted A level grades as part of the 2009 admissions process*', BIS (2011).

Perhaps the largest change observable within the headline findings relates to the apparent effect caused by the introduction of the new A\* grade at GCE A level. It was observed within the 2009 dataset that 47% of all the results in the sample were A grade predictions, with the A grade achievement standing at 33%, (BIS, 2011). The 2010 dataset identified a fall of nearly 15% in the numbers of predicted A grades, and a drop of almost 13% in the percentage of achieved A grades. Table 1 highlights these differences for all grades (the 2010 admission cycle compared with that of 2009).

**Table 1 - Proportion of predicted compared to achieved A level grades (UK-domiciled, 2009-10)**

	2010		2009	
	Predicted	Achieved	Predicted	Achieved
A*	8.0%	7.9%	n/a	n/a
A	32.8%	20.3%	47.2%	33.1%
B	31.0%	27.2%	29.5%	28.1%
C	21.7%	24.2%	17.9%	21.6%
D	5.7%	14.6%	4.7%	12.1%
E	0.8%	5.8%	0.7%	5.0%

Table 1 appears to state that prediction and achievement for the new A\* grade were very similar, at 8% and 7.9% respectively; however, it should be noted that the predicted A\* and achieved A\* groups listed here *could* be mutually exclusive, and so



further investigation was required before any comments surrounding the prediction accuracy of any grades (especially A\*) could be made.

Table 2 considers the accuracy of predicted A level grades within the 2010 admission cycle.

**Table 2 - Accuracy of predicted A level grades (Percentage of predicted grades that were achieved) (UK-domiciled, 2010)**

		Predicted grades							Total achieved
Overall 2010		A*	A	B	C	D	E		
Total predicted		8.0%	32.8%	31.0%	21.7%	5.7%	0.8%	100%	n/a
Achieved grades	A*	44.6%	11.8%	1.4%	0.2%	0.0%	0.0%	n/a	7.9%
	A	49.3%	42.5%	7.2%	0.9%	0.2%	0.2%	n/a	20.3%
	B	5.4%	35.6%	39.9%	11.6%	3.1%	1.6%	n/a	27.2%
	C	0.6%	8.3%	37.6%	39.8%	18.7%	8.8%	n/a	24.2%
	D	0.1%	1.4%	11.5%	35.3%	44.9%	35.8%	n/a	14.6%
	E	0.0%	0.3%	2.4%	12.2%	33.2%	53.6%	n/a	5.8%
Total		100%	100%	100%	100%	100%	100%	n/a	100%

Key:<sup>2</sup>

%	=	Over-predicted
%	=	Accurately predicted
%	=	Under-predicted

Table 2 shows that 49% of those predicted an A\* obtained an A grade, whereas 12% of those predicted an A obtained an A\*, which confirms that the similar predicted and achieved A\* percentages (8.0% and 7.9%), seen in Table 1, were coincidental.

If compared with findings from the 2009 admission dataset, Table 2 highlights the following:

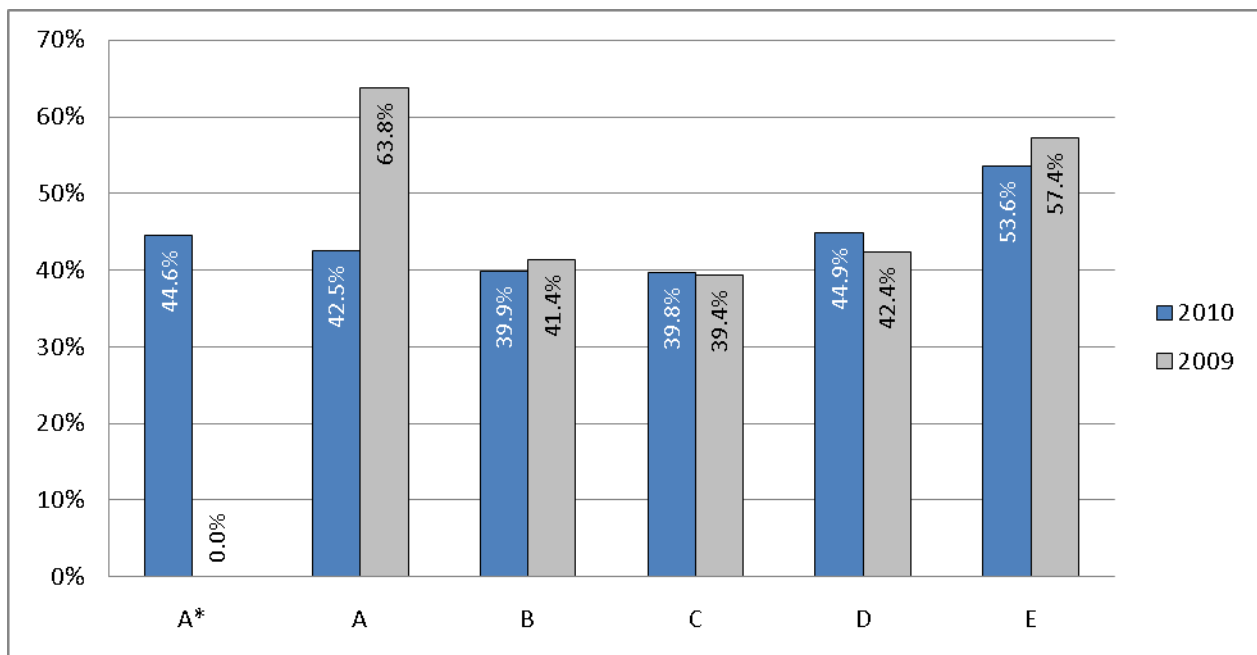
- A grade prediction accuracy has fallen by 21 percentage points
- B grade prediction accuracy has fallen by 2 percentage points
- C grade prediction accuracy has remained very stable, rising by under 1 percentage point

<sup>2</sup> This colour-coding is used in all relevant tables and figures throughout this report, and so should be noted for ease of reference.

- D grade prediction accuracy has risen by 2 percentage points
- E grade prediction accuracy has fallen by 4 percentage points
- The mean accuracy percentage across all grades was 44% which constitutes a fall of 5 percentage points on last year's figures (49%).

Consideration of the 2010 dataset therefore suggests, as might be expected, that the introduction of the A\* grade has had a profoundly negative effect on A grade prediction accuracy, moving it from the most accurately predicted grade (in 2009) to the fourth-most accurately predicted grade behind E, D, and A\* (in 2010). This is highlighted in Figure 1.

**Figure 1 - Accuracy of predicted grades (UK-domiciled, 2009-2010)**



C grades were seen to remain the least accurately predicted at only 40% and B grades remained the second-most likely to be either over- or under-predicted (although the difference between B and C grade prediction accuracy was minimal). E grades became the most accurately predicted grade, D became the second, the new A\* third, and a sizeable decline in A grade prediction accuracy saw this grade dropping to fourth most accurately predicted.

## Over- and under-prediction

Inaccurate predictions can be one or more grades below or above that specified. In the case of a grade of A\*, the prediction can only be accurate or below the A\*. N and U

grades are not included within the dataset, and so, for the purposes of this research, E grade predictions can only be accurate or under-predicted.

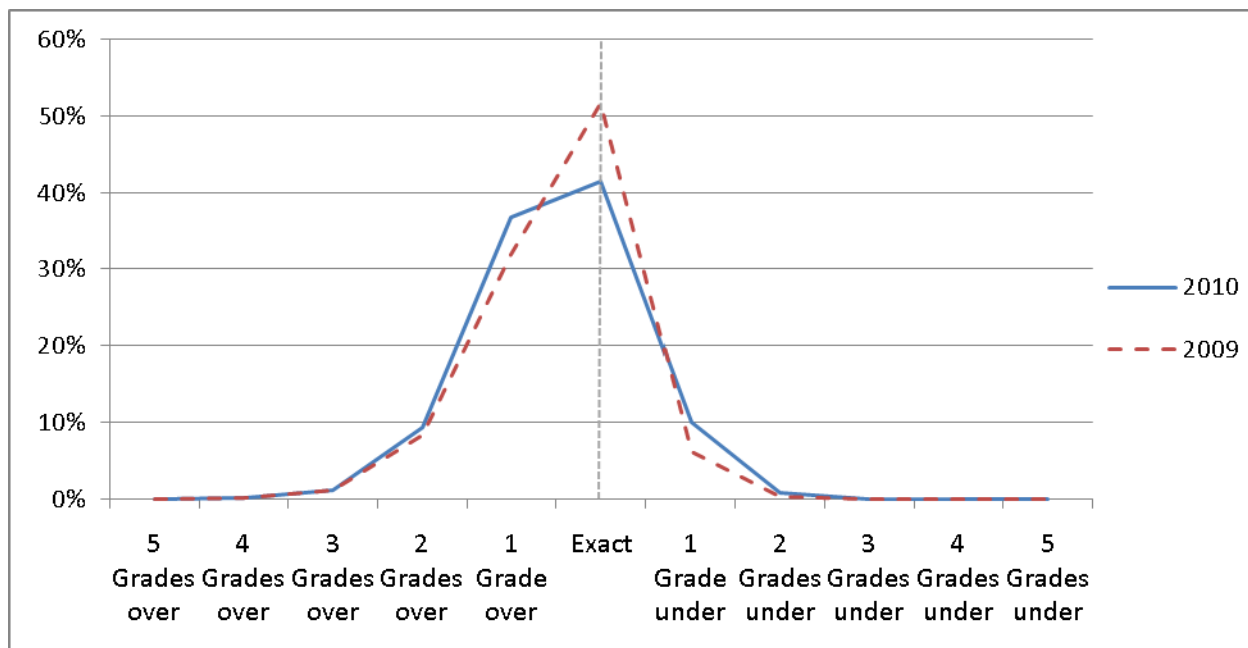
Table 3 details degrees of over- and under-prediction, and associated numbers and percentages, within the 2010 dataset.

**Table 3 - Degree of over- and under-prediction of GCE A level scores (UK-domiciled, 2010)**

Degree of over- and under-prediction	Numbers	Percentages
5 Grades over	6	0.0%
4 Grades over	208	0.1%
3 Grades over	2,176	1.2%
2 Grades over	16,607	9.4%
1 Grade over	65,233	36.8%
Exact	73,496	41.5%
1 Grade under	17,664	10.0%
2 Grades under	1,585	0.9%
3 Grades under	111	0.1%
4 Grades under	8	0.0%
5 Grades under	0	0.0%
Total	177,094	100.0%

As has been identified by previous research in this area, DfES (2005), and BIS (2011), there remained a clear tendency for grades to be over- rather than under-predicted, and the 2010 findings indicated that overall over-prediction had risen by 6 percentage points to 48% from 2009. This rise in over-prediction (coupled with a rise in under-prediction of 4 percentage points) saw overall prediction accuracy falling over 10 percentage points to 42%, the introduction of A\* having had a clear and negative impact on the accuracy of A level grade prediction.

**Figure 2 - Degree of over- and under-prediction of GCE A level grades (UK-domiciled, 2009-10 entry)**



The “Exact” predictions contained all accurately predicted grades (i.e. from A\* to E) but, as has already been shown, the accuracy of grades varied by grade predicted (see **Table 4**)

**Table 4 - Accuracy of predicted GCE A level grades (UK-domiciled, 2010 entry)**

Predicted grade	Percentage under-predicted	Percentage accurately predicted	Percentage over-predicted
A*	n/a	44.6%	55.4%
A	11.8%	42.5%	45.6%
B	8.6%	39.9%	51.5%
C	12.7%	39.8%	47.6%
D	22.0%	44.9%	33.2%
E	46.4%	53.6%	n/a

### Headline findings from Table 4

#### Over-prediction

- Well over half (55%) of all A\* grade predictions had been over-predicted (i.e. achieved an A grade or lower).
- Nearly half (46%) of all A grade predictions had been over-predicted (this represented an increase of 9 percentage points on 2009 figures).

- Over half (52%) of all B grade predictions had been over-predicted.
- Nearly half (48%) of all C grade predictions had been over-predicted.
- D grades had the lowest over-prediction rate (33%).

#### Accurately predicted

- A\* grades saw higher prediction accuracy than A grade predictions (+2 percentage points) although it should be noted that the ceiling effect of the A\* grade will have positively skewed accuracy rates.
- Compared to 2009 data, C grades remained the least accurately predicted grade (39.8%) in 2010, although B grade prediction accuracy was very similar at 39.9%.
- E grades had the highest prediction accuracy of all the grades, although the accuracy percentage dropped by 4 percentage points compared to 2009 figures. Similarly to A\* grades, it should be noted that E grade prediction accuracy will have been positively skewed by the floor effect.

#### Under-prediction

- E grades had the highest percentage of under-prediction (i.e. achieved a D grade or higher), and this figure had risen 4 percentage points compared to 2009 figures.
- B grades were the least under-predicted grade (9%).
- A grades were the second-least under-predicted grade (12%).

## 5. Predictions by applicant characteristics

This section of the report is concerned with elaborating on the findings presented within section 4. The same method of analysis is used as before, with comparisons of predicted and achieved grades providing detailed tables of grade-specific prediction accuracy, however each sub-heading within this section filters these comparisons by a specific applicant characteristic so as to allow reporting on prediction accuracy by individual sub-groups of each characteristic.

### Gender

**Table 5 - The extent of over- and under-prediction of GCE A level grades by gender (UK-domiciled, 2010)**

	Percentage over-predicted	Rank (lowest) <sup>3</sup>	Percentage accurately predicted	Rank (highest) <sup>4</sup>	Percentage under-predicted	Rank (lowest)	Total (number)
Female	46.8%	1	42.1%	1	11.1%	2	97,544
Male	48.6%	2	40.7%	2	10.7%	1	79,550
All	47.6%	-	41.5%	-	10.9%	-	177,094

<sup>3</sup> Ranking for both over- and under-prediction is calculated by low percentages of over- or under-prediction achieving high rankings.

<sup>4</sup> Ranking for prediction accuracy is calculated by high percentages of prediction accuracy achieving high rankings.

**Table 6 - The accuracy of predicted grades by gender (UK-domiciled, 2010)**

		Predicted grades							Total achieved
Female		A*	A	B	C	D	E		
Total predicted		7.4%	33.9%	31.5%	21.3%	5.1%	0.7%	100%	n/a
Achieved grades	A*	44.1%	12.3%	1.6%	0.2%	0.1%	0.0%	n/a	8.0%
	A	49.7%	42.9%	7.1%	0.9%	0.2%	0.0%	n/a	20.7%
	B	5.5%	35.3%	40.7%	11.6%	2.9%	1.2%	n/a	27.9%
	C	0.6%	8.0%	37.7%	41.2%	19.7%	8.5%	n/a	24.5%
	D	0.1%	1.2%	10.9%	34.9%	45.2%	35.6%	n/a	13.9%
	E	0.0%	0.3%	2.0%	11.2%	31.9%	54.7%	n/a	5.1%
Total		100%	100%	100%	100%	100%	100%	n/a	100%
Male		A*	A	B	C	D	E		Total achieved
Total predicted		8.8%	31.4%	30.2%	22.2%	6.5%	1.0%	100%	n/a
Achieved grades	A*	45.2%	11.2%	1.2%	0.2%	0.0%	0.0%	n/a	7.9%
	A	48.9%	42.0%	7.3%	1.0%	0.1%	0.4%	n/a	19.9%
	B	5.2%	36.1%	38.8%	11.5%	3.2%	1.9%	n/a	26.3%
	C	0.5%	8.8%	37.5%	38.0%	17.6%	9.0%	n/a	23.8%
	D	0.2%	1.5%	12.3%	35.8%	44.5%	36.1%	n/a	15.4%
	E	0.0%	0.4%	2.8%	13.5%	34.4%	52.6%	n/a	6.7%
Total		100%	100%	100%	100%	100%	100%	n/a	100%
All		A*	A	B	C	D	E		Total achieved
Total predicted		8.0%	32.8%	31.0%	21.7%	5.7%	0.8%	100%	n/a
Achieved grades	A*	44.6%	11.8%	1.4%	0.2%	0.0%	0.0%	n/a	7.9%
	A	49.3%	42.5%	7.2%	0.9%	0.2%	0.2%	n/a	20.3%
	B	5.4%	35.6%	39.9%	11.6%	3.1%	1.6%	n/a	27.2%
	C	0.6%	8.3%	37.6%	39.8%	18.7%	8.8%	n/a	24.2%
	D	0.1%	1.4%	11.5%	35.3%	44.9%	35.8%	n/a	14.6%
	E	0.0%	0.3%	2.4%	12.2%	33.2%	53.6%	n/a	5.8%
Total		100%	100%	100%	100%	100%	100%	n/a	100%

## Headline findings (gender)

- There appeared to be very little difference between overall accuracy, over-, and under-prediction when comparing males and females; the largest variation was seen in over-prediction where male over-prediction is 2 percentage points higher (49%).
- The largest difference between male and females was seen in the accuracy of C grade predictions, where females' prediction accuracy was higher by 3 percentage points.
- Females were marginally more frequently under-predicted (by under 1 percentage point), and more frequently accurately predicted (by over 1 percentage point).
- Both A\* and A grade achievements were slightly higher among females.
- A\* grade prediction was higher among males (9%).
- A grade prediction was higher among females (34%).
- Females had the highest achievement percentages for A\* (8%), A (21%), B (28%), and C (25%) grades.
- Males had the highest achievement percentages for D (15%) and E (7%) grades.
- A\* grade prediction accuracy was highest among males (45%).
- Excluding A\* grade prediction accuracy, females saw the highest accuracy rates for all grades (A-43%; B-41%; C-41%; D-45%; E-55%).
- A greater percentage (+1 percentage point) of females (compared to males) who were predicted to achieve an A\* grade ultimately achieved an A grade.
- A greater percentage (+1 percentage point) of females (compared to males) who were predicted to achieve an A grade ultimately achieved an A\* grade.



## National Statistics-Socio-economic Classification (NS-SEC)

It is important to note that, due to differences to the way in which the NS-SEC was applied during each of the cycles concerned, the analysis of the NS-SEC for 2010 entry is not comparable with the NS-SEC for 2009 entry.

**Table 7 - The extent of over- and under-prediction of A level grades based on the NS-SEC of the applicant (UK-domiciled, 2010) <sup>5</sup>**

	Percentage over-predicted	Rank (lowest)	Percentage accurately predicted	Rank (highest)	Percentage under-predicted	Rank (lowest)	Total (number)
Higher managerial and professional occupations	44.6%	1	44.0%	1	11.4%	8	39,750
Lower managerial and professional occupations	46.8%	2	42.1%	2	11.1%	7	46,838
Intermediate occupations	47.2%	3	41.9%	3	10.9%	5	18,379
Small employers and own account workers	49.2%	4	39.7%	6	11.1%	6	11,024
Lower supervisory and technical occupations	49.9%	6	40.0%	5	10.1%	1	6,960
Semi-routine occupations	50.6%	7	38.8%	7	10.5%	4	15,882
Routine occupations	51.2%	8	38.3%	8	10.5%	2	6,745
Unknown	49.3%	5	40.2%	4	10.5%	3	31,516

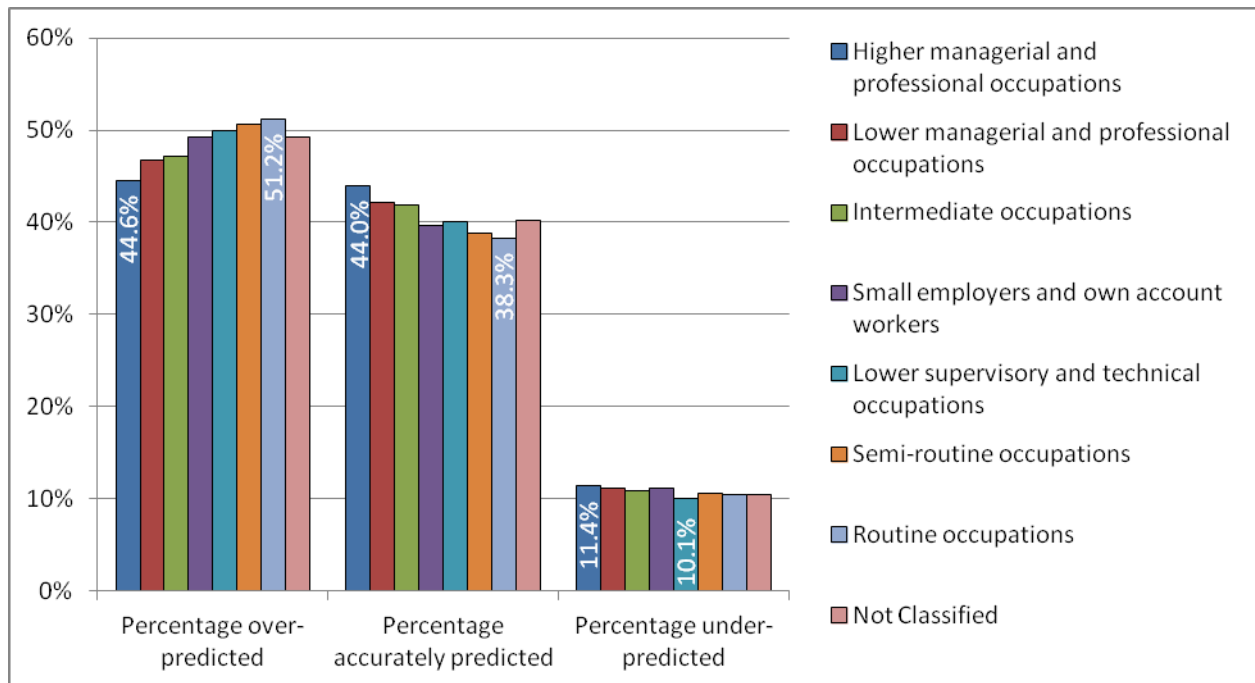
<sup>5</sup> The descriptors used in Table 7 and Table 8 are were taken from the Office of National Statistics: Higher Managerial - Higher managerial occupations; Intermediate - Intermediate occupations; Lower Managerial - Lower managerial occupations; Lower Supervisory - Lower supervisory occupations; Routine - Routine occupations ; Semi-routine - Semi-routine occupations ; Small Employers - Employers in small organisations ; Unknown - Unknown  
<http://www.ons.gov.uk/about-statistics/classifications/current/ns-sec/cats-and-classes/index.html>

**Table 8 - Accuracy of predicted grades by NS-SEC (UK-domiciled, 2010)**

		Predicted grades							
		A*	A	B	C	D	E		Total achieved
Achieved grades	Higher managerial and professional occupations								
	Total predicted	12.6%	38.7%	28.3%	16.1%	3.8%	0.6%	100%	n/a
	A*	47.7%	13.3%	1.6%	0.2%	0.0%	0.0%	n/a	11.6%
	A	47.5%	45.7%	8.4%	1.3%	0.3%	0.5%	n/a	26.3%
	B	4.2%	33.1%	42.0%	12.7%	3.3%	2.3%	n/a	27.4%
	C	0.4%	6.7%	36.4%	40.8%	20.1%	7.7%	n/a	20.3%
	D	0.1%	1.0%	9.9%	34.3%	42.2%	40.5%	n/a	10.5%
E	0.1%	0.2%	1.7%	10.8%	34.1%	49.1%	n/a	3.9%	
Total		100%	100%	100%	100%	100%	100%	n/a	100%
Achieved grades	Lower managerial and professional occupations								
	Total predicted	7.9%	34.0%	30.9%	21.0%	5.5%	0.8%	100%	n/a
	A*	44.4%	12.0%	1.5%	0.2%	0.1%	0.0%	n/a	8.1%
	A	49.9%	43.0%	7.4%	0.9%	0.1%	0.3%	n/a	21.1%
	B	5.1%	35.4%	40.6%	11.7%	3.2%	1.9%	n/a	27.6%
	C	0.6%	8.1%	36.8%	40.6%	19.6%	8.6%	n/a	23.8%
	D	0.1%	1.3%	11.5%	34.8%	45.9%	37.2%	n/a	14.1%
E	0.0%	0.2%	2.3%	11.8%	31.0%	51.9%	n/a	5.3%	
Total		100%	100%	100%	100%	100%	100%	n/a	100%
Achieved grades	Intermediate occupations								
	Total predicted	7.2%	32.3%	31.6%	22.1%	6.0%	0.8%	100%	n/a
	A*	43.6%	11.4%	1.4%	0.1%	0.0%	0.0%	n/a	7.3%
	A	48.6%	42.9%	7.5%	0.8%	0.2%	0.0%	n/a	19.9%
	B	6.5%	36.1%	40.4%	11.2%	3.0%	2.0%	n/a	27.6%
	C	1.0%	7.9%	37.8%	40.4%	19.2%	10.8%	n/a	24.7%
	D	0.3%	1.3%	10.5%	34.8%	46.3%	32.4%	n/a	14.5%
E	0.0%	0.4%	2.4%	12.7%	31.3%	54.7%	n/a	6.0%	
Total		100%	100%	100%	100%	100%	100%	n/a	100%
Achieved grades	Small employers and own account workers								
	Total predicted	4.9%	29.2%	33.0%	24.9%	7.0%	1.1%	100%	n/a
	A*	39.3%	11.2%	1.5%	0.1%	0.3%	0.0%	n/a	5.7%
	A	52.4%	40.1%	6.8%	0.6%	0.3%	0.0%	n/a	16.7%
	B	7.7%	36.6%	38.6%	11.9%	3.1%	0.0%	n/a	27.0%
	C	0.6%	9.8%	38.1%	38.6%	19.0%	10.3%	n/a	26.5%
	D	0.0%	1.9%	12.3%	36.1%	43.8%	29.1%	n/a	17.0%
E	0.0%	0.3%	2.7%	12.7%	33.6%	60.7%	n/a	7.1%	

	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Lower supervisory and technical occupations	A*	A	B	C	D	E		Total achieved
	Total predicted	4.9%	26.1%	35.2%	25.9%	7.2%	0.7%	100%	n/a
Achieved grades	A*	37.6%	10.2%	1.1%	0.2%	0.0%	0.0%	n/a	4.9%
	A	53.5%	37.3%	6.2%	0.8%	0.0%	0.0%	n/a	14.7%
	B	8.2%	39.8%	40.2%	11.2%	4.0%	0.0%	n/a	28.1%
	C	0.6%	11.0%	38.6%	41.3%	16.0%	12.8%	n/a	28.4%
	D	0.0%	1.3%	11.5%	35.2%	44.0%	25.5%	n/a	16.8%
	E	0.0%	0.4%	2.5%	11.3%	36.0%	61.7%	n/a	6.9%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Semi-routine occupations	A*	A	B	C	D	E		Total achieved
	Total predicted	4.7%	27.6%	32.5%	26.6%	7.5%	1.1%	100%	n/a
Achieved grades	A*	39.9%	10.0%	1.3%	0.1%	0.0%	0.0%	n/a	5.1%
	A	52.3%	39.0%	6.0%	0.8%	0.2%	0.6%	n/a	15.4%
	B	6.8%	38.5%	36.5%	11.6%	3.0%	0.6%	n/a	26.1%
	C	0.9%	10.1%	39.9%	38.8%	18.1%	5.2%	n/a	27.5%
	D	0.1%	2.0%	13.4%	36.4%	45.5%	39.1%	n/a	18.4%
	E	0.0%	0.4%	2.9%	12.4%	33.2%	54.6%	n/a	7.4%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Routine occupations	A*	A	B	C	D	E		Total achieved
	Total predicted	3.5%	25.2%	33.4%	28.8%	7.9%	1.2%	100%	n/a
Achieved grades	A*	38.1%	9.4%	1.5%	0.1%	0.0%	0.0%	n/a	4.2%
	A	49.2%	37.3%	5.4%	0.7%	0.2%	0.0%	n/a	13.1%
	B	11.4%	40.6%	37.7%	11.6%	2.8%	3.7%	n/a	26.8%
	C	1.3%	10.0%	40.1%	37.0%	16.5%	8.6%	n/a	28.0%
	D	0.0%	2.2%	12.5%	35.5%	48.1%	42.0%	n/a	19.3%
	E	0.0%	0.5%	2.8%	15.1%	32.4%	45.7%	n/a	8.5%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Not Classified	A*	A	B	C	D	E		Total achieved
	Total predicted	7.1%	30.7%	31.0%	23.7%	6.4%	1.0%	100%	n/a
Achieved grades	A*	43.2%	11.2%	1.3%	0.2%	0.0%	0.0%	n/a	7.0%
	A	50.4%	40.8%	6.6%	0.9%	0.2%	0.0%	n/a	18.4%
	B	5.4%	36.5%	38.7%	10.7%	2.7%	1.3%	n/a	26.3%
	C	0.5%	9.4%	38.0%	38.8%	17.6%	9.7%	n/a	25.1%
	D	0.3%	1.6%	12.5%	36.3%	44.0%	33.3%	n/a	16.1%
	E	0.1%	0.5%	2.8%	13.0%	35.5%	55.7%	n/a	7.0%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%

**Figure 3 – Illustration of the extent of over-/under-prediction of A level grades based on socio-economic background (UK-domiciled, 2010)**



As is illustrated in Figure 3, the ‘Higher managerial and professional occupations’ group had the highest prediction accuracy, along with the lowest over-prediction and the highest under-prediction rates. By contrast, the ‘Routine occupations’ group had the lowest prediction accuracy and the highest rate of over-prediction. Identifying results such as these provides compelling evidence to suggest that this is a demographic characteristic which has a strong influence upon grade prediction accuracy; however, it should be noted that the results being observed in this instance are likely to have been caused by a number of external factors other than simply social class. If grade attainment of the two aforementioned NS-SEC groups are compared, substantial variation can be seen, with the ‘Routine occupations’ group attaining over 7% fewer A\* grades, 13% fewer A grades, and much higher percentages of grades at the bottom end of the scale (see Table 9).

**Table 9 – Comparison of grade achievement for the ‘Higher Managerial and professional occupations’ and ‘Routine occupations’ groups (UK-domiciled, 2010)**

Achieved Grade	Higher managerial and professional occupations	Routine occupations	Difference
A*	11.6%	4.2%	-7.4%
A	26.3%	13.1%	-13.1%
B	27.4%	26.8%	-0.6%
C	20.3%	28.0%	7.7%
D	10.5%	19.3%	8.7%
E	3.9%	8.5%	4.7%

Previous research, DfES (2005), and BIS (2011), concluded that certain grades are easier to predict accurately than others, especially those at the upper or lower extremities of the grading scale in question, and so it is possible that the apparent effect of social class on prediction accuracy is more a reflection of the effect that social class may have on attainment rates.

### **Headline findings (NS-SEC)**

- Those in the ‘higher managerial and professional occupations’ group had the lowest rate of over-prediction (45%), the highest rate of accurate predictions (44%); conversely, those within the ‘routine occupations’ group had the highest rate of over-prediction (51%), the lowest rate of accurate predictions (38%).
- Those in the ‘lower supervisory and technical occupations’ group saw the lowest percentage of under-predictions (10%).
- The ‘higher managerial and professional occupations’ group received the highest percentages of both A\* and A grade predictions (13% and 39%) and achievement (12% and 26%). This group also had the highest A\* (48%), A (46%), and B (42%) grade prediction accuracy.
- The percentage of A\* grade prediction accuracy seen among the ‘higher managerial and professional occupations’ group (48%) was 10 percentage points higher than the ‘routine occupations’ group (38%).
- The ‘routine occupations’ group had the highest percentage of C (29%), D (8%), and E (1%) grade predictions, as well as the highest percentage of D (19%) and

E (9%) grade achievement. This group had the highest D grade prediction accuracy (48%).

- The 'lower supervisory and technical occupations' group had the lowest A\* grade prediction accuracy, with 54% of all predicted A\* grades resulting in A grade achievement. This group also had the highest C (41%) and E (62%) grade prediction accuracy.

## Ethnicity

**Table 10 - The extent of over- and under-prediction of A level grades based on ethnicity of the applicant (UK-domiciled, 2010)**

	Percentage over-predicted	Rank (lowest)	Percentage accurately predicted	Rank (highest)	Percentage under-predicted	Rank (lowest)	Total (number)
Asian Bangladeshi	54.4%	11	34.4%	14	11.3%	13	1,974
Asian Chinese	42.8%	1	44.4%	2	12.8%	15	1,827
Asian Indian	49.0%	5	40.7%	5	10.3%	8	8,261
Asian Other	55.7%	12	35.9%	11	8.4%	1	2,801
Asian Pakistani	53.8%	10	36.7%	10	9.5%	5	5,113
Black African	55.7%	13	35.0%	12	9.2%	3	4,562
Black Caribbean	56.2%	14	34.7%	13	9.1%	2	1,720
Black Other	58.7%	15	30.8%	15	10.5%	9	305
Mixed Other	50.7%	7	39.1%	7	10.2%	7	1,641
Mixed White and Asian	44.7%	2	44.8%	1	10.6%	10	2,313
Mixed White and Black African	49.0%	6	39.8%	6	11.2%	11	520
Mixed White and Black Caribbean	52.4%	9	37.6%	9	10.0%	6	1,435
Other	51.7%	8	39.1%	8	9.3%	4	1,690
Unknown	45.3%	3	42.4%	3	12.4%	14	1,230
White	46.6%	4	42.3%	4	11.2%	12	141,702

**Table 11 - Accuracy of predicted grades by ethnicity (UK-domiciled, 2010)**

		Predicted grades							Total achieved
Asian Bangladeshi		A*	A	B	C	D	E		
Achieved grades	Total predicted	3.8%	24.3%	33.3%	28.0%	9.3%	1.4%	100%	n/a
	A*	38.7%	9.6%	2.0%	0.0%	0.0%	0.0%	n/a	4.5%
	A	48.0%	33.1%	6.1%	0.5%	0.0%	0.0%	n/a	12.1%
	B	10.7%	41.0%	32.6%	13.8%	3.8%	0.0%	n/a	25.4%
	C	1.3%	13.8%	35.9%	32.6%	16.9%	11.1%	n/a	26.2%
	D	1.3%	1.3%	19.5%	39.7%	41.5%	14.8%	n/a	22.0%
	E	0.0%	1.3%	4.0%	13.4%	37.7%	74.1%	n/a	9.9%
Total		100%	100%	100%	100%	100%	100%	n/a	100%
Asian Chinese		A*	A	B	C	D	E		Total achieved
Total predicted		16.8%	37.7%	24.6%	15.7%	4.4%	0.9%	100%	n/a
Achieved grades	A*	56.0%	14.1%	1.8%	0.3%	1.3%	0.0%	n/a	15.3%
	A	38.8%	46.0%	11.8%	1.4%	1.3%	0.0%	n/a	27.0%
	B	3.9%	31.1%	40.1%	15.7%	2.5%	6.3%	n/a	24.8%
	C	1.0%	6.8%	30.7%	37.1%	20.0%	0.0%	n/a	17.0%
	D	0.0%	1.9%	12.0%	33.9%	33.8%	31.3%	n/a	10.7%
	E	0.3%	0.1%	3.6%	11.5%	41.3%	62.5%	n/a	5.1%
	Total		100%	100%	100%	100%	100%	100%	n/a
Asian Indian		A*	A	B	C	D	E		Total achieved
Total predicted		9.9%	34.9%	28.7%	19.3%	6.0%	1.2%	100%	n/a
Achieved grades	A*	44.6%	8.7%	1.3%	0.1%	0.0%	0.0%	n/a	7.9%
	A	48.8%	42.5%	7.3%	1.1%	0.2%	1.0%	n/a	22.0%
	B	5.4%	35.6%	37.8%	13.7%	3.8%	1.0%	n/a	26.7%
	C	1.0%	10.4%	38.0%	38.1%	19.4%	9.2%	n/a	23.3%
	D	0.2%	2.3%	12.9%	34.4%	42.9%	28.6%	n/a	14.1%
	E	0.0%	0.5%	2.7%	12.6%	33.6%	60.2%	n/a	6.1%
Total		100%	100%	100%	100%	100%	100%	n/a	100%
Asian Other		A*	A	B	C	D	E		Total achieved

		Predicted grades							
Achieved grades	Total predicted	11.6%	33.7%	27.1%	20.6%	5.9%	1.0%	100%	n/a
	A*	38.7%	8.9%	0.3%	0.0%	0.6%	0.0%	n/a	7.6%
	A	54.0%	38.0%	5.5%	0.3%	0.0%	0.0%	n/a	20.7%
	B	5.8%	37.9%	32.5%	10.7%	1.8%	6.9%	n/a	24.7%
	C	1.5%	10.8%	39.1%	32.7%	16.4%	3.4%	n/a	22.2%
	D	0.0%	3.5%	17.0%	38.9%	41.2%	34.5%	n/a	16.6%
	E	0.0%	0.8%	5.5%	17.3%	40.0%	55.2%	n/a	8.3%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Asian Pakistani		A*	A	B	C	D	E		Total achieved
Achieved grades	Total predicted	5.1%	29.0%	29.8%	25.7%	8.7%	1.6%	100%	n/a
	A*	40.2%	6.9%	1.1%	0.2%	0.0%	0.0%	n/a	4.4%
	A	46.7%	39.1%	6.3%	0.8%	0.2%	0.0%	n/a	15.8%
	B	11.1%	38.3%	31.5%	9.7%	3.6%	0.0%	n/a	23.9%
	C	1.5%	12.6%	40.9%	35.4%	16.1%	11.1%	n/a	26.6%
	D	0.4%	2.6%	16.2%	37.3%	45.5%	39.5%	n/a	19.8%
	E	0.0%	0.5%	4.0%	16.7%	34.5%	49.4%	n/a	9.4%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Black African		A*	A	B	C	D	E		Total achieved
Achieved grades	Total predicted	3.6%	25.8%	33.8%	26.3%	8.6%	2.0%	100%	n/a
	A*	28.3%	5.5%	1.2%	0.0%	0.0%	0.0%	n/a	2.9%
	A	59.0%	32.0%	4.7%	0.9%	0.3%	0.0%	n/a	12.3%
	B	10.8%	45.1%	33.1%	10.8%	3.1%	0.0%	n/a	26.3%
	C	1.8%	13.1%	38.4%	37.5%	17.9%	10.1%	n/a	28.0%
	D	0.0%	3.0%	17.6%	36.3%	42.7%	36.0%	n/a	20.6%
	E	0.0%	1.4%	4.9%	14.5%	36.1%	53.9%	n/a	10.0%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Black Caribbean		A*	A	B	C	D	E		Total achieved
Achieved grades	Total predicted	2.2%	22.0%	34.0%	30.3%	10.0%	1.5%	100%	n/a
	A*	35.1%	6.6%	0.5%	0.0%	0.0%	0.0%	n/a	2.4%
	A	40.5%	30.9%	5.5%	0.8%	0.0%	0.0%	n/a	9.8%
	B	18.9%	43.3%	32.5%	8.8%	2.3%	0.0%	n/a	23.9%
	C	5.4%	15.8%	42.2%	36.9%	17.4%	0.0%	n/a	30.9%
	D	0.0%	3.2%	16.4%	39.7%	41.9%	50.0%	n/a	23.3%
	E	0.0%	0.3%	2.9%	13.8%	38.4%	50.0%	n/a	9.8%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	



		Predicted grades							
		A*	A	B	C	D	E		Total achieved
Achieved grades	Black Other								
	Total predicted	1.0%	25.6%	35.1%	26.6%	10.5%	1.3%	100%	n/a
	A*	0.0%	3.8%	0.9%	0.0%	0.0%	0.0%	n/a	1.3%
	A	100%	34.6%	4.7%	1.2%	0.0%	0.0%	n/a	11.8%
	B	0.0%	46.2%	26.2%	12.3%	6.3%	25.0%	n/a	25.2%
	C	0.0%	15.4%	46.7%	30.9%	25.0%	0.0%	n/a	31.1%
	D	0.0%	0.0%	18.7%	39.5%	37.5%	25.0%	n/a	21.3%
	E	0.0%	0.0%	2.8%	16.0%	31.3%	50.0%	n/a	9.2%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Achieved grades	Mixed Other								Total achieved
	Total predicted	9.7%	33.1%	32.3%	19.2%	5.1%	0.6%	100%	n/a
	A*	42.8%	10.5%	3.2%	0.0%	0.0%	0.0%	n/a	8.7%
	A	51.6%	38.9%	7.2%	0.3%	0.0%	0.0%	n/a	20.2%
	B	5.7%	37.9%	35.8%	8.6%	3.6%	0.0%	n/a	26.5%
	C	0.0%	9.8%	41.3%	43.2%	23.8%	0.0%	n/a	26.1%
	D	0.0%	2.2%	10.6%	37.8%	36.9%	50.0%	n/a	13.6%
	E	0.0%	0.7%	1.9%	10.2%	35.7%	50.0%	n/a	4.9%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Achieved grades	Mixed White and Asian								Total achieved
	Total predicted	14.5%	37.2%	27.3%	15.4%	4.8%	0.8%	100%	n/a
	A*	50.3%	12.1%	1.3%	0.3%	0.0%	0.0%	n/a	12.2%
	A	44.6%	46.6%	6.8%	2.0%	1.8%	5.6%	n/a	26.1%
	B	4.8%	33.5%	42.2%	12.3%	3.6%	0.0%	n/a	26.7%
	C	0.3%	6.3%	37.4%	37.5%	20.7%	5.6%	n/a	19.4%
	D	0.0%	1.0%	10.5%	37.8%	49.5%	33.3%	n/a	11.7%
	E	0.0%	0.5%	1.9%	10.1%	24.3%	55.6%	n/a	3.8%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Achieved grades	Mixed White and Black African								Total achieved
	Total predicted	9.6%	31.7%	29.4%	21.7%	6.5%	1.0%	100%	n/a
	A*	40.0%	12.1%	0.7%	0.0%	0.0%	0.0%	n/a	7.9%
	A	54.0%	39.4%	9.8%	0.0%	0.0%	0.0%	n/a	20.6%
	B	6.0%	37.0%	36.6%	9.7%	2.9%	0.0%	n/a	25.4%
	C	0.0%	10.3%	37.9%	41.6%	26.5%	0.0%	n/a	25.2%
	D	0.0%	1.2%	10.5%	38.9%	44.1%	20.0%	n/a	15.0%
	E	0.0%	0.0%	4.6%	9.7%	26.5%	80.0%	n/a	6.0%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	

	Mixed White and Black Caribbean	A*	A	B	C	D	E		Total achieved
	Total predicted	4.7%	27.9%	32.1%	27.2%	7.4%	0.8%	100%	n/a
Achieved grades	A*	33.8%	9.5%	1.3%	1.0%	0.0%	0.0%	n/a	4.9%
	A	58.8%	35.5%	6.3%	1.8%	0.0%	0.0%	n/a	15.2%
	B	5.9%	40.3%	37.8%	7.4%	6.6%	0.0%	n/a	26.1%
	C	0.0%	12.3%	41.3%	37.2%	19.8%	0.0%	n/a	28.2%
	D	1.5%	2.0%	11.5%	37.4%	44.3%	18.2%	n/a	17.9%
	E	0.0%	0.5%	1.7%	15.1%	29.2%	81.8%	n/a	7.6%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Other	A*	A	B	C	D	E		Total achieved
	Total predicted	8.5%	34.1%	30.2%	20.7%	5.3%	1.2%	100%	n/a
Achieved grades	A*	40.6%	9.7%	1.0%	0.0%	0.0%	0.0%	n/a	7.0%
	A	51.0%	39.5%	8.2%	0.9%	0.0%	0.0%	n/a	20.5%
	B	6.3%	37.4%	35.1%	7.7%	2.2%	0.0%	n/a	25.6%
	C	2.1%	10.6%	38.2%	39.7%	15.6%	15.0%	n/a	24.6%
	D	0.0%	1.9%	12.9%	38.0%	48.9%	25.0%	n/a	15.3%
	E	0.0%	0.9%	4.5%	13.7%	33.3%	60.0%	n/a	7.0%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Unknown	A*	A	B	C	D	E		Total achieved
	Total predicted	14.6%	36.3%	28.4%	15.3%	4.6%	0.9%	100%	n/a
Achieved grades	A*	45.8%	14.3%	2.0%	1.1%	0.0%	0.0%	n/a	12.6%
	A	50.8%	43.6%	6.9%	1.1%	0.0%	0.0%	n/a	25.4%
	B	3.4%	30.9%	41.0%	16.0%	5.4%	0.0%	n/a	26.0%
	C	0.0%	9.6%	34.1%	38.8%	26.8%	9.1%	n/a	20.4%
	D	0.0%	1.6%	13.8%	30.9%	39.3%	36.4%	n/a	11.3%
	E	0.0%	0.0%	2.3%	12.2%	28.6%	54.5%	n/a	4.3%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	White	A*	A	B	C	D	E		Total achieved
	Total predicted	7.9%	33.1%	31.2%	21.6%	5.4%	0.7%	100%	n/a
Achieved grades	A*	44.9%	12.5%	1.5%	0.2%	0.0%	0.0%	n/a	8.2%
	A	49.4%	43.2%	7.3%	0.9%	0.2%	0.1%	n/a	20.7%
	B	5.1%	35.2%	41.0%	11.7%	3.0%	1.8%	n/a	27.5%
	C	0.4%	7.7%	37.4%	40.5%	18.7%	9.1%	n/a	24.1%
	D	0.1%	1.2%	10.8%	34.9%	45.4%	37.0%	n/a	14.0%
	E	0.0%	0.3%	2.1%	11.8%	32.7%	52.1%	n/a	5.4%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%

**Figure 4 - Illustration of the extent of over-/under-prediction of A level grades based on ethnic group (UK-domiciled, 2010)**

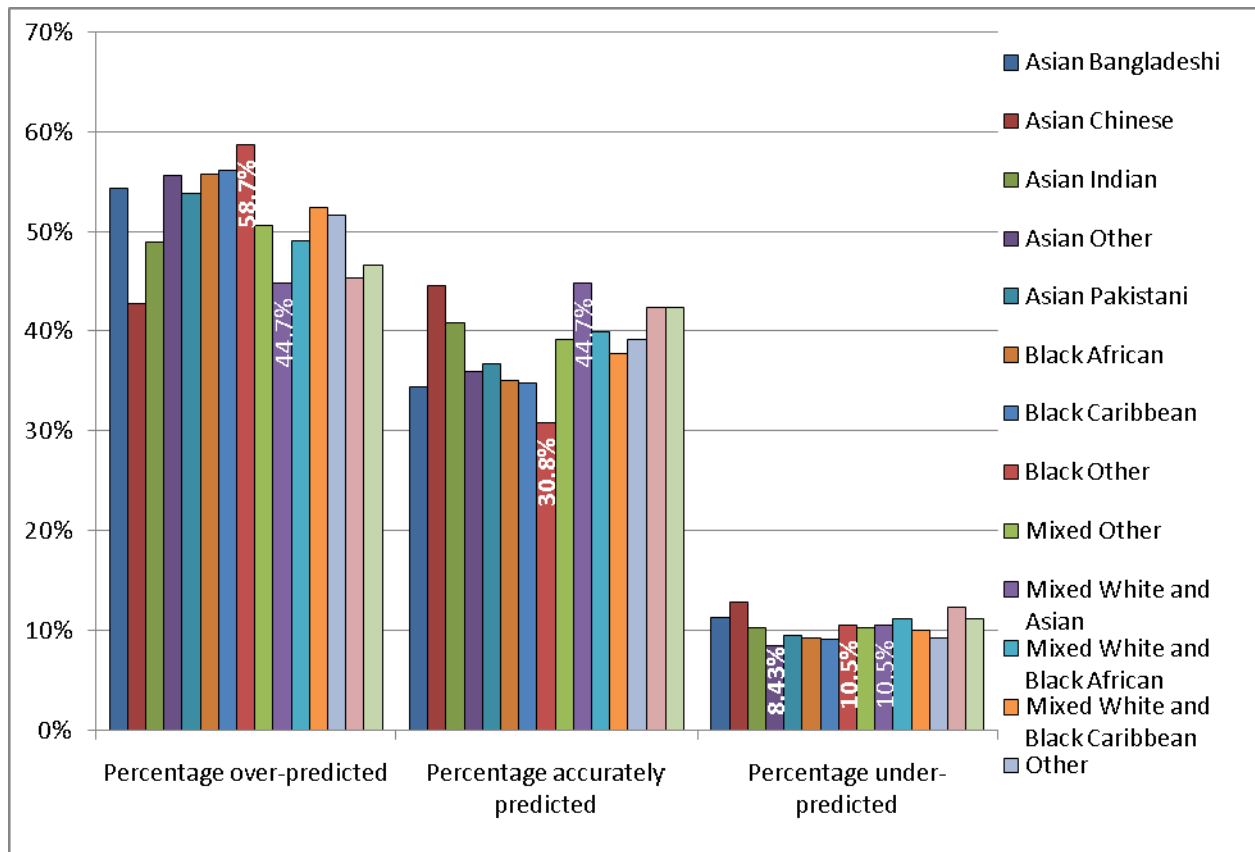


Figure 4 shows there to be considerable variation of prediction accuracy across the 15 ethnic groups considered, with the highest prediction accuracy seen among Mixed White and Asian (45%), and the lowest accuracy seen among the 'Black Other' group where only 31% of predictions were correct. If prediction accuracy within these two ethnic groups is then compared grade-by-grade, it is possible to understand where the major differences lie.

**Headline findings (ethnicity):**

- The 'Asian Chinese' group had the lowest percentage of over-prediction (43%), the highest percentage of under-prediction (13%), and second highest percentage of accurate predictions (44%).
- The 'Mixed White and Asian' group had the highest prediction accuracy (45%).

- The 'Black African', 'Black Caribbean', and 'Black Other' groups all had high rates of over-prediction (56%, 56%, and 59% respectively), and low rates of prediction accuracy (35%, 35%, and 31% respectively).
- The lowest percentage of under-prediction was seen within the 'Asian Other' group (8%), although this group also had low prediction accuracy (36%), and high over-prediction rates (56%).
- The 'Asian Chinese' group received the highest percentages of both A\* and A grade predictions and achievement. This group also had the highest A\* grade prediction accuracy (56%) and the second highest A grade prediction accuracy (46%).
- The 'Mixed White and Asian' group had the highest prediction accuracy for A (47%), B (42%) and D (50%) grades.
- The 'White' applicant group had the highest percentage of B grade achievement.

## Centre-type attended

**Table 12 - The extent of over- and under-prediction of A level grades based on centre-type of the applicant (UK-domiciled, 2010)**

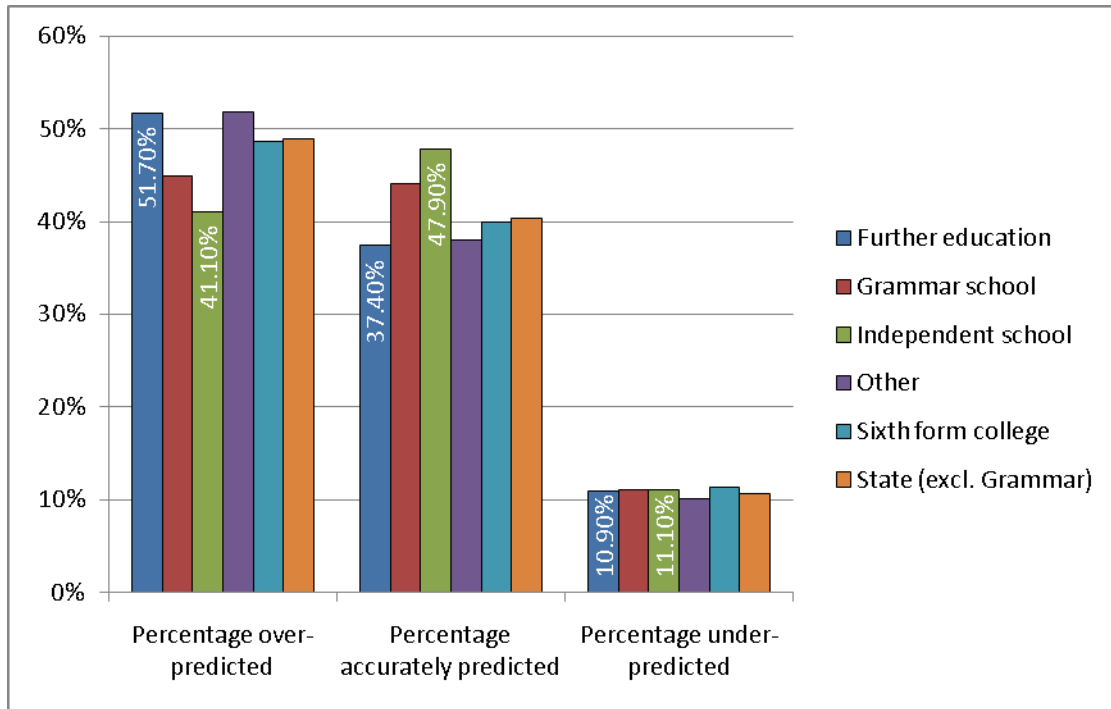
	Percentage over-predicted	Rank (lowest)	Percentage accurately predicted	Rank (highest)	Percentage under-predicted	Rank (lowest)	Total (number)
Further education	51.7%	5	37.4%	6	10.9%	3	10,474
Grammar school	44.9%	2	44.1%	2	11.0%	4	20,425
Independent school	41.1%	1	47.9%	1	11.1%	5	23,166
Other	51.9%	6	38.0%	5	10.1%	1	3,108
Sixth form college	48.7%	3	40.0%	4	11.4%	6	36,953
State (excl. Grammar)	48.9%	4	40.4%	3	10.7%	2	82,968

**Table 13 - The percentage of predictions by grade; percentage of predicted grades by achieved grades and by centre-type (UK-domiciled, 2010)**

		Predicted grades							Total achieved
		A*	A	B	C	D	E		
Further education									
Total predicted		3.4%	28.2%	35.7%	25.8%	6.3%	0.7%	100%	n/a
Achieved grades	A*	32.2%	11.1%	1.1%	0.2%	0.0%	0.0%	n/a	4.7%
	A	58.1%	36.5%	6.4%	1.5%	0.2%	0.0%	n/a	15.0%
	B	8.3%	39.4%	36.3%	10.7%	3.0%	1.4%	n/a	27.3%
	C	1.4%	10.4%	38.9%	38.1%	21.3%	6.9%	n/a	28.1%
	D	0.0%	2.1%	13.9%	36.5%	45.1%	40.3%	n/a	18.1%
	E	0.0%	0.4%	3.4%	12.9%	30.4%	51.4%	n/a	6.9%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
Grammar school									Total achieved
Total predicted		14.4%	42.6%	28.0%	12.4%	2.3%	0.3%	100%	n/a
Achieved grades	A*	47.5%	13.3%	1.8%	0.4%	0.0%	0.0%	n/a	13.0%
	A	47.5%	45.0%	8.0%	1.3%	0.6%	1.8%	n/a	28.4%
	B	4.1%	33.1%	42.8%	14.3%	4.2%	0.0%	n/a	28.5%
	C	0.5%	7.2%	35.5%	39.6%	17.6%	10.7%	n/a	18.4%
	D	0.2%	1.1%	10.1%	33.6%	44.3%	33.9%	n/a	8.6%
	E	0.1%	0.3%	1.9%	10.9%	33.3%	53.6%	n/a	2.9%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
Independent school									Total achieved
Total predicted		19.7%	45.5%	23.9%	8.9%	1.8%	0.3%	100%	n/a
Achieved grades	A*	49.7%	13.1%	1.6%	0.3%	0.0%	0.0%	n/a	16.2%
	A	46.8%	50.2%	11.2%	1.7%	0.7%	0.0%	n/a	34.9%
	B	3.1%	30.5%	44.2%	14.0%	4.7%	2.8%	n/a	26.4%
	C	0.3%	5.2%	33.0%	42.4%	22.9%	11.3%	n/a	14.5%
	D	0.1%	0.7%	8.4%	31.3%	43.2%	40.8%	n/a	6.0%
	E	0.0%	0.2%	1.7%	10.4%	28.5%	45.1%	n/a	2.1%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
Other									Total achieved
Total predicted		3.7%	27.3%	32.5%	29.0%	6.4%	1.1%	100%	n/a
Achieved grades	A*	40.5%	9.4%	0.8%	0.0%	0.0%	0.0%	n/a	4.3%
	A	48.3%	34.3%	5.7%	1.0%	0.0%	0.0%	n/a	13.3%
	B	9.5%	41.9%	36.9%	11.2%	3.5%	0.0%	n/a	27.3%
	C	1.7%	11.8%	39.6%	39.6%	17.7%	6.1%	n/a	28.8%
	D	0.0%	2.0%	14.2%	36.4%	48.5%	39.4%	n/a	19.2%

	E	0.0%	0.6%	2.8%	11.8%	30.3%	54.5%	n/a	7.0%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Sixth form college	A*	A	B	C	D	E		Total achieved
	Total predicted	5.2%	30.4%	32.1%	24.3%	6.8%	1.2%	100%	n/a
Achieved grades	A*	37.8%	11.4%	1.5%	0.2%	0.2%	0.0%	n/a	6.0%
	A	52.5%	39.5%	6.5%	0.9%	0.2%	0.2%	n/a	17.1%
	B	8.4%	37.2%	39.3%	11.9%	3.8%	1.6%	n/a	27.5%
	C	1.0%	9.5%	38.2%	40.1%	18.9%	9.9%	n/a	26.4%
	D	0.3%	1.8%	11.7%	35.0%	44.4%	37.3%	n/a	16.3%
	E	0.1%	0.5%	2.8%	11.8%	32.7%	50.9%	n/a	6.7%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	State (excl. Grammar)	A*	A	B	C	D	E		Total achieved
	Total predicted	5.1%	28.7%	32.5%	25.6%	7.1%	1.0%	100%	n/a
Achieved grades	A*	41.3%	11.1%	1.4%	0.2%	0.0%	0.0%	n/a	5.8%
	A	51.0%	40.7%	6.6%	0.7%	0.1%	0.1%	n/a	16.6%
	B	7.0%	37.4%	39.2%	11.0%	2.6%	1.6%	n/a	26.8%
	C	0.5%	9.2%	38.6%	39.6%	18.1%	8.2%	n/a	26.7%
	D	0.2%	1.4%	11.9%	35.9%	45.1%	34.2%	n/a	17.0%
	E	0.0%	0.3%	2.3%	12.7%	34.1%	55.9%	n/a	7.0%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%

**Figure 5 - Illustration of the extent of over-/under-prediction of A level grades based on centre-type (UK-domiciled, 2010)**

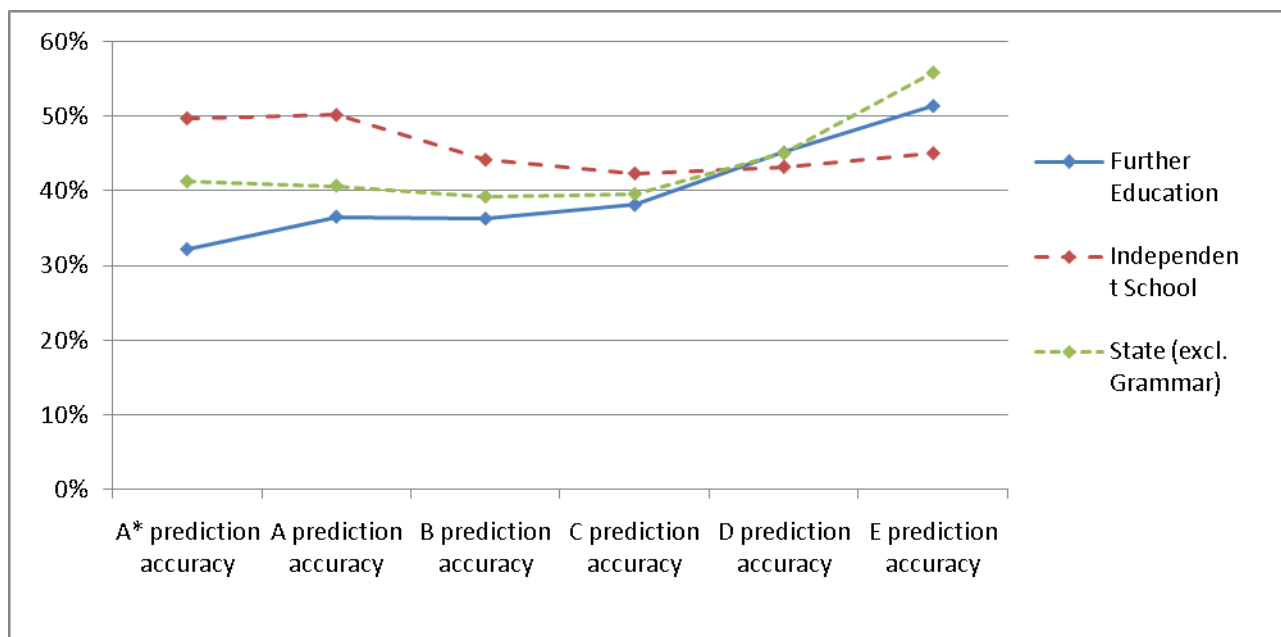


As can be seen in Figure 5, variation in under-prediction is slight across all centre-types. The biggest contrast in prediction accuracy can be seen by comparing Further education colleges with Independent schools, with the former centre-type seeing the lowest prediction accuracy and highest over-prediction and the latter being amongst the highest prediction accuracy and lowest over-prediction.

Figure 6 provides a visual comparison between these two centre-types (it also includes 'State (excl. Grammar)' institutions for reference as this was the largest group) where it can be seen that, for the 'Further education' group, prediction accuracy rises steadily as grades decrease. The same cannot be said for the 'Independent' group.



**Figure 6 – Comparison of grade prediction accuracies for the ‘Further education’, ‘Independent’, and ‘State (excl. Grammar)’ centre-types (UK-domiciled, 2010)**



### Headline findings (centre-type)

- ‘Independent’ centre-types had the lowest percentage of over-prediction (41.1%) and the highest percentage of accurate predictions (47.9%).
- There was little difference between centre-types in terms of under-predicted grades (a range of only 1.3 percentage points). The lowest was seen in the ‘Other’ group at 10.0%, and the highest was seen within the ‘Sixth form college’ group with a percentage of 11.4%.
- The ‘Further education’ group had the lowest percentage of prediction accuracy (37.4%), and the second highest rate of over-prediction (51.7%).
- The ‘Independent’ group received the highest percentages of both A\* (19.7% - which was 16.3 percentage points higher than the ‘Further education’ group) and A (45.5%) grade predictions. This group also saw the highest achievement rates for A\* and A grades.
- The ‘Independent’ group had the highest A\* (49.7%), A (50.2%), B (44.2%), and C (42.4%) grade prediction accuracy.

- The 'Further education' group had the lowest A\* (32.2%), A (36.3%), B (36.3%), and C (38.1%) grade prediction accuracy.
- The 'Grammar school' applicant group had the highest percentage of B grade achievement.
- The highest percentage of inaccurate-by-one-grade A\* predictions was seen among the 'Further education' group (58.1%)
- The 'Grammar school' group had the highest percentage of A grade predictions that resulted in A\* achievement (13.3%). The group with the lowest percentage of one grade under-prediction of A\* achievement was 'Other', but it should be noted that this percentage was only marginally lower (at 9.4%).

## Disability

**Table 14 - The extent of over- and under-prediction of A level grades based on disability of the applicant (UK-domiciled, 2010)**

	Percentage over-predicted	Rank (lowest)	Percentage accurately predicted	Rank (highest)	Percentage under-predicted	Rank (lowest)	Total (number)
Autistic disorder	41.4%	2	40.9%	8	17.8%	10	411
Blind/partial sight	41.5%	3	44.4%	2	14.1%	8	135
Deaf/partial hearing	43.1%	4	45.9%	1	11.0%	3	218
Learning difficulty	45.1%	5	43.3%	3	11.6%	5	5,134
Long standing illness	49.1%	9	39.7%	10	11.2%	4	1,050
Mental health	51.0%	10	41.4%	6	7.6%	1	461
Multiple disabilities	45.5%	6	41.3%	7	13.2%	7	213
No disability	47.7%	8	41.5%	5	10.9%	2	168,095
Other disability	46.7%	7	40.3%	9	13.0%	6	1,113
Wheelchair/mobility	40.5%	1	43.2%	4	16.3%	9	264

**Table 15 - Accuracy of predicted grades; percentage of predicted grades by achieved grades and by disability (UK-domiciled, 2010)**

		Predicted grades							
		A*	A	B	C	D	E		Total achieved
Autistic disorder									
Total predicted		9.2%	23.6%	26.0%	27.5%	10.7%	2.9%	100%	n/a
Achieved grades	A*	50.0%	22.7%	1.9%	0.0%	0.0%	0.0%	n/a	10.5%
	A	42.1%	47.4%	8.4%	1.8%	0.0%	0.0%	n/a	17.8%
	B	7.9%	22.7%	41.1%	17.7%	2.3%	0.0%	n/a	21.9%
	C	0.0%	6.2%	38.3%	30.1%	18.2%	16.7%	n/a	22.1%
	D	0.0%	1.0%	9.3%	37.2%	50.0%	58.3%	n/a	20.0%
	E	0.0%	0.0%	0.9%	13.3%	29.5%	25.0%	n/a	7.8%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
Blind/partial sight									Total achieved
Total predicted		8.1%	26.7%	31.9%	20.7%	9.6%	3.0%	100%	n/a
Achieved grades	A*	45.5%	11.1%	2.3%	0.0%	0.0%	0.0%	n/a	7.4%
	A	45.5%	36.1%	2.3%	0.0%	0.0%	0.0%	n/a	14.1%
	B	9.1%	47.2%	51.2%	10.7%	0.0%	0.0%	n/a	31.9%
	C	0.0%	2.8%	30.2%	53.6%	53.8%	0.0%	n/a	26.7%
	D	0.0%	2.8%	11.6%	17.9%	30.8%	75.0%	n/a	13.3%
	E	0.0%	0.0%	2.3%	17.9%	15.4%	25.0%	n/a	6.7%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Deaf/partial hearing									Total achieved
Total predicted		2.3%	28.4%	33.9%	27.1%	6.9%	1.4%	100%	n/a
Achieved grades	A*	60.0%	11.3%	2.7%	0.0%	0.0%	0.0%	n/a	5.5%
	A	20.0%	48.4%	5.4%	0.0%	0.0%	0.0%	n/a	16.1%
	B	20.0%	25.8%	39.2%	11.9%	0.0%	0.0%	n/a	24.3%
	C	0.0%	14.5%	36.5%	44.1%	13.3%	0.0%	n/a	29.4%
	D	0.0%	0.0%	14.9%	28.8%	73.3%	66.7%	n/a	18.8%
	E	0.0%	0.0%	1.4%	15.3%	13.3%	33.3%	n/a	6.0%
Total	100%	100%	100%	100%	100%	100%	n/a	100%	
Learning difficulty									Total achieved
Total predicted		6.7%	29.9%	31.0%	23.9%	7.3%	1.1%	100%	n/a
Achieved grades	A*	49.7%	11.6%	1.6%	0.2%	0.0%	0.0%	n/a	7.3%
	A	48.0%	45.3%	7.7%	1.6%	0.0%	0.0%	n/a	19.6%
	B	2.3%	35.3%	40.5%	10.7%	4.5%	0.0%	n/a	26.2%
	C	0.0%	6.7%	36.0%	41.6%	19.6%	12.1%	n/a	24.7%
	D	0.0%	0.8%	11.7%	34.4%	44.6%	32.8%	n/a	15.7%
	E	0.0%	0.2%	2.5%	11.4%	31.3%	55.2%	n/a	6.5%

	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Long standing illness	A*	A	B	C	D	E		Total achieved
	Total predicted	7.4%	30.8%	32.0%	23.2%	5.9%	0.7%	100%	n/a
Achieved grades	A*	43.6%	13.9%	2.7%	0.0%	0.0%	0.0%	n/a	8.4%
	A	52.6%	42.1%	6.5%	0.0%	0.0%	0.0%	n/a	19.0%
	B	3.8%	35.0%	39.3%	9.8%	3.2%	0.0%	n/a	26.1%
	C	0.0%	6.5%	36.9%	36.9%	19.4%	0.0%	n/a	23.5%
	D	0.0%	2.2%	12.8%	37.7%	35.5%	57.1%	n/a	16.0%
	E	0.0%	0.3%	1.8%	15.6%	41.9%	42.9%	n/a	7.0%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	Mental health	A*	A	B	C	D	E		Total achieved
	Total predicted	7.6%	37.7%	30.2%	19.5%	5.0%	0.0%	100%	n/a
Achieved grades	A*	48.6%	9.2%	2.2%	1.1%	0.0%	0.0%	n/a	8.0%
	A	40.0%	42.0%	2.9%	1.1%	0.0%	0.0%	n/a	20.0%
	B	11.4%	35.6%	36.7%	7.8%	0.0%	0.0%	n/a	26.9%
	C	0.0%	10.3%	41.7%	44.4%	13.0%	0.0%	n/a	25.8%
	D	0.0%	1.1%	14.4%	41.1%	43.5%	0.0%	n/a	15.0%
	E	0.0%	1.7%	2.2%	4.4%	43.5%	0.0%	n/a	4.3%
	Total	100%	100%	100%	100%	100%	0.0%	n/a	100%
	Multiple disabilities	A*	A	B	C	D	E		Total achieved
	Total predicted	7.5%	35.7%	31.9%	19.7%	3.8%	1.4%	100%	n/a
Achieved grades	A*	31.3%	14.5%	1.5%	0.0%	0.0%	0.0%	n/a	8.0%
	A	62.5%	42.1%	7.4%	0.0%	0.0%	0.0%	n/a	22.1%
	B	6.3%	31.6%	44.1%	14.3%	0.0%	0.0%	n/a	28.6%
	C	0.0%	7.9%	33.8%	40.5%	25.0%	33.3%	n/a	23.0%
	D	0.0%	3.9%	10.3%	31.0%	50.0%	66.7%	n/a	13.6%
	E	0.0%	0.0%	2.9%	14.3%	25.0%	0.0%	n/a	4.7%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	No disability	A*	A	B	C	D	E		Total achieved
	Total predicted	8.0%	32.9%	31.0%	21.6%	5.7%	0.8%	100%	n/a
Achieved grades	A*	44.5%	11.8%	1.4%	0.2%	0.1%	0.0%	n/a	7.9%
	A	49.4%	42.5%	7.2%	0.9%	0.2%	0.2%	n/a	20.4%
	B	5.4%	35.7%	39.9%	11.6%	3.1%	1.7%	n/a	27.2%
	C	0.6%	8.4%	37.7%	39.7%	18.6%	8.7%	n/a	24.2%
	D	0.1%	1.4%	11.5%	35.4%	44.9%	35.5%	n/a	14.5%
	E	0.0%	0.3%	2.4%	12.3%	33.2%	53.9%	n/a	5.8%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%

		Other disability	A*	A	B	C	D	E		Total achieved
		Total predicted	7.7%	34.1%	29.2%	21.6%	6.5%	0.9%	100%	n/a
Achieved grades	A*	44.2%	16.1%	1.8%	0.4%	0.0%	0.0%	n/a	9.5%	
	A	47.7%	41.6%	7.1%	0.8%	0.0%	0.0%	n/a	20.1%	
	B	7.0%	32.1%	39.1%	13.8%	2.8%	0.0%	n/a	26.1%	
	C	0.0%	8.4%	37.2%	38.3%	19.4%	10.0%	n/a	23.4%	
	D	0.0%	1.6%	12.0%	35.4%	36.1%	20.0%	n/a	14.2%	
	E	1.2%	0.3%	2.8%	11.3%	41.7%	70.0%	n/a	6.7%	
	Total	100%	100%	100%	100%	100%	100%	n/a	100%	
		Wheelchair/mobility	A*	A	B	C	D	E		Total achieved
		Total predicted	8.7%	26.5%	29.2%	27.3%	6.1%	2.3%	100%	n/a
Achieved grades	A*	30.4%	18.6%	1.3%	1.4%	0.0%	0.0%	n/a	8.3%	
	A	47.8%	41.4%	13.0%	1.4%	0.0%	0.0%	n/a	19.3%	
	B	17.4%	32.9%	45.5%	15.3%	0.0%	0.0%	n/a	27.7%	
	C	0.0%	5.7%	27.3%	41.7%	25.0%	0.0%	n/a	22.3%	
	D	0.0%	1.4%	10.4%	27.8%	56.3%	33.3%	n/a	15.2%	
	E	4.3%	0.0%	2.6%	12.5%	18.8%	66.7%	n/a	7.2%	
	Total	100%	100%	100%	100%	100%	100%	n/a	100%	

Unlike many of the other variables, there did not appear to be any clear patterns in overall accuracy, over- or under-prediction percentages for disability. Perhaps the most remarkable observation from Table 14 was that under-prediction for the 'Autistic disorder' group was over 10% higher than that of the 'Mental health' group. However, however, due to the very low proportion of applicants who declared a disability when applying to university, any findings from this analysis should be treated with caution as there is a chance that some of the figures are unreliable.

### Headline findings (disability)

- The 'Autistic disorder' group had the highest percentage of A\* (9.2%), C (27.5%), and D (10.7%) grade predictions, and the highest percentage of A\* (10.5%), D (20.0%), and E (7.8%) grade achievement. This group also had the highest percentage of A grade predictions that resulted in A\* grade achievement (22.7%).
- The 'Blind/partial sight' group had the highest percentage of E (3.0%) grade predictions, the highest percentage of B (31.9%) grade achievement, and the highest percentages of B (51.2%) and C (53.6%) grade prediction accuracy.

- The 'Deaf/partial hearing' group had the highest percentage of B (33.9%) grade predictions, the highest percentage of C (29.4%) grade achievement, and the highest percentages of A\* (60%), A (48.4%), and D (73.3%) grade prediction accuracy.
- The 'Mental health' group had the highest percentage of A grade predictions (37.7%), and the lowest percentage of A grade predictions that resulted in A\* grade achievement (9.2%).
- The 'Multiple disabilities' group had the highest percentage of A grade achievement (22.1%).
- The 'Other disability' group had the highest percentage of E grade prediction accuracy (70.0%).

## Age

Previous research into this area, DfES (2005), and BIS (2011), have used the standard UCAS age groups, namely: under 18, 18, 19, 20, 21-24, 25-29, 30-39, and 40+. However, following analysis of findings presented within these two reports, it was decided that, because of the known general make-up of UK-domiciled A level candidates, for the purpose of further analysis within this research, different age groups would be used. The first four age-groups remain, however, due to the very small numbers of mature applicants, this group has been widened and now encompasses all applicants aged 21 or over. It should be noted that 18- and 19-year-olds make-up 97.7% of the sample, and this is representative of all A level applicants.

**Table 16 - The extent of over- and under-prediction of A level grades based on age of the applicant (UK-domiciled, 2010)**

	Percentage over-predicted	Rank (lowest)	Percentage accurately predicted	Rank (highest)	Percentage under-predicted	Rank (lowest)	Total (number)
Under 18	35.6%	1	50.9%	1	13.6%	5	472
18	46.4%	2	42.4%	2	11.2%	4	143,832
19	52.0%	3	38.2%	3	9.9%	3	29,108
20	58.2%	4	34.1%	4	7.7%	1	2,746
21+	59.8%	5	31.4%	5	8.8%	2	936

**Table 17 - Accuracy of predicted grades; percentage of predicted grades by achieved grades and by age (UK-domiciled, 2010)**

		Predicted grades							
		A*	A	B	C	D	E		Total achieved
Under 18									
Total predicted		24.2%	47.0%	20.8%	7.2%	0.6%	0.2%	100%	n/a
Achieved grades	A*	60.5%	18.9%	1.0%	0.0%	0.0%	0.0%	n/a	23.7%
	A	36.0%	51.4%	10.2%	8.8%	0.0%	0.0%	n/a	35.6%
	B	3.5%	23.4%	39.8%	20.6%	0.0%	100%	n/a	21.8%
	C	0.0%	3.6%	33.7%	44.1%	0.0%	0.0%	n/a	11.9%
	D	0.0%	2.7%	12.2%	23.5%	100%	0.0%	n/a	6.1%
	E	0.0%	0.0%	3.1%	2.9%	0.0%	0.0%	n/a	0.8%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
18 years									Total achieved
Total predicted		8.6%	33.3%	30.6%	21.2%	5.6%	0.8%	100%	n/a
Achieved grades	A*	45.1%	12.3%	1.5%	0.2%	0.1%	0.0%	n/a	8.5%
	A	49.2%	43.4%	7.5%	0.9%	0.2%	0.2%	n/a	21.2%
	B	5.0%	35.0%	40.9%	11.9%	3.1%	1.5%	n/a	27.3%
	C	0.5%	7.9%	37.1%	40.6%	19.2%	9.4%	n/a	23.7%
	D	0.1%	1.2%	10.9%	34.8%	45.3%	35.5%	n/a	13.9%
	E	0.0%	0.3%	2.1%	11.7%	32.2%	53.4%	n/a	5.4%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
19 years									Total achieved
Total predicted		5.3%	30.3%	32.6%	24.1%	6.6%	1.0%	100%	n/a
Achieved grades	A*	40.5%	9.7%	1.1%	0.2%	0.1%	0.0%	n/a	5.5%
	A	50.9%	38.8%	5.8%	1.1%	0.2%	0.3%	n/a	16.6%
	B	7.7%	38.9%	36.5%	10.4%	3.0%	1.3%	n/a	26.8%
	C	0.6%	10.0%	40.0%	37.2%	17.3%	6.4%	n/a	26.3%
	D	0.1%	2.1%	13.5%	36.9%	42.9%	38.8%	n/a	17.2%
	E	0.2%	0.4%	3.2%	14.2%	36.7%	53.2%	n/a	7.6%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
20 years									Total achieved
Total predicted		2.4%	28.5%	33.2%	27.5%	7.2%	1.1%	100%	n/a
Achieved grades	A*	37.9%	4.0%	1.0%	0.4%	0.0%	0.0%	n/a	2.5%
	A	48.5%	33.2%	4.7%	0.9%	0.0%	0.0%	n/a	12.5%
	B	9.1%	42.1%	31.4%	9.5%	4.0%	3.2%	n/a	25.6%

	C	3.0%	15.6%	40.5%	34.4%	12.1%	12.9%	n/a	28.5%
	D	1.5%	3.3%	18.3%	40.8%	44.4%	29.0%	n/a	21.8%
	E	0.0%	1.8%	4.1%	13.9%	39.4%	54.8%	n/a	9.1%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%
	21+ years	A*	A	B	C	D	E		Total achieved
	Total predicted	5.3%	40.6%	31.5%	17.5%	4.3%	0.7%	100%	n/a
Achieved grades	A*	16.0%	7.6%	1.0%	0.6%	0.0%	0.0%	n/a	4.4%
	A	60.0%	35.0%	8.5%	0.6%	0.0%	0.0%	n/a	20.2%
	B	14.0%	35.8%	29.2%	10.4%	0.0%	0.0%	n/a	26.3%
	C	8.0%	14.2%	33.9%	25.0%	15.0%	0.0%	n/a	21.9%
	D	2.0%	3.9%	21.0%	45.7%	47.5%	0.0%	n/a	18.4%
	E	0.0%	3.4%	6.4%	17.7%	37.5%	100%	n/a	8.9%
	Total	100%	100%	100%	100%	100%	100%	n/a	100%

**Figure 7 - Comparison of grade prediction accuracies for the '18', '19', '20' and '21+' age groups (UK-domiciled, 2010)**

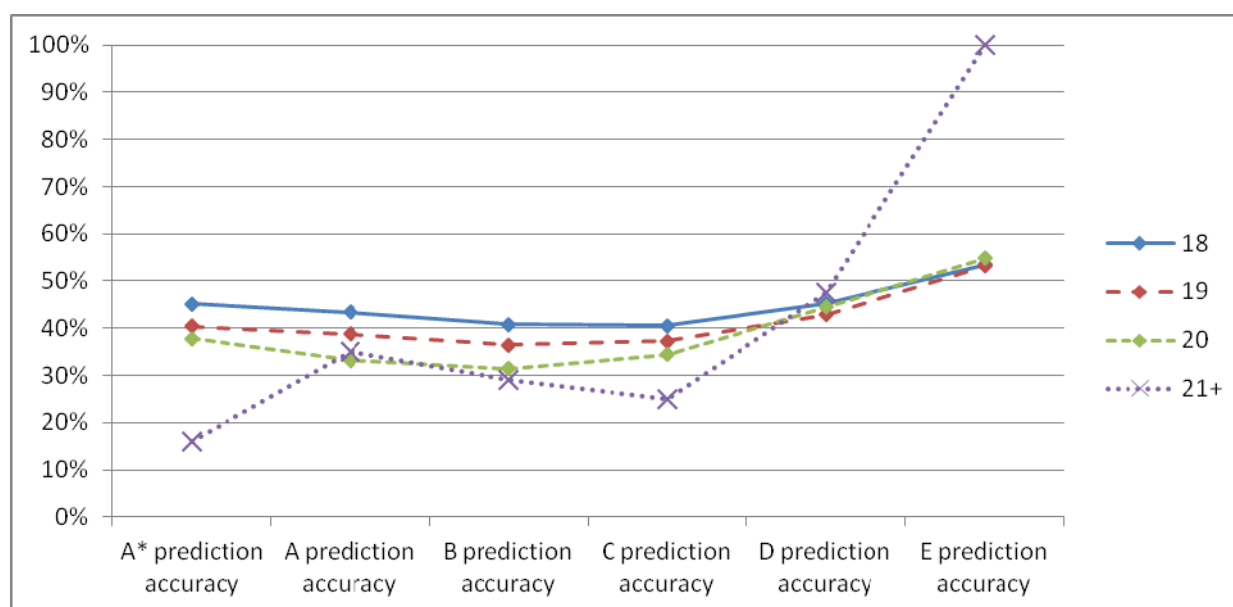


Figure 7 highlights similar patterns of accuracy for 18-, 19-, and 20-year-olds, with accuracy percentages falling as age increases. Prediction accuracy for mature applicants (i.e. 21 or older) follows a very different pattern, with very low A\* grade prediction accuracy and 100% E grade prediction accuracy. The low numbers of predictions for applicants aged 21 and over seen in the sample are likely to have contributed to seeing such diversity of prediction accuracy; however, these figures clearly indicate age to have an apparent influence on prediction accuracy.



## Headline findings (age)

- The percentage of accurate predictions decreased with age as over prediction increased. Under-prediction followed a similar pattern, percentages decreasing with age, however the rankings were inverted for the '20' and '21+' groups
- 'Under 18' age group had the lowest percentage of over-prediction (35.6% - over 10 percentage points lower than the nearest group), the highest percentage of accurate predictions (50.9%), and the highest percentage of under-prediction (13.6%).
- The '20' age group had the lowest percentage of under-prediction (7.7%); this group held the fourth highest percentage of over-prediction (58.2%), and the fourth lowest prediction accuracy (34.1%).
- The '21+' group had the highest percentage of over-prediction (59.8%), and the lowest rate of grade prediction accuracy (31.4%).
- The 'Under 18' group received the highest percentages of both A\* (24.2% - which was 21.8 percentage points higher than the '20' group) and A (47%) grade predictions. This group also saw the highest achievement rates for A\* (23.7%) and A (35.6%) grades.
- The '20' group received the highest percentages of B (33.2%), C (27.5%), D (7.2%), and E (1.1%) grade predictions. This group also saw the highest achievement rates for C (28.5%), D (21.8%), and E (9.1%) grades.
- The 'Under 18' group had the highest A\* (60.5%), A (51.4%), C (44.1%), and D (100%) grade prediction accuracy, although it should be noted that numbers within the predicted D grade category for this group totalled only three within the sample.
- The '21+' group had the lowest A\* (16.0%), B (29.2%), and C (25.0%) grade prediction accuracy. This group also had the highest E grade prediction accuracy, and the second highest D grade prediction accuracy (behind the 'Under 18' group which contained only three D grade predictions).
- The '18' applicant group had the highest percentage of B grade achievement (27.3%) as well as the highest B grade prediction accuracy (40.9%).

- The highest percentage of inaccurate-by-one-grade A\* predictions was seen among the '21+' group (60.0%).
- The 'Under 18' group had the highest percentage of A grade predictions that resulted in A\* achievement (18.9%).
- The '18' group had the second highest percentage of A grade predictions that resulted in A\* achievement (12.3%).
- The '20' group had the lowest percentage of A grade prediction that resulted in A\* achievement (4.0%).

## 6. Conclusion

This report updates the findings detailed within the 2009 Predicted Grades Report (BIS, 2011) in relation to the changing profile of prediction accuracy for the 2010 admission cycle. In so doing, they serve to highlight the fact that overall grade prediction accuracy has fallen by over 10% since 2009. However, this development is of limited significance given that, both mathematically and empirically, it was the predictable outcome of the introduction of the A\* GCE A level grade. As teachers become more experienced at determining the likely achievement of their students within this new grade, it is to be expected that overall grade prediction will rise again. Nevertheless, given that the system now allows for six, rather than five, grades, it is unlikely that accuracy will quickly return to the rates seen in 2009.

It must be borne in mind that the focus of this research was to consider the potential effects of various demographic factors in relation to prediction accuracy, rather than A level grade attainment. The tables presented above (section 5), convincingly reveal a number of clear-cut, sometimes considerable, distinctions of attainment among various demographic groups. However, it was not within the remit of this research to provide analysis of these observations, but to identify possible characteristics inherently affecting grade prediction accuracy. For example, if, having been predicted an A grade, an applicant from a high social class group attains an A grade, and if A grades are the most consistently accurately predicted grade, it will always seem as though the driving factor behind that applicant's grade prediction accuracy is social class, whereas, in reality, a far more powerful effect is likely to be that the student obtained an A grade. In this instance social class is likely to have had a key influence on that applicant attaining an A grade, but this is not necessarily the underlying reason for his/her having been given an accurate grade prediction, and it is, therefore, important to treat any of the findings within this report with caution as apparent influencing factors may not be as clear-cut as the numbers sometimes suggest.

Further research within this field of study is, therefore, recommended taking into consideration a wider selection of variables, and a more comprehensive analysis which would allow significance testing of these variables so as to uncover the predominant influences varying prediction accuracy.

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# Appendix 1 - The sample compared to all A level applicants (2010) and total UCAS applicant cohort (2010)

The "sample" of applicants represents 30% of A levels taken by UK-domiciled applicants within the 2010 HE admission cycle.

The "applicant population", or "total applicant cohort" represents every UK-domiciled individual who applied through UCAS within the 2010 HE admission cycle.

The "A level applicant population" represents any individual (UK-domiciled), who applied through UCAS within the 2010 HE admission cycle, listing at least one A level within their application.

**Table 1: Representation of gender within the sample compared to the A level applicant population and the total applicant cohort (2010)**

Gender	Sample	%	Applicant population	%	A level applicant population	%
Female	73,085	55.0%	334,041	56.9%	158,383	55.2%
Male	59,739	45.0%	252,780	43.1%	128,486	44.8%
<b>Total</b>	<b>132,824</b>	<b>100.0%</b>	<b>586,821</b>	<b>100.0%</b>	<b>286,869</b>	<b>100.0%</b>

**Table 2: Representation of ethnic groups within the sample compared to the A level applicant population and the total applicant cohort (2010)**

Ethnicity	Sample	%	Applicant population	%	A level applicant population	%
Asian Bangladeshi	1,498	1.1%	5,823	1.0%	3,145	1.1%
Asian Chinese	1,350	1.0%	4,501	0.7%	2,780	1.0%
Asian Indian	6,173	4.7%	19,065	3.3%	12,207	4.3%

<b>Asian Other</b>	2,142	1.6%	9,858	1.7%	4,544	1.6%
<b>Asian Pakistani</b>	3,855	2.9%	16,831	2.9%	8,149	2.8%
<b>Black African</b>	3,517	2.7%	32,960	5.6%	7,416	2.6%
<b>Black Caribbean</b>	1,297	1.0%	10,286	1.8%	2,828	1.0%
<b>Black Other</b>	230	0.2%	2,032	0.4%	492	0.2%
<b>Mixed Other</b>	1,247	0.9%	5,784	1.0%	2,686	0.9%
<b>Mixed White and Asian</b>	1,688	1.3%	5,920	1.0%	3,561	1.2%
<b>Mixed White and Black African</b>	392	0.3%	2,343	0.4%	906	0.3%
<b>Mixed White and Black Caribbean</b>	1,088	0.8%	5,811	1.0%	2,443	0.9%
<b>Other</b>	1,277	1.0%	6,461	1.1%	2,708	0.9%
<b>Unknown</b>	919	0.7%	8,167	1.4%	2,047	0.7%
<b>White</b>	106,151	79.9%	450,979	76.9%	230,957	80.5%
<b>Total</b>	<b>132,824</b>	<b>100.0%</b>	<b>586,821</b>	<b>100.0%</b>	<b>286,869</b>	<b>100.0%</b>

**Table 3: Representation of centre-type within the sample compared to the A level applicant population and the total applicant cohort (2010)**

<b>Centre-type</b>	<b>Sample</b>	<b>%</b>	<b>Applicant population</b>	<b>%</b>	<b>A level applicant population</b>	<b>%</b>
<b>Further education</b>	8,088	6.1%	114,293	19.5%	20,961	7.3%
<b>Grammar school</b>	14,844	11.2%	34,086	5.8%	31,067	10.8%
<b>Independent school</b>	17,313	13.0%	43,432	7.4%	35,484	12.4%
<b>Other</b>	2,410	1.8%	124,283	21.2%	15,786	5.5%
<b>Sixth form college</b>	27,539	20.7%	96,931	16.5%	57,158	19.9%
<b>State excl. Grammar</b>	62,630	47.2%	173,796	29.6%	126,413	44.1%
<b>Total</b>	<b>132,824</b>	<b>100.0%</b>	<b>586,821</b>	<b>100.0%</b>	<b>286,869</b>	<b>100.0%</b>

**Table 4: Representation of age bands within the sample compared to the A level applicant population and the total applicant cohort (2010)**

Age band	Sample	%	Applicant population	%	A level applicant population	%
Under 18	342	0.3%	9,602	1.6%	624	0.2%
18	106,941	80.5%	243,270	41.5%	191,029	66.6%
19	22,587	17.0%	120,377	20.5%	79,953	27.9%
20	2,202	1.7%	48,247	8.2%	11,881	4.1%
21+	752	0.6%	165,325	28.2%	3,382	1.2%
<b>Total</b>	<b>132,824</b>	<b>100.0%</b>	<b>586,821</b>	<b>100.0%</b>	<b>286,869</b>	<b>100.0%</b>

**Table 5: Representation of region within the sample compared to the A level applicant population and the total applicant cohort (2010)**

Region	Sample	%	Applicant population	%	A level applicant population	%
East Midlands	10,301	7.8%	38,123	6.5%	21,044	7.3%
Eastern	13,682	10.3%	50,007	8.5%	28,345	9.9%
Greater London	20,806	15.7%	96,693	16.5%	44,528	15.5%
North East	5,047	3.8%	21,658	3.7%	10,639	3.7%
North West	16,980	12.8%	68,965	11.8%	34,348	12.0%
Northern Ireland	2,939	2.2%	19,682	3.4%	13,214	4.6%
Other UK	0	0.0%	22	0.0%	1	0.0%
Scotland	335	0.3%	46,347	7.9%	1,001	0.4%
South East	21,867	16.5%	78,255	13.3%	46,664	16.3%
South West	11,207	8.4%	46,142	7.9%	25,215	8.8%
Wales	5,790	4.4%	24,908	4.2%	13,504	4.7%
West Midlands	12,518	9.4%	51,171	8.7%	25,437	8.9%
Yorks & The Humber	11,352	8.6%	44,848	7.6%	22,929	8.0%
<b>Total</b>	<b>132,824</b>	<b>100.0%</b>	<b>586,821</b>	<b>100.0%</b>	<b>286,869</b>	<b>100.0%</b>

**Table 6: Representation of the number of choices made within the sample compared to the A level applicant population and the total applicant cohort (2010)**

<b>Number of choices</b>	<b>Sample</b>	<b>%</b>	<b>Applicant population</b>	<b>%</b>	<b>A level applicant population</b>	<b>%</b>
<b>0 choices</b>	43	0.0%	26,071	4.4%	209	0.1%
<b>1 choice</b>	1,906	1.4%	70,399	12.0%	8,615	3.0%
<b>2 choices</b>	1,737	1.3%	28,056	4.8%	5,676	2.0%
<b>3 choices</b>	3,746	2.8%	34,279	5.8%	10,520	3.7%
<b>4 choices</b>	10,187	7.7%	55,877	9.5%	24,213	8.4%
<b>5 choices</b>	115,205	86.7%	372,139	63.4%	237,636	82.8%
<b>Total</b>	<b>132,824</b>	<b>100.0%</b>	<b>586,821</b>	<b>100.0%</b>	<b>286,869</b>	<b>100.0%</b>



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