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# The role of the A\* grade at A-level as a predictor of university performance

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## **Abstract<sup>1</sup>**

In summer 2010, the A\* grade at A-level was awarded for the first time. This grade was introduced to help HE institutions to differentiate between the highest achieving candidates and to promote and reward greater stretch and challenge. Exploring HESA data and making use of multilevel regression models, this research investigated for the first time the relationship between achieved A\* grades and performance at the end of three year courses in HE institutions in the UK.

The results of this work showed that, when prior schooling and other background characteristics were accounted for, the number of A\* grades was a good predictor of achieving either a first or at least an upper second class degree in both Russell and non-Russell Group universities. Furthermore, specific subject-level analyses revealed that the number of top grades in some A-level subjects was associated with good degree outcomes in specific degree subject areas.

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<sup>1</sup> This is the conference submission. For the full article see Vidal Rodeiro and Zanini (2015).

## **Background**

In summer 2010, the A\* grade at A-level was awarded for the first time. This grade was introduced to help higher education (HE) institutions to differentiate between the highest achieving candidates applying to the most oversubscribed courses and to promote and reward greater stretch and challenge (Acquah, 2013).

At the point of implementation, there was uncertainty over how the A\* grade would be used by university admission tutors. There were fears that it would disadvantage state school applicants because many top grades would come from the independent sector and therefore their use could hinder efforts to widen participation (e.g. Eddo-Lodge, 2010; Whitehouse, 2006). However, the University of Cambridge believed that with the new grade state pupils would not lose out. In fact, they reported that the use of the A\* grade for admissions helped raise their percentage of UK students from state schools (University of Cambridge, 2011).

A report by Higton *et al.* (2012) found that many HE institutions welcomed the introduction of the A\* grade and, since 2010, this top grade has been increasingly used in university offers. However, there are concerns that the A\* may not always differentiate between students who are conscientious and good at modular examinations and those who have a genuine talent or a study approach that will be valuable at university. Studies examining whether the A\* is predictive of degree performance would help to address this issue.

Therefore, the main aim of this work was to explore the relationship between achieved A\* grades at A-level and performance at the end of three year courses in HE institutions in the UK.

## **Data and methodology**

The data used in this research was an extract of the HESA student records, covering all full-time graduates who started a first degree (expected not to last more than three years) in the academic year 2010/11 in a UK higher education institution and completed it in the academic year 2012/13. The students in this cohort were the first who could have achieved A\* grades in their A-levels and for whom sufficient time had elapsed to assess their HE achievements. The data consisted of the university subject, the mission group of the institution where each student was enrolled and the degree outcome, along with information on prior qualifications, prior schooling and socio-demographic characteristics.

Multilevel logistic regression analyses were carried out in order to look simultaneously at the relationship between the outcome at university and background variables including performance at A-level (e.g. number of grades A\*; average A-level grade) and to identify which of these can predict degree outcomes. Students' characteristics (e.g. gender, previous institution type, socio-economic background) were considered when fitting the regression models.

The multilevel model was proposed due to the hierarchical structure of the data. In the context of the predictive validity of the A\* grade at A-level for university performance, both the school where the A-level qualifications were obtained and the HE institution where the student was enrolled could be important sources of random

variation. However, schools were not nested within HE institutions and thus a cross-classified structure needed to be considered (Snijders and Bosker, 1999).

## **Results**

The key findings of this work are highlighted below:

- When prior schooling and other background characteristics were accounted for, the number of A\* grades was a good predictor of achieving either a first or at least an upper second class degree in both Russell and non-Russell Group universities.  
In particular, there was a statistically significant association between one or two A\* grades at A-level and the probability of achieving a first or at least an upper second class degree in all types of universities. However, a third A\* grade did not have any additional effect on the probability of getting an upper second class outcome.
- The number of A\* grades at A-level had a positive and statistically significant effect in predicting the probability of attaining a first class outcome in some degree subject areas. However, this was only the case when the A\* grades were achieved in specific A-level subjects.  
In particular, the number of A\* grades in STEM subjects was a good predictor of university performance in most degree subject areas, particularly in science-orientated degree subject areas. Similarly, the number of A\* grades in humanities subjects increased the probability of attaining good outcomes in biological sciences, social studies, law, linguistics and historical and philosophical studies, while the number of A\* grades in expressive subjects had a negative effect on the probability of achieving at least an upper second class outcome in creative arts and design.
- For a given performance at A-level, students from independent schools were less likely to achieve a first class outcome than students from comprehensive schools. This result is particularly relevant if we consider that the implementation of the A\* grade (more prevalent among students in independent schools) was thought to affect university admission policies and hinder efforts to widen participation. Some universities had slightly lowered their admissions requirements for state school students on the grounds that private school students' grades are increased by teaching effects within private schools (e.g. Ogg, Zimdars and Heath, 2009) and continued with this practice after the introduction of the A\* grade.

## **Conclusions**

Exploiting data for the first cohort of students who were awarded the top A-level grade, this research provided, for the first time, empirical evidence on the predictive validity of the A\* grade on university performance, measured by final degree class. The analyses showed that having A\* grades at A-level increased the probability of attaining good university outcomes.

The results of this research highlight the importance of a grading system that allows greater differentiation among students, as this can be beneficial for HE admission purposes particularly on the most oversubscribed courses.

In order to gain a broader picture of the role of the A\* grade on success at university, carrying out a longitudinal study a in a few years' time might be worthwhile.

## **References**

- Acquah, D.K. (2013). An analysis of the GCE A\* grade. *Curriculum Journal*, 24(4): 529-552.
- Eddo-Lodge, R. (2010). *The new A-level grade could leave state pupils further excluded*. The Guardian, August 10<sup>th</sup>.
- Higton, J., Noble, J., Pope, S., Boal, N., Ginnis, S., Donaldson, R. and Greevy, H. (2012). *Fit for purpose? The view of the higher education sector, teachers and employers on the suitability of A-levels*. Coventry: Ipsos MORI/Ofqual.
- Ogg, T., Zimdars, A. and Heath, A. (2009). Schooling effects on degree performance: a comparison of the predictive validity of aptitude testing and secondary school grades at Oxford University. *British Educational Research Journal*, 35(5): 781-807.
- Snijders, T. and Bosker, R. (1999). *Multilevel analysis. An introduction to basic and advance multilevel modelling*. London: Sage Publications.
- University of Cambridge (2011). A\* offers help state sector students to shine. University of Cambridge website, May 6th. Available at: <http://news.admin.cam.ac.uk/news/2011/05/05/aoffershelpstatesectorstudentstoshine> .
- Vidal Rodeiro, C. and Zanini, N. (2015). The role of the A\* grade at A level as a predictor of university performance in the United Kingdom. *Oxford Review of Education*, 41(5), 647-670.
- Whitehouse, C. (2006). *Social inclusion and the A\* grade at A Level*. AQA Research Report No. RPA\_06\_CW\_MO\_043. Guildford: Assessment and Qualifications Alliance.