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***How does A-level subject choice  
and students' background  
characteristics relate to Higher  
Education participation?***

***Conference Abstract***

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Presented at the annual conference of the British Educational Research  
Association  
Manchester, UK  
September 2019

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**How to cite this publication:**

Vidal Rodeiro, C.L. (2019, September). *How does A-level subject choice and students' background characteristics relate to Higher Education participation?* Paper presented at the annual conference of the British Educational Research Association, Manchester, UK.

## Abstract

Over the past few years, policy makers and the public have become increasingly concerned about the extent to which different qualifications/subjects prepare young people for careers or further study. Despite policy efforts and claims of equivalence, multiple studies have identified ways in which progression differs depending on the qualifications/subjects studied, even after controlling for students' background characteristics. Such studies have also shown that young people from less privileged backgrounds and from state schools were under-represented at high-status universities.

In England, the principal measure of academic attainment for pre-university students is the A-level. Choosing A-levels, however, is not straightforward as some subjects ('facilitating subjects') are seen as providing better grounding for Higher Education (HE) than others. In addition, many HE courses require particular subjects and HE admissions staff view some A-levels more favourably than others.

This research aimed to provide a better understanding of how useful A-level subjects are for gaining admission to HE. In particular, it investigated the A-level subjects (and combinations of A-level subjects) that students in HE took previously and how students' characteristics, in particular gender and school type, interacted with the choice of A-levels to influence the type of HE institution attended.

The study followed a cohort of 18 year-olds (2015/16) in English schools/colleges through the first year of their HE studies (2016/17) using data from two different sources. National Pupil Database (NPD) extracts had information on A-level subjects and attainment, prior attainment (e.g., GCSEs) and students' characteristics such as gender, school type and income-related deprivation. Data from the Higher Education Statistics Agency, including HE institution and subject of HE course for all full-time first-year undergraduates, was linked to the NPD.

Together with descriptive statistics, which showed the popularity of A-level subjects and combinations of A-level subjects in relation to HE participation, multilevel logistic regressions were used to study the likelihood of students with different A-level subjects or specialisms (two or more A-levels in a subject area) to study in specific HE institutions once their characteristics had been accounted for.

Some key findings from this research are summarised below.

- The most popular A-levels amongst university students were mathematics, psychology, biology, history, chemistry and English literature. However, these subjects were represented in different proportions in HE and, particularly, in the different institution types. Students with more academic subjects were more likely to go to universities in the Russell Group and those holding applied or expressive A-levels were more likely to study in other types of universities. Over half of the students in Oxford and Cambridge were specialists in STEM and the percentages of specialists in STEM and language subjects increased with the increasing ranking of the HE institutions. On the contrary, the percentage of specialists in humanities decreased with the increase in ranking.
- The number of A-levels held by students varied across the different HE institutions. Students at Oxford and Cambridge held the highest number of A-levels and students attending low ranking institutions the lowest. Similar patterns were found for A-levels in facilitating subjects. For example, students attending Oxford or Cambridge held the highest number of facilitating subjects and those attending low ranking (overall)

institutions, institutions with a low research quality ranking, or institutions with low graduation prospects, the lowest.

- Gender and school type interacted with A-level subject choice to influence HE enrolment. For example, amongst specialists in STEM, males were more likely than females to enrol in a high ranked institution. However, females were more likely to enrol in Russell Group institutions than males if they specialised in languages or if they had multiple specialisms. Regarding school type, students in independent schools were less likely to enrol in HE immediately after completing their A-levels than students in state schools (all else being equal). However, the probability of attending prestigious or high ranked institutions was higher for them compared to similar students in state schools. There were some exceptions to the latter: for example, the probability of attending Oxford or Cambridge for STEM specialists did not vary by school type.

The above results show that, although careful choice of subjects/specialisms is crucial for enrolling in HE and, in particular, for enrolling in specific institutions, background characteristics such as gender and school type are still part of the explanation for differential HE participation. While the access gap between students from different backgrounds has narrowed in recent years due to widening participation activities, the gap in the most selective institutions remains. Contextualising admissions (i.e., taking into account candidates' backgrounds when making decisions) might be one way to make progress towards narrowing this gap.

## Full paper

Vidal Rodeiro, C.L. (2019). The impact of A Level subject choice and students' background characteristics on Higher Education participation. *Research Matters: A Cambridge Assessment publication*, 28, 17-26. Available at: <https://www.cambridgeassessment.org.uk/Images/562367-research-matters-28-autumn-2019.pdf>.