

More pupils would study maths if told of increased earning potential

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More school pupils would choose to study maths at A-level if they were given better information about potential earnings, new research shows.

A study by the University of Birmingham involving more than 5,000 [young people](#) from across England found that take-up of maths would be significantly increased with this cheap and easy intervention.

Subjects such as art and biology, on the other hand, proved less popular with pupils when they were given details of projected salaries.

The research, which was funded by the Nuffield Foundation, could have implications for government policy amid efforts to increase interest in STEM subjects.

The paper, titled 'Labour market knowledge and choice of subject to study: a pragmatic cluster randomized controlled trial', will be presented today (12 Dec) at the Society for Research into Higher Education's annual research conference.

Peter Davies, Professor of Education Policy Research at the University of Birmingham, who led the research, said: 'At the core of this project has been a [randomised controlled trial](#) in which we gave pupils information about variation in graduate wages to see if this affected their subject choices.

'We found that the expectation of a higher salary increased take-up of

maths quite considerably.'

Researchers were given control of a one-hour lesson at 50 English schools – both state and private across a wide and diverse geographical area – in which they staged an activity designed to identify whether information about graduate salaries would influence subject choice at A-level. A total of 5,597 pupils aged 15-16 took part in the study.

Pupils were first given the hypothetical choice of leaving school with two A-levels and going straight into the world of work or going to university to study for a degree in art. After making their decision, the pupils were told the average salary they could expect to be earning for each option at age 30, based on labour market data.

They were then given a range of subsequent options to change to, including taking degrees in subjects such as history, engineering or maths – but this time they were given details of their projected salaries. The subjects were presented in a different order for different groups of pupils, meaning that sometimes deciding to change would see their earning potential go up, and sometimes down.

At the end of the activity the pupils were asked to fill in a questionnaire on their intended A-level subject choices, and the results were compared with responses to a similar questionnaire completed before the lesson. The researchers then followed up with the schools involved at a later date to gather information on the pupils' actual A-level choices.

Of those pupils who remained in the same school for their sixth-form studies, 52% who received the intervention studied maths at A-level, compared with 42% who did not. This difference became stronger after taking into account pupils' GCSE grades, intentions expressed before the intervention, and characteristics such as gender, social class and ethnicity.

Pupils who received the information on graduate earnings were 39% more likely to study maths than students in the control schools. Pupils who received the information were 27% less likely to study biology and 39% less likely to study computing.

Professor Davies said: 'The results of this [intervention](#) are very important because amid the government's anxiety about increasing maths take-up there has been talk of introducing a baccalaureate system to replace A-levels.

'The disadvantage of this is that it forces [pupils](#) to study subjects they might be weak at or don't enjoy.'

He added: 'The only subject where there is clear evidence that studying it at A-level makes a difference to future earnings is maths, which can lead to high-salary occupations such as engineering.

'This research tells us that better information about graduate salaries would increase take-up of [maths](#) and would do so very cheaply, without having to coerce children into studying it.'

More information: The paper is available online:
www.srhe.ac.uk/conference2014/abstracts/0049.pdf

Provided by University of Birmingham

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