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Student Awareness of Costs and Benefits of Educational Decisions: Effects of an Information Campaign and Media Exposure

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Abstract

University fees have recently trebled in England, prompting fears that young people may be put off from participating in higher education. We investigate students' knowledge and their receptiveness to information campaigns about the costs and benefits of staying on in education. We compare the effects of a specially designed information campaign to the effects of media exposure about the increase in tuition fees. The latter has a stronger effect on relevant outcomes. However, we find that an inexpensive information campaign can be effective in improving information and reducing perceived financial barriers to university participation, especially for students from disadvantaged backgrounds

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1. Introduction

A major concern arising from the recent trebling of tuition fees in England is that students will be deterred from going to university because of the rise in cost.[4] While the application rate for 18 year olds has remained fairly stable, it is too early to say whether this will affect the decisions of younger cohorts (and the amount of effort they invest in obtaining the relevant pre-requisite qualifications). A further concern is that higher fees will increase socio-economic inequality as students from less well-off family backgrounds may be more affected (if they are either more risk averse or not aware of the financial help to which they would be entitled). In addition, there is a perception in policy circles (as shown in a recent speech by the British Prime Minister, David Cameron[5]) that part of the reason for low social mobility in Britain is that children from poor backgrounds have low educational aspirations.

In this paper, we examine the extent to which young people lack good information about the costs and benefits of staying on in education, and whether exposure to relevant information affects their knowledge and attitudes. Specifically, we explore the knowledge and aspirations of a sample of young students in London schools with regard to the costs and benefits of staying on in education. We first examine whether knowledge and aspirations are influenced by an 'information campaign' (which we design and implement via random assignment at school level). We also compare this to the effects of exposure to media reports about tuition fees. We can do the latter because the increase in tuition fees was announced during the period of our study (with an extremely high and extended level of coverage in the media), while our baseline and final survey of students took place at different times to accommodate school timetabling. We therefore argue that students were randomly exposed to different amounts of media coverage about tuition fees (because their level of exposure depends on the timing of the survey rather than on student or school characteristics). We take into account differences in students' baseline knowledge about tuition fees by controlling for school fixed effects. Thus, we look at whether these two information 'treatments' had an impact on the knowledge and aspirations of a treated group of students relative to those in a control group between the first and second survey (conducted 8-12 weeks apart).

[4] http://www.telegraph.co.uk/education/universityeducation/9462534/Tuition-fees-hike-puts-15000-teenagers-off-university.html

[5] http://www.telegraph.co.uk/news/politics/david-cameron/10448134/Young-poor-have-low-aspirations-says-David-Cameron.html

We are also able to examine the effects of our 'information campaign' in different contexts (i.e. where there was a high flow of information from the media between the baseline and final survey; and when there was a relatively low flow). Finally, we are able to examine whether there are heterogeneous effects of the information treatments. We focus on this heterogeneity along two dimensions: whether or not students are classified as having low academic ability (as measured by teacher assessment the previous year) and whether or not students are eligible for free school meals. The first aspect of heterogeneity (student ability) is interesting because a hypothesis in this literature is that low ability students are less well able to absorb information from such treatments. The second aspect (eligibility of free school meals) is of interest because of the concern that students from poor backgrounds may be more sensitive to information about financial constraints.

This study fits into a growing literature in economics about the effect of information on people's attitudes and behaviour. In an educational context, it has many similarities to Bettinger et al. (2009), Booij et al. (2012), Fryer (2013), Hoxby and Turner (2013), Jensen, (2010), Oreopoulos and Dunn (2009) and Nguyen (2008), all of whom examine the effects of information on costs and/or benefits of education on attitudes and behaviour in an experimental setting (albeit in very different contexts). All these studies find information to have an effect on knowledge and attitudes but it is more unusual to find an effect on behaviour. Exceptions are the two developing country studies (Jensen, 2010; Nguyen, 2008) and Hoxby and Turner (2013) for the US.[6] The latter evaluates the impact of providing high-achieving, low income students with semi-customized information on the application process and college net costs (as well as waivers for application fees). They find this to have strong impact on enrolment and graduation rates. There are also other contexts in which information provision is shown to have an effect on actual behaviour in developed countries: information about pensions on retirement behaviour in the US (Duflo and Saez, 2003); information about Social Security provisions on labour market participation in the US (Liebman and Luttmer, 2010).

This study also links with a literature about how much students know about wages. For example, Dominitz and Manski (1996) and Betts (1996) are two early studies in this literature. They elicit future wage expectations of university students. Although students do anticipate positive returns to education, there is considerable heterogeneity and it is common

[6] In another US study, Bettinger et al. (2009) find that information is only effective when combined with practical assistance with regard to loan applications. Information on its own is ineffective.

to overestimate returns. A study by Wiswall and Zafar (2011) also finds that even very high ability students (in this case enrolled at an elite US university) have biased beliefs about the distribution of earnings in the population, and that students revise these beliefs (and subsequent choices) in response to information.

Finally, this study links with a literature that looks at the impact of media exposure on social outcomes. For example, Anderberg et al. (2011) look at the impact of a health scare in the UK on the rate of vaccination. Based on the hypothesis that more educated people have a higher propensity to absorb and act on information, they test whether vaccination rates decreased to a greater extent in regions with more educated people – a hypothesis which is supported in their data. In other experimental or quasi-experimental settings, television/cinema has been found to have an impact on behaviour – for example political advertising on voter preferences (Gerber et al. 2011); release of violent films and rate of violent crime (Dahl and DellaVigna, 2009); TV programmes about pregnant teens and teenage pregnancy (Kearney and Levine, 2014).

This study contributes to the literature by comparing the influence of a specially designed information campaign with the influence of a *de facto* media campaign on a similar issue. It shows that an inexpensive information campaign can be effective in changing students' knowledge and aspirations, although this is highly influenced by the context in which it takes place. The results also show the power of the media in shaping people's knowledge and aspirations. With regard to heterogeneous impacts, the evidence reported here does not suggest that low ability students have any less capacity to absorb this sort of information than high ability students. However, we do find that students from poor backgrounds react more strongly to the information campaign on questions about whether financial constraints are a barrier to participation in higher education. This suggests that information provision is a relevant instrument for tackling sensitivity to financial constraints amongst this group.

The remainder of the paper is structured as follows: In Section 2, we discuss the institutional context in England; in Section 3, we describe our information campaign and how we measure media exposure; in Section 4, we set out the methodology before describing results in Section 5. We conclude in Section 6.

2. The Institutional Context

In England, compulsory school education lasts up to age 16. During their final compulsory school year (Year 11), students plan whether to continue with their education, with what provider and in which subjects.[7] This study surveys students at age 15, their penultimate year of compulsory schooling. The typical route into higher education is to study three specialist subjects at A-level and then apply to university two years later.

As a result of rapid expansion in the number of students going to university over recent decades, the government has implemented a series of major funding policy changes. In particular, the UK has moved from a situation where higher education was free of charge to all students to a system where students are expected to contribute a significant proportion of the cost of their education.

Tuition fees were first introduced to the UK in 1998. The fees (of up to £1,000 per year) were payable upfront and means-tested according to parental income. In 2006, upfront fees were abolished and replaced by a deferred £3,000 fee – payable by all regardless of parental income but fully covered by a fee loan with quite generous terms. The 2006 reforms were met with much controversy, particularly since participation has consistently been dominated by youths from high socio-economic groups while those from poorer backgrounds tend to be under-represented (Blanden et al, 2003).

The 'Browne review'[8] reported in October 2010, and recommended that the tuition fee cap should be removed altogether. The government response to the review came shortly afterwards, in November 2010, with the announcement that fees would not be unlimited but would instead be capped at £9,000 per year. These events received huge press coverage, much of which focused on the potential negative effect of the fee increases on student participation.[9] The media coverage on tuition fees is illustrated in Figure 1. This shows the number of hits on the BBC website mentioning tuition fees between January 2010 and May 2011. The fee increases met with a great degree of public anger, and a mass protest of tens of thousands of students and lecturers took place in November 2010. Nevertheless, the rise in tuition fees was successfully passed through parliament in December 2010.

[7] From summer 2014, students are compelled to stay on in some form of education or training (not necessarily full-time or at school) until the age of 18.
[8] The Browne Review is formally titled 'Securing a Sustainable Future for Higher Education in England' and is available at http://hereview.independent.gov.uk/hereview/report/.
[9] See for example J. Vasagar and J. Shepherd 'Willetts announces student fees of up to £9,000', The Guardian, 3rd November 2010; 'Coalition plot to blow up education': Nick Clegg faces student leader's anger at £9,000 cap on tuition fees', The Daily Mail, 4th November 2010;

The new system of finance, which was first implemented in the 2012 academic year, is highly complex. The main features are as follows:

Tuition fees: Universities are allowed to charge up to £9,000 per year. While there is some variation in tuition fees across universities, the average fee is towards the upper end. Tuition fees are deferred, meaning that students do not have to pay their fees up-front, but instead can borrow the full amount from the government.

Maintenance loans: As well as tuition fee loans, government backed loans are also available to students for living costs. These loans are means-tested, according to the parental income of the student. In 2013, this varied between £3,575 (available to all) and £5,500 per year.[10] Student maintenance loans are repaid in the same way as tuition fee loans.

Maintenance grants: Some students are also entitled to maintenance grants, which do not have to be repaid. These grants are also means-tested. In 2013, students whose parental income is less than £25,000 per year are entitled to £3,354 per year. As parental incomes rise, the grant entitlement is reduced.[11]

Repayment of fee and maintenance loans: Students do not have to repay their loans until they have graduated university and are earning £21,000 per year (this threshold will be increased every year in line with average earnings). The requirement is to pay 9% of their income over this amount. Repayment continues until the loan has been repaid (to a maximum of 30 years, after which it is written off). An added complexity is that interest is added onto the loan each year, on a means tested-basis.[12]

The system aims to ensure that a student's family income does not affect their ability to participate: students have to pay nothing up-front and benefit from a generous support package. The system tries to protect graduates from unmanageable repayments. However, there is little empirical evidence that students fully understand the complex nature of the system. Media coverage has tended to focus on the headline debt figure rather than the complexities of the loan repayment system. That the complexity of the system might be an

[10] This figure is for students living away from home and outside London. Students living at home are entitled to borrow less money, whilst students living in London are entitled to borrow more.

[11] The limit in 2013 is a parental income of £42,611.

[12] Graduates earning £21,000 or less per year will incur no interest, whilst graduates earning £41,000 per year will incur interest of 3% per year; interest is tapered between 0% and 3% for those earning between £21,000 and £41,000.

issue is supported by work from Scott-Clayton (2012) for the US.[13] Her review of the information constraints faced by college students argues that complexity is a great obstacle to the effectiveness of student loan programmes.

3. The Two Treatments

3.1. The Experiment

Randomisation

Our study took place mainly over the academic year 2010-2011.[14] All secondary schools in London were invited to participate. We conducted paired randomisation[15] where we aligned schools in sequence on the following dimensions: independent/selective or comprehensive; single sex or mixed; average exam scores in the GCSE exam at age 16. We randomised schools for the treatment within each pair of schools. Tables 1a and 1b show how the randomisation worked based on school-level characteristics and based on outcome variables that we use in the baseline survey. This shows that values for the treatment schools are very similar to those of the control schools at baseline.

There are 54 schools in our main sample, which is about 10% of all schools in London. We survey all students in Year 10 (which comes to 6,614 students in total). The participating schools were more likely than other schools to be independent/selective, have higher average performance and a lower percentage of students eligible to receive free school meals. Thus, they cannot be taken to be representative of the school population. We might expect pupils in schools with more favourable observable characteristics to be better informed about costs and benefits of educational choices than students in other schools.

Logistics

In the letter of invitation, we explained that the purpose of the study was to learn about how much students know about economically relevant facts with regard to staying on in education.

[13] However the UK system is less complex than in the US (where there is much more price variation – particularly given the prevalence of private universities, which are still rare in the UK). What both systems have in common is a heavy reliance on student loans.

[14] Some schools (not included here) took part in a pilot the previous academic year and two schools participating towards the end of the academic year (2009/2010) are included in the main sample here.

[15] Since statistical efficiency drops when randomizing clusters, we pair schools based on their pre-treatment characteristics (see for example, Angrist and Lavy, 2009). We then randomly assign one school within each pair to receive the treatment.

As an incentive to participate, we promised each school that we would give them resource materials on this issue at some stage during the academic year (without saying when) and that we would give them a school-level report profiling their students compared to similar schools involved in the study. All participating schools were expected to give us 40 minutes of class time on two occasions during the school year (8-12 weeks apart) to survey all students in Year 10 (i.e. 14/15 year olds). Attrition is not an issue in this study.

In each school we set up a meeting with relevant teachers in all the participating schools (regardless of treatment status) and we explained logistical aspects of surveys, which were to be conducted under exam conditions. We prepared a short introductory video to be shown to students before completion. We also sent a representative to every school on the day of the survey.

The first survey was scheduled at a time convenient to the school. We only asked that the second survey should be 8-12 weeks after the first survey in each participating school. These surveys were timetabled to take place mainly during the first two terms of 2010/11.

The treatment

A central component of the information package was a specially designed password-protected website ("Whats4me") which we designed to include important information about the costs and benefits of staying on in education – including simple information about wage premia and employment prospects (derived from the Labour Force Survey between 2000-2009 for those aged 30-35) as well as information about university tuition fees, maintenance grants and loans (which we updated as and when information changed).

We developed other materials that could be used to complement or substitute for the website. This included a one page leaflet with key information about the benefits and costs of higher education, a five-minute video which featured images and charts from the website, and a PowerPoint presentation which could be used as a lesson to give to students. We also gave teachers access to the website and a school code that would allow access to anyone in the school. As the experiment is now over, the website has been converted to an open access website: http://www.whats4.me.uk/. Other materials used as part of the experiment can be downloaded from this website (including the questionnaires completed by students). See Appendix A for a sample of the information provided.

We initially encouraged students to access the website via email. After the first couple of weeks, we sent all the other materials to teachers and encouraged them to use the website.

Very few students accessed the website in the first two weeks – i.e. with only prompting from the researchers. The proportion accessing the website went up from 4% to 16% when teachers became involved, indicating the importance of involving teachers and schools in information campaigns. In all but one treatment school, at least some pupils did access the website. We were unable to monitor the extent to which teachers actually used the material. However, in a series of questions from the two surveys, we measure the extent to which the information campaign changes whether students talk to various people about plans for studying in the future. The only significant effect is an increase in the probability that students talk to teachers about future study plans as part of a lesson (an increase of 5 percentage points, from a baseline of 40 percent). All the estimates in this paper are based on an 'intention to treat' effect and not the 'treatment on the treated'. While both parameters are of interest (and it is unfortunate that can cannot measure the latter), the 'intention to treat' effect is most policy relevant because it is the relevant parameter for a cost-benefit analysis of an information campaign.

3.2. Media Exposure

As discussed above, the Browne report was published in mid-October 2010. Between then and December, there was a particularly high news coverage about tuition fees. This was kept in the headlines on account of the government response to the Browne report (to treble tuition fees), student protests against the fees and the vote in the House of Commons. This is illustrated in Figure 1.

We measure media exposure as the number of articles mentioning tuition fees on the BBC website between January 2010 and the date of each survey in every participating school (where students in each school are surveyed on two occasions, 8-12 weeks apart). We split the sample of schools into 'high media exposure' or 'low media exposure' on the basis of the flow of information between surveys, i.e. whether the change in the number of articles between surveys is above or below the median.

Table 2 shows the month in which the first survey took place in relation to 'the information experiment' and in relation to whether the school is classified as 'high media' or 'low media'. There is no strong difference with regard to the information experiment. However, there is a difference with respect to the schools exposed to 'high' and 'low' media coverage. Most noticeably, 'high media' schools are more likely to have had their first survey in October or November 2010 whereas 'low media' schools are more likely to have

had their first survey in December 2010 or January 2011. Thus, there will be a difference at baseline between the knowledge of students at 'high media' and 'low media' schools. We deal with this by controlling for school fixed effects in regressions (discussed below).

Table 3 shows the number of BBC articles mentioning tuition fees for the different groups. There is no difference between treatment and control schools either at baseline or at the time of the second survey. However, there is a huge difference (by construction) between schools classified as either 'high media' or 'low media': a greater difference between the first and second survey between 'high media' and 'low media' schools of +375 articles.

Table 4 shows that according to a range of pupil characteristics (demographics, background, prior attainment, school type), there is no difference between treatment and control schools and no difference between 'low media' and 'high media' schools. With regard to the 'high media' and 'low media' distinction, the only notable and statistically significant difference is the average time between surveys. On average, there is 16 additional days between the first and second survey for 'high media' schools. As illustrated by the rest of Table 4, this is not correlated with observable characteristics of the school or pupils (such as average performance, extent of disadvantage or education of parents). This lends credibility to our hypothesis that media exposure is unrelated to factors which may also influence outcomes - it is only due to idiosyncratic differences between schools with regard to timetabling issues (as we had to organise a time suitable for a whole year group on each occasion). This provides exogenous variation in media exposure and thus is a credible source of identification for estimating the effects of the media campaign on student attitudes and aspirations.

4. Methodology

We begin by estimating a simple difference-in-difference regression for our information campaign.

We estimate the following regression:

$$Y_{ist} = \beta_1(T_s \times Wave_t) + \beta_2 T_s + \beta_3 Wave_t + \beta_4 Pair_s + \varepsilon_{ist} \quad (1)$$

where Y is the aspect of knowledge/aspirations being asked of student i in school s; T_s is whether school s is assigned treatment status; *Wave* is whether the survey is the first or second survey (=1 if second survey); *Pair* is a dummy variable for each school pair (there are 27 pairs, where one school is randomly assigned to treatment). The 'intention to treat' effect

is given by β_1. We are also interested to observe how students in schools change between the two surveys (β_3) as this will reflect whatever general changes occurred between the two surveys (most obviously the media campaign about the effect of tuition fees).

We then consider whether the effect of the information campaign is different according to whether there is a relatively high or low flow of articles about tuition fees between surveys (i.e. whether the number of BBC articles mentioning tuition fees between the first and second survey is above or below the median). Here we estimate the following:

$$Y_{ist} = \alpha_1(T_s \times \textit{HighMedia}_s \times Wave_t) + \alpha_2(T_s \times \textit{LowMedia}_s \times Wave_t) + \alpha_3 Wave_t + \mu_s + \varepsilon_{ist} \quad (2)$$

In this case, the main effects of treatment status (i.e. whether the school is exposed to the information campaign between surveys) and exposure status ('high' or 'low' media) are absorbed by school fixed effects (μ).

Then we compare the effects of our information campaign with the effects of being exposed to a relatively high flow of information between surveys. We estimate:

$$Y_{ist} = \tau_1(T_s \times Wave_t) + \tau_2(\textit{HighMedia}_s \times Wave_t) + \tau_3 Wave_t + \mu_s + \varepsilon_{ist} \quad (3)$$

Here we are interested in comparing the effects of our information campaign τ_1 to the effect of a relatively high flow of media exposure between surveys τ_2. As before, main effects of 'low media' or 'high media', treatment or control, are absorbed by the school fixed effects. The effect of 'high media' is a lower bound estimate of the effect of the media in general because the control group has also been exposed to media coverage between surveys. On the other hand, baseline responses will be affected by exactly when students are surveyed. It is nonetheless interesting to compare how our treatment campaign compares to the effects of high media exposure between the baseline and final survey.

Finally, to examine whether the treatments have a heterogeneous effect, we estimate the following:

$$Y_{ist} = \varphi_1(P_i \times \textit{HighMedia}_s \times Wave_t) + \varphi_2(P_i \times T_s \times Wave_t) + \varphi_3(P_i \times Wave_t) + \varphi_4(P_i \times T_s) + \varphi_5 P_i + \mu_s + \varepsilon_{ist} \quad (5)$$

Where P_i is a student characteristic such as ability or free school meal status.

5. Results

5.1. The Effect of the Information Campaign

We first estimate equation (1) for a range of outcome variables which reflect students' knowledge and aspirations. These can be grouped into the following categories: knowledge

of student finance, perceived importance of financial constraint, opportunity cost, knowledge about benefits of staying on, estimates of costs and benefits, and future intentions. The full survey questions pertaining to these outcomes are set out in Appendix B.

The results of the coefficient on the variable 'treatment*wave2' and the variable 'wave 2' are shown in Table 5, alongside the average values for the control group at baseline. We highlight these variables because they show the effect of the information campaign (treatment * wave 2) as well as how beliefs changed over the time between surveys (wave 2) which will be influenced by media coverage between the two surveys. We do not show the coefficient on the treatment dummy as this is usually close to zero; Table 1b shows that there is no difference in the responses between students in schools exposed to our information campaign and the control schools.[16]

Our results uncover a poor level of baseline knowledge among 15 year-olds in terms of the costs of university. Only 45 per cent of students know that fees are paid after university, while only half of students recognise the fact that students loans are granted on very favourable conditions. The information campaign improves knowledge in both cases, by 6.2 percentage points and 7.6 percentage points respectively. Student estimates of the direct costs of going to university are shown in Figure 2 (a kernel density plot of log estimates of annual university fees). This shows a wide range of estimates from students, with little to separate the treatment and control group either in the first or second wave of the survey.[17] However, there is a massive difference between waves, with much more compression in the second wave around the much discussed figure of £9,000.

Does the cost of university put Year 10 students off from staying on in education? Table 5 shows that about 11% of students at baseline say that the financial cost of staying in education would prevent them in staying on in education after Year 11 (i.e. the last year that they are obliged to be there), while about a quarter indicate that the expense of higher education is a barrier to them. Our information campaign reduces the perception of expense as a barrier to staying on in education beyond the compulsory phase (by 3.8 percentage points), and decreases students' likeliness to perceive cost as a barrier to university (by 2 to 5

[16] One concern about such surveys in general is that students do not put much thought into how they respond to questions. However, there is a high correlation between responses in the first and second survey for the control group.

[17] About 16% and 14% of students do not respond to this question in the first and second surveys respectively. The Kernel Density plot is for those students whose expected costs are between the 1st and 99th percentile of the distribution in Survey 1.

percentage points – depending on the precise question). It also reduces the perceived opportunity cost of going to university (by 2.9 percentage points).

Table 5 also illustrates students' perception of the benefits of higher education. Again, we find gaps in knowledge, which our information campaign helps to address. At baseline, one fifth of students do not think that a person has a better chance of getting a job if they stay on in education up to 18 (as opposed to leaving at age 16) or going to university (as opposed to leaving education at age 18). It is also surprising that 40-50% of students believe that their future earnings will not be affected by either their choice of institution or subject of study. While it is difficult to estimate the true causal effect of subject or institution of study (which will vary for different people), it is extremely unlikely than an individual's future earnings is completely invariant to these dimensions of choice. The information campaign influences all the variables in the expected direction – increasing recognition of the employment benefits of staying on in education/going to university, and increasing the recognition that expected earnings will be influenced by subject and institution of study (by around 5 percentage points in both cases).

A key reason to go to university is, of course, the wage returns associated with post-compulsory study. Students were asked various questions of the following kind: 'Imagine that you left school after Year 11 and tried to find a job. Think about the kinds of jobs you might be offered and what you might accept. What is your best guess of what you would earn per year at age 30?' They were asked similar questions for expected earnings conditional leaving full-time education at age 18 and age 21.[18] However, our survey uncovers huge variation in students' estimates of the wage returns to education. This is shown in Figure 3 which illustrates the ratio of students' expected earnings for higher education relative to expected earnings if he/she were to leave school at age 16.[19] As well as huge variation in responses, there is a long right tail in the distribution – many students vastly overestimate returns (which is consistent with the literature). However, the median student does have a reasonable idea (which is also shown in Table 1b). The Figures hint at a possible effect of the

[18] Where this information is missing, we impute a response as long as a response is given in at least one of six earnings questions in either Survey 1 or Survey 2. After imputation, there are only 6% of students for which we have no information. The kernel density plots exclude those with an implied estimated earnings ratio of over 10 (about 5% of the distribution in the case of expected earnings in higher education to leaving school after age 16).

[19] If we plot the ratio of expected earnings for leaving full-time education at 18 compared to 16, we find this is lower on average and the distribution is more compressed. The distribution is similar in treatment and control schools and there is no treatment effect. We also asked students about expected earnings for other people (not themselves). Results were very similar and are not discussed here.

treatment in the middle of the distribution (although this does not come out as significant in quantile regressions[20]). Table 5 shows that the information campaign helps to correct some unrealistically high estimates of expected wages conditional on university participation. Our treatment materials also provided information on earnings by subject of degree. However, we did not find any pattern of results suggesting that the information campaign had changed the preferred subject of study and we do not focus on these results (which are available on request).

Despite their poor knowledge of the costs and benefits of university, most students are positive about the prospects of staying on in education and applying to university. Almost eighty percent of students say they plan to stay on in full-time education beyond the age of 16, while 88% think they are likely or fairly likely to do a degree at some stage. Since participation at UK universities is considerably less than that, many students have unrealistic expectations.[21] The information campaign positively impacts plans to stay on in full-time education, though it does not influence intentions to apply to university.

In summary, the results of our experiment show that the 'information campaign' did have an impact on many indicators of knowledge, perceptions and future intentions. However, it is also important to note that during our surveys, there was a great deal of media activity surrounding tuition fees which we might expect to alter students' perceptions. We can observe this (and students' changing perceptions unrelated to our treatment between the surveys) by studying the 'wave 2' coefficient for each outcome in Table 5. In general, we find that students' knowledge of the costs of university – in terms of tuition fee amounts and when fees are paid – significantly improved between surveys. In terms of fee knowledge in particular, Figure 2 showed a huge amount of information upgrading in terms of knowledge of the actual cost of university fees. Alongside the increased knowledge of costs was (unsurprisingly) an increased perception of the expense of higher education, (with all questions on the perceived importance of financial constraint indicating a general change between surveys), and a reduced interest in applying to university between the first and second surveys.

However, it is noteworthy that there is no change in most questions about the benefits of staying on (aside from some changes in expected wages). A possible interpretation is that

[20] Not reported here. Results available on request.

[21] The Higher Education Initial Participation Rate for 17-30 year olds in England was 49% in 2012. It is not usual to find that students have unrealistically high expectations. Similar findings are found in the Longitudinal Survey of Young People in England.

media coverage about tuition fees changes attitudes to university expense but not to the benefits of staying on in education. Thus, we might expect the effect of the information campaign on questions relevant to finance to be sensitive to the flow of information about tuition fees between the two surveys (whereas information on benefits should not be affected). This is the issue to which we now turn.

Does the Effectiveness Depend on Context?

Table 6 shows how the effect of the information campaign depends on the context. The 'context' is defined by the extent of the flow of media reports about tuition fees between the first and second survey. 'High media exposure' is defined by whether the change in the number of media reports about tuition fees was above or below the median for all schools in the sample. As discussed in Section 3.2, this is unrelated to characteristics of students and schools, but is related to the number of days between surveys and the timing of the first survey. Because of this systematic difference between schools in relation to the baseline survey, it is important to control for school fixed effects in these regressions. We estimate equation 2 for the same set out outcome variables as for Table 5.[22]

Columns 1 and 2 show the effects of the information campaign in 'high media exposure schools' and 'low media exposure schools' respectively. Column 3 shows a p-value for whether effects are different from each other in the two groups.

There are only a few questions where differences are significantly different from each other. As expected, the flow of media reports about tuition fees has no effect on the efficacy of the information campaign with regard to the perceived benefit of education. Where there is a difference, this is only for variables which might in principle be affected by information about tuition fees. In terms of when university fees are paid, media publicity about tuition fees actually reinforces the message of the information campaign.[23] On the other hand, the information campaign is *only* effective in reducing the perception of financial barriers to university participation when there is not much going on in the media (between surveys). When it comes to future intentions, the results (as measured by the coefficient on whether it is 'very likely' the student will ever apply to go to university to do a degree) hints that the

[22] We omit the outcome variables based on earnings expectations, where there is nothing of interest to discuss beyond the findings already reported.

[23] In contrast, there is no difference between groups when it comes to the issue of whether student loans are regarded as a cheaper way to finance debt (which was not something highlighted in media reports about tuition fees).

information campaign might have had some effect in increasing aspirations were in not for the effect of media exposure about the increase in tuition fees (although it is not statistically significant).

5.2. Information Campaign Versus the Media

In Table 7, we compare the effects of the information treatment to the 'high media exposure' treatment. The latter has no impact on the perceived benefits of education – as we would expect. Where it has an impact, this only relates to knowledge of student finance, the perceived importance of the financial constraint, estimates of costs, and future intentions.

The media treatment dominates our information treatment with regard to the costs of higher education and perceived financial barriers, and by extension, students' future intentions. While the absolute impact of our information campaign is stronger on the perceived financial barrier to staying on in education after age 16, the effect of high media exposure is greater (and statistically different) for both questions about the expense of going to university. The magnitude is also sizeable. Higher media exposure increases the perception of going to university as 'too expensive' by 7.8 to 8.4 percentage points (depending on the precise question), whereas our information campaign works in the opposite direction, and has a weaker effect (2-5 percentage points). High media exposure also has a strong impact on the estimate of student fees, while the 'information campaign' has no significant impact. This appears to feed through to future intentions. Students in the 'high media' group are less likely to say they are 'very likely' to ever apply to go to university to do a degree. The percentage of students who agree with this statement reduces by 4.2 percentage points as a result of 'high media exposure'.

5.3. Heterogeneity

We look for heterogeneity in the impact of either our information campaign or media exposure across a number of dimensions (for example, school type or student gender). In general we do not find that treatment effects differ systematically according to individual or school characteristics.

In this context, it is of particular interest to look at whether treatment effects differ according to whether the student might be classified as poor (as measured by whether they are eligible to receive free school meals) or whether they are in the bottom third of ability (as

measured by teacher assessments in the year prior to our survey).[24] The former is of interest because of the possibility that students from poor families will be particularly sensitive to information about financial barriers to higher education. The latter is of interest because of a concern in the literature that lower ability people are less well able to absorb information. (Anderberg et al. 2011).

There is some correlation between these two groups of students, but it is not very high (p=0.20). Both these measures are based on administrative data and are only available for students in state schools who we can merge with this data (60% of the sample: 37 schools, 3,930 students). The outcome measures at baseline for the different groups are shown in Table 8. In general, we do not see dramatic differences for baseline characteristics among the various outcome measures. However, as would be expected, there is a higher perceived importance of financial barriers and opportunity cost among groups of students classified as eligible to receive free school meals or classified as lower performance. Both these groups are less well informed about the benefits of staying on in education. Although responses on future intentions suggest that most people (regardless of group) plan to stay on in full-time education after age 16 and see themselves as likely to apply to go to university at some stage, the staying-on commitment is less prevalent among those eligible for free school meals or among those classified as low performance.

We estimate equation 5. For reasons of space, we only show the coefficient on the treatment effect for the information campaign in Table 9. The coefficient on media reports is never statistically different for any of the outcome measures by group. Similarly (and as shown in Table 9), this is true of the information campaign for most outcomes: In most cases, there are similar effects for children eligible to receive free school means and other children; and for children classified as 'low ability' or 'high ability'. However, there are some notable exceptions and these coefficients are highlighted in bold. When we look at students by free school meal status, our information campaign is very effective in reducing the perceived financial barrier of going to university for those eligible to receive free school meals (but not for other students). This may be either because students from poor families are more sensitive to information about financial barriers or because the information campaign was more useful in providing them with new information on these issues (relative to other families).

[24] This is the Key Stage 3 teacher assessment in Year 9. The expected standard at this age (according to the National Curriculum) is level 5. About a third of students in this data are assessed as level 4 or below for English, Maths or Science. We define this group as 'low ability' in this study.

The information campaign (and the media campaign) generally has no different impact for low ability and high ability students. All these students absorb information and react to it in similar ways. However, where there are differences, these are highlighted in bold. The relevant questions are about the perceived importance of the financial constraint, where the information campaign reduces financial concerns among low ability students while having no effect on other students. The other two relevant outcomes are the questions about whether staying on in education and whether going to university has an effect on job prospects. Our information campaign has a stronger impact on low ability students compared to other students for these outcomes. This is the opposite of what might be expected if high ability students had a greater propensity to react to information campaigns.

6. Conclusion

In this study, we analyse the short-term impact of an inexpensive information campaign on students' perception of the costs and benefits of staying on in education and their future aspirations with regard to participation in further/higher education. We find that there are sizeable gaps in the knowledge of 15 year-olds (on issues such as when university fees are paid and whether or not expected wages are invariant to level of education, subject and institution of degree). However, a light-touch campaign does have an influence on students' knowledge and perceptions, in the expected direction. This matters to the extent that knowledge and perceptions influence effort and the trajectory of educational decisions made throughout their schooling career. While this is not something we can look at in this study, it is interesting that even a fairly rudimentary information campaign designed by some researchers can have an impact on knowledge and attitudes. Furthermore, we show that low ability students (the bottom third) are as able to absorb information from the information campaign and media reports as other students, and that the information campaign is very effective for reducing financial cost as a perceived barrier to higher education among students from poor families. This latter of policy relevance since it highlights the value and importance of information as a tool to improve social mobility.

Although students in England do face much higher tuition fees than in the past, the loan and grants package is designed to try to minimise the impact of financial cost on the decision about whether or not to go to university. Despite this, our study suggests that publicity about the increase of tuition fees increased the perception of tuition fees as a barrier to higher education (at least in the short-term). More generally, our study shows the power of the media for influencing knowledge and perceptions, and that the context in which information campaigns are implemented is highly relevant to their effectiveness.

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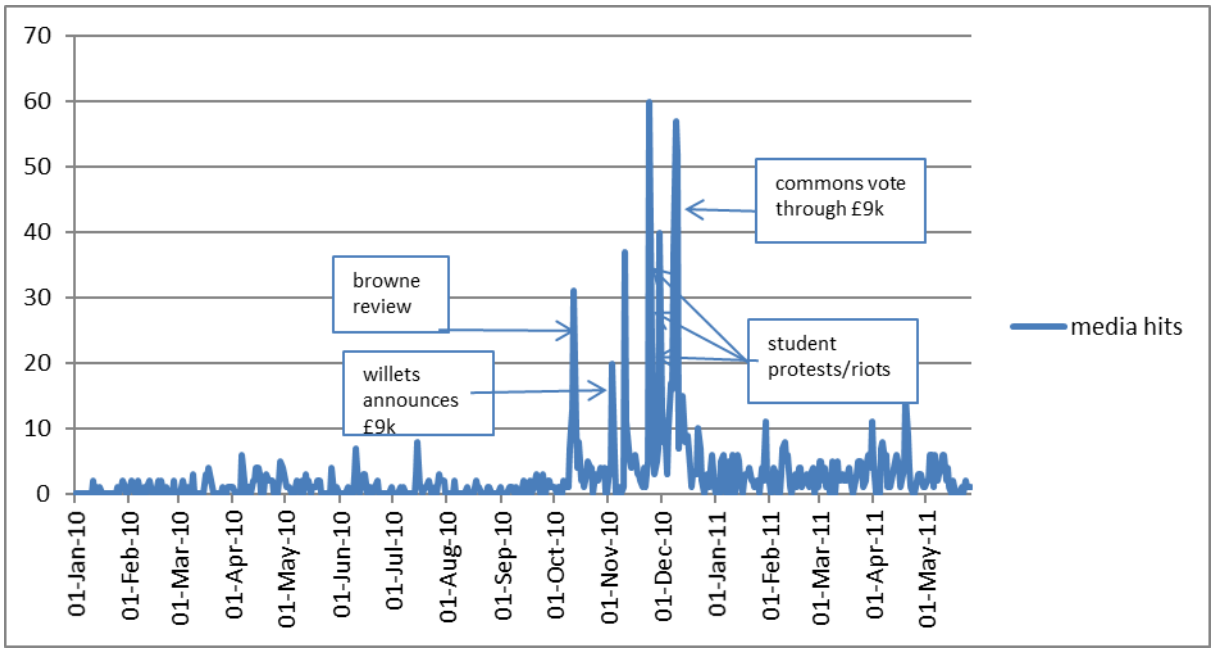
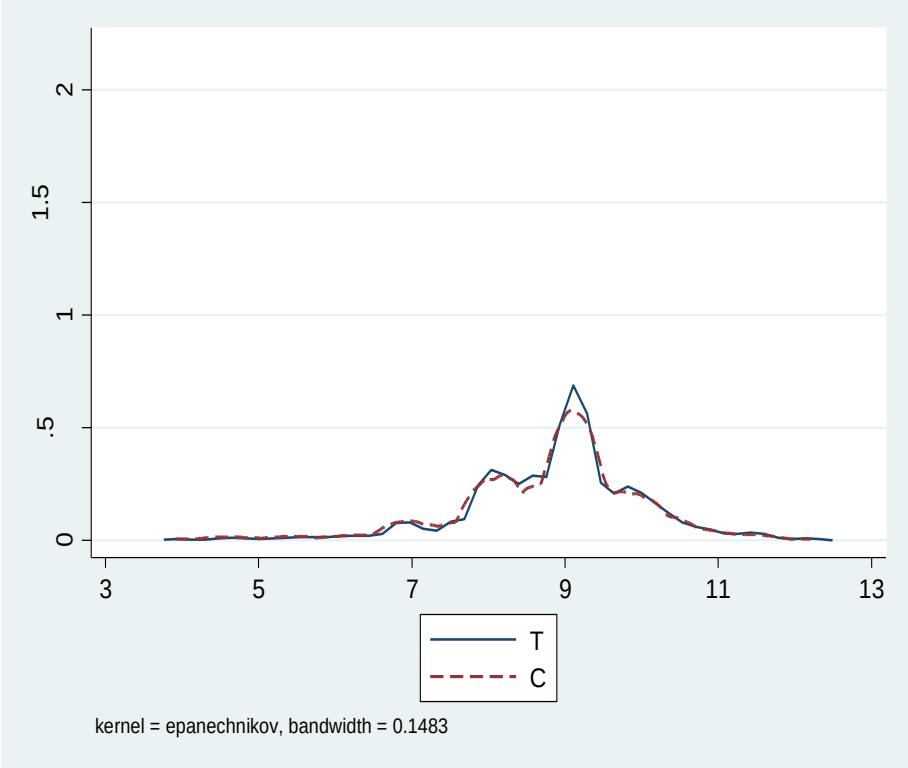
Figure 1: Media reports of Tuition Fees



Note: Count of news articles mentioning 'tuition fees' on BBC website from January 2010 to May 2011

Figure 2: Expected (log) yearly cost of going to university (fees only)

A. Wave 1



B. Wave 2

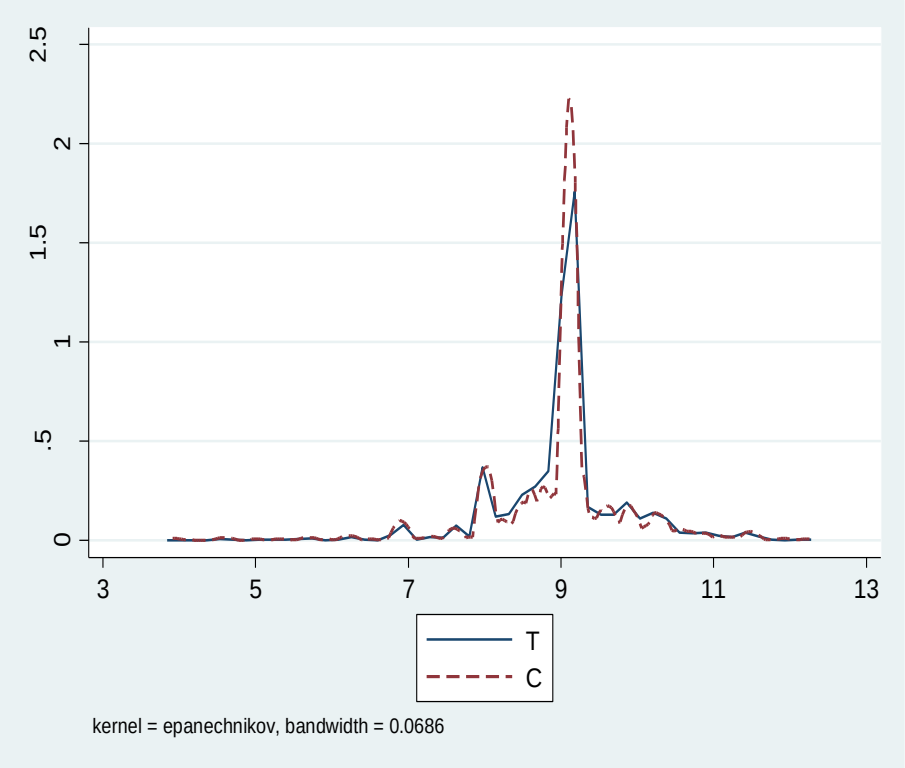
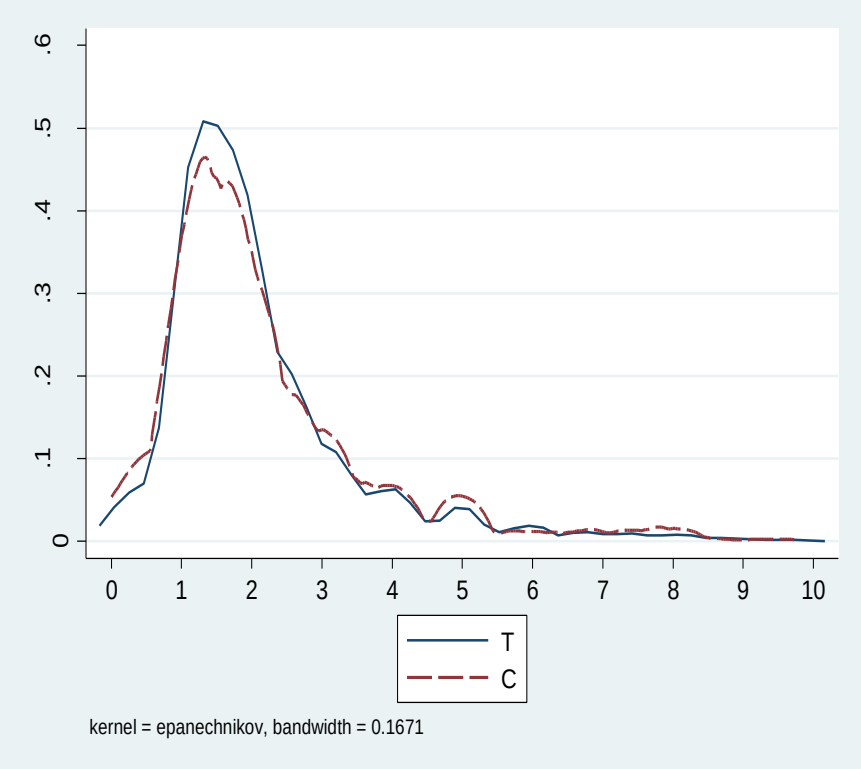


Figure 3: Ratio of own expected earnings at age 30: higher education relative to leaving school at age 16

(A) Wave 1



(B) Wave 2

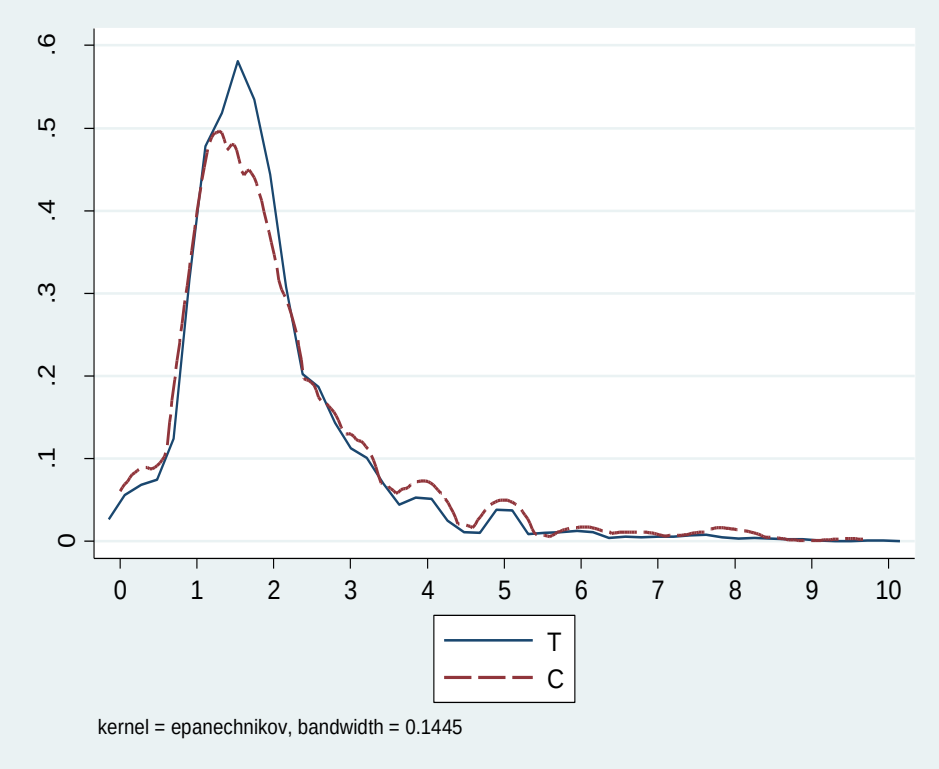


Table 1a. Characteristics of invited schools

	All schools invited	Treatment schools	Control schools	Difference between Treatment and control*
Number of schools	515	27	27	
GCSE points score	424	445 (83)	438 (107)	6.92 (17.98)
Proportion with 5 or more GCSE grades at A*-C	0.77	0.84	0.80	0.04
Proportion with 5 or more GCSE grades at A*-C (including English and Maths)	0.55	0.62	0.62	0
All girls school	0.24	0.37	0.37	0
All boys school	0.14	0.19	0.19	0
Independent (15 schools) or academically selective state schools (3 schools)	0.24	0.33	0.33	-0.04 (0.06)
Proportion eligible for free school meals	0.17	0.12	0.16	-0.04 (0.04)

*Treatment and control differences in 2009. Standard errors in parenthesis

Table 1b: Baseline knowledge and attitudes

	Treatment	Control	Difference
Knowledge of student finance			
Know that university fees are paid after university and have a job	0.47	0.45	0.02 (0.03)
'Student loans are a cheaper/better way to borrow money than other types of borrowing' *Agree*	0.47	0.51	-0.04 (0.02)
Perceived importance of financial constraint			
Would the financial cost of staying in education prevent you from staying on in education after Year 11? *Yes*	0.12	0.11	0.01 (0.02)
Would the financial aspect of going to university make you think of not applying? *Yes*	0.27	0.24	0.04 (0.03)
'Going to university is too expensive for me and my family' *Yes*	0.22	0.23	-0.01 (0.03)
Opportunity cost			
'Going to university would mean waiting too long before I could earn a full-time wage' *Agree*	0.24	0.25	-0.01 (0.03)
Knowledge about benefits of staying on			
Better chance of getting a job if stays on to 18 A*gree*	0.80	0.80	0.00 (0.02)
Better chance of getting a job if goes to university (v leaving at 18) A*gree*	0.80	0.81	-0.01 (0.02)
Will earn about the same no matter what subject I study *Agree/don't know*	0.43	0.42	0.01 (0.03)
Will earn about the same no matter what university I go to *Agree/ don't know*	0.54	0.53	0.00 (0.04)
Estimates of costs and benefits			
Median estimate of fees (£)	£9,000	£9,000	0
Median estimate of own wage at 30 if leaves full-time education at age 16 (£)	£24,000	£20,000	£4,000 (600)
Median estimate of own wage at 30 if leaves full-time education at age 18 (£)	£30,000	£30,000	0
Median estimate of own wage at 30 goes to university and then leaves full-time education (£)	£40,000	£40,000	0
Future intentions			
Plan to stay on in full-time education after age 16	0.79	0.76	0.03 (0.04)
Very/fairly likely will ever apply to go to university to do a degree	0.88	0.87	0.01 (0.04)
Very likely will ever apply to university to do a degree	0.61	0.60	0.01 (0.04)

Table 2. When did the first survey take place in relation to both treatments?

	Information campaign		Media exposure between surveys	
	Treatment	Control	High Media	Low Media
June 2010	1	0	0	1
July 2010	0	1	0	1
Sept. 2010	1	4	2	3
Oct. 2010	5	3	8	2
Nov. 2010	10	9	18	2
Dec. 2010	8	6	1	14
Jan. 2011	3	4	0	7
Feb. 2011	0	0	0	0
Mar. 2011	0	1	0	1

*Note: There are 27 schools in the Treatment group and 27 in the control group. There is double counting of two schools above in the first two columns as they survey took place across two months (within a short time). In the last two columns, the fact that surveys took place for different classes (within the year group) on different weeks puts some students (in the same school) on either side of the 'high media' threshold. This affects 5 schools.

Table 3: Number of BBC articles mentioning 'tuition fees' for different groups of students at baseline.

	Baseline: Average and standard deviation	Second Survey Average and standard deviation	Difference	Diff-in Diff
Information campaign				
Treatment	494 (265)	984 (228)	+489 (47.36)	T-C = +26
Control	523 (293)	986 (230)	+463 (40.32)	
Media exposure between surveys				
High Media (above median)	361 (107)	1020 (83)	+659 (14.12)	High – Low= +375
Low Media (below median)	663 (318)	946 (313)	+284 (22.93)	

Table 4: The 'two treatments': differences in observables at baseline

	(a) Information campaign			(b) Media exposure between surveys		
	Treatment	Control	Difference	High media	Low media	Difference
Average no. days between surveys	84.56 (19.19)	82.22 (23.57)	2.33 (6.11)	**91.13 (17.03)**	**75.31 (22.58)**	**15.81 (5.29)*** **
Either parent has a job	0.941	0.900	0.042 (0.027)	0.916	0.927	-0.011 (0.026)
Either parent went to university	0.576	0.542	0.034 (0.055)	0.550	0.571	-0.020 (0.052)
Independent or Selective school	0.226	0.226	0.000 (0.011)	0.219	0.233	-0.014 (0.111)
Teacher assessment in age 14 English (level 5 or above at KS3)[25]	0.628	0.532	0.097 (0.092)	0.547	0.639	-0.093 (0.093)
Teacher assessment in age 14 Maths (level 5 or above at KS3)	0.725	0.642	0.083 (0.073)	0.661	0.727	-0.067 (0.074)
Eligible for free school meals	0.142	0.253	-0.112 (0.060)*	0.202	0.173	0.029 (0.058)
% free school meals in school	12.92 (10.70)	19.86 (18.19)	-6.95 (4.52)	16.99 (17.32)	15.49 (12.50)	1.51 (4.47)
% White British in school	27.10 (24.20)	23.37 (26.65)	3.73 (7.91)	23.24 (24.49)	27.49 (26.30)	-4.24 (7.72)
% speak English as an additional language in school	32.69 (25.27)	36.10 (31.68)	-3.41 (8.82)	35.49 (31.87)	33.12 (24.59)	2.38 (8.21)

[25] Key Stage 3 teacher assessments are conducted in Year 9 in all state schools. Level 5 is the expected level at this age, according to the National Curriculum.

Table 5. Effects of the 'information campaign'

	Baseline Control	Treatment x Wave 2	Wave 2
Knowledge of student finance			
Know that university fees are paid after university and have a job	0.45	0.062 (0.026)**	0.099 (0.017)***
'Student loans are a cheaper/better way to borrow money than other types of borrowing' *Agree*	0.51	0.076 (0.026)***	-0.018 (0.014)
Perceived importance of financial constraint			
Would the financial cost of staying in education prevent you from staying on in education after Year 11? *Yes*	0.11	-0.038 (0.015)***	0.033 (0.008)***
Would the financial aspect of going to university make you think of not applying? *Yes*	0.24	-0.050 (0.023)**	0.048 (0.016)***
'Going to university is too expensive for me and my family' *Yes*	0.23	-0.020 (0.023)	0.056 (0.017)***
Opportunity cost			
'Going to university would mean waiting too long before I could earn a full-time wage' *Agree*	0.25	-0.029 (0.012)**	0.023 (0.009)***
Knowledge about benefits of staying on			
Better chance of getting a job if stays on to 18 A*gree*	0.80	0.023 (0.016)	-0.006 (0.011)
Better chance of getting a job if goes to university (v leaving at 18) A*gree*	0.81	0.034 (0.015)**	-0.006 (0.010)
Will earn about the same no matter what subject I study *Agree/don't know*	0.42	-0.051 (0.019)***	-0.011 (0.013)
Will earn about the same no matter what university I go to *Agree/ don't know*	0.53	-0.056 (0.017)***	0.011 (0.011)
Estimates of costs and benefits			
Log estimate of fees (£)	8.84 (1.40)	-0.047 (0.074)	0.194 (0.059)***
Log estimate of own wage at 30 if leaves full-time education at age 16 (£)	10.50 (1.40)	-0.040 (0.039)	0.086 (0.027)***
Log estimate of own wage at 30 if leaves full-time education at age 18 (£)	10.06 (1.37)	-0.047 (0.035)	0.045 (0.024)*
Log estimate of own wage at 30 goes to university and then leaves full-time education (£)	9.77 (1.44)	-0.073 (0.031)**	0.027 (0.022)
Future intentions			
Plan to stay on in full-time education after age 16	0.76	0.029 (0.014)**	0.007 (0.012)
Very/fairly likely will ever apply to go to university to do a degree	0.87	-0.004 (0.010)	-0.019 (0.008)***
Very likely will ever apply to university to do a degree	0.60	0.005 (0.016)	-0.028 (0.011)***

Notes. Linear probability models. Each row represents a separate regression. The dependent variable is shown in column 1 (the full survey question is provided in Appendix B). Standard error clustered at school-level (54 schools). *** significant at 1% level; ** significant at 0.05 level. * significant at 0.10 level

Regressions include dummy variables for treatment status and dummy variables for 27 treatment-control pairs of schools.

The number of observations differs a little depending on the outcome variable. In general, it is about 13,000 observations.

Table 6. How the effects of the information campaign depend on context

	Treatment x Wave 2 x 'high media exposure'	Treatment x Wave 2 x 'low media exposure'	Pvalue β(T*W2*high)= β(T*W2*low)
Knowledge of student finance			
Know that university fees are paid after university and have a job	0.100 (0.031)***	0.030 (0.029)	0.043
'Student loans are a cheaper/better way to borrow money than other types of borrowing' *Agree*	0.079 (0.027)***	0.076 (0.036)**	0.942
Perceived importance of financial constraint			
Would the financial cost of staying in education prevent you from staying on in education after Year 11? *Yes*	-0.024 (0.014)*	-0.053 (0.023)**	0.251
Would the financial aspect of going to university make you think of not applying? *Yes*	-0.007 (0.022)	-0.099 (0.026)***	0.001
'Going to university is too expensive for me and my family' *Yes*	0.018 (0.026)	-0.063 (0.028)***	0.001
Opportunity cost			
'Going to university would mean waiting too long before I could earn a full-time wage' *Agree*	-0.028 (0.013)**	-0.031 (0.016)*	0.869
Knowledge about benefits of staying on			
Better chance of getting a job if stays on to 18 A*gree*	0.014 (0.017)	0.034 (0.022)	0.385
Better chance of getting a job if goes to university (v leaving at 18) A*gree*	0.031 (0.016)**	0.036 (0.022)	0.830
Will earn about the same no matter what subject I study *Agree/don't know*	-0.044 (0.023)*	-0.060 (0.022)***	0.530
Will earn about the same no matter what university I go to *Agree/ don't know*	-0.046 (0.019)**	-0.069 (0.023)***	0.353
Future intentions			
Plan to stay on in full-time education after age 16	0.024 (0.015)	0.035 (0.017)**	0.453
Very/fairly likely will ever apply to go to university to do a degree	-0.008 (0.013)	-0.001 (0.010)	0.557
Very likely will ever apply to university to do a degree	-0.015 (0.084)	0.026 (0.017)	0.025

Notes. As for Table 5.

Table 7. The effects of the 'information campaign' versus 'media exposure'

	Information Treatment x Wave 2	'High' media exposure x Wave 2	Pvalue β(T*W2)= β(high ex.*W2)
Knowledge of student finance			
Know that university fees are paid after university and have a job	0.067 (0.023)***	0.070 (0.023)***	0.925
'Student loans are a cheaper/better way to borrow money than other types of borrowing' *Agree*	0.078 (0.026)***	-0.010 (0.023)	0.031
Perceived importance of financial constraint			
Would the financial cost of staying in education prevent you from staying on in education after Year 11? *Yes*	-0.039 (0.014)***	0.029 (0.015)**	0.007
Would the financial aspect of going to university make you think of not applying? *Yes*	-0.052 (0.019)***	0.078 (0.018)***	0.000
'Going to university is too expensive for me and my family' *Yes*	-0.022 (0.018)	0.084 (0.017)***	0.000
Opportunity cost			
'Going to university would mean waiting too long before I could earn a full-time wage' *Agree*	-0.030 (0.012)***	0.010 (0.012)	0.049
Knowledge about benefits of staying on			
Better chance of getting a job if stays on to 18 A*gree*	0.024 (0.016)	-0.023 (0.016)	0.040
Better chance of getting a job if goes to university (v leaving at 18) A*gree*	0.034 (0.015)**	-0.009 (0.015)	0.066
Will earn about the same no matter what subject I study *Agree/don't know*	-0.051 (0.018)***	-0.011 (0.018)	0.108
Will earn about the same no matter what university I go to *Agree/ don't know*	-0.057 (0.017)***	0.010 (0.016)	0.008
Estimates of costs			
Log estimate of fees (£)	-0.063 (0.071)	0.129 (0.065)**	0.060
Future intentions			
Plan to stay on in full-time education after age 16	0.030 (0.013)**	-0.022 (0.013)*	0.006
Very/fairly likely will ever apply to go to university to do a degree	-0.005 (0.010)	-0.004 (0.009)	0.927
Very likely will ever apply to university to do a degree	0.005 (0.014)	-0.042 (0.013)***	0.020

Notes: as for Table 5.

Table 8: Outcomes at baseline - by student type

	Eligible for FSM	Not eligible for FSM	Low ability (bottom third)	Higher ability (above bottom third)
N	744	3,186	1,460	5,780
Knowledge of student finance				
Know that university fees are paid after university and have a job	0.45	0.48	0.46	0.48
'Student loans are a cheaper/better way to borrow money than other types of borrowing' *Agree*	0.49	0.49	0.50	0.50
Perceived importance of financial constraint				
Would the financial cost of staying in education prevent you from staying on in education after Year 11? *Yes*	0.15	0.12	0.13	0.12
Would the financial aspect of going to university make you think of not applying? *Yes*	0.27	0.28	0.26	0.28
'Going to university is too expensive for me and my family' *Yes*	0.26	0.23	0.25	0.23
Opportunity cost				
'Going to university would mean waiting too long before I could earn a full-time wage' *Agree*	0.30	0.25	0.31	0.24
Knowledge about benefits of staying on				
Better chance of getting a job if stays on to 18 A*gree*	0.73	0.80	0.75	0.81
Better chance of getting a job if goes to university (v leaving at 18) A*gree*	0.75	0.81	0.77	0.82
Will earn about the same no matter what subject I study *Agree/don't know*	0.52	0.44	0.47	0.45
Will earn about the same no matter what university I go to *Agree/ don't know*	0.61	0.56	0.60	0.56
Future intentions				
Plan to stay on in full-time education after age 16	0.71	0.78	0.71	0.79
Very/fairly likely will ever apply to go to university to do a degree	0.85	0.88	0.85	0.88
Very likely will ever apply to university to do a degree	0.52	0.60	0.51	0.61

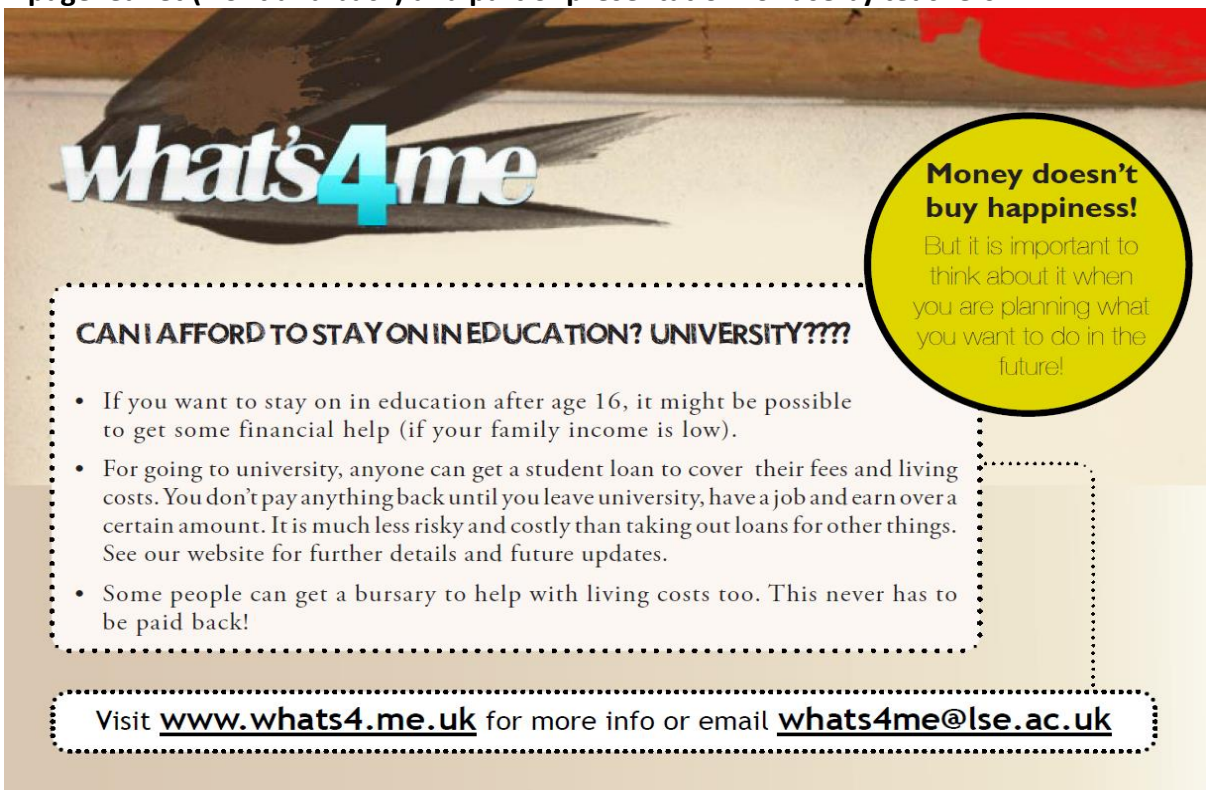
Table 9: Heterogeneity of effect: by student's free school meal status

	Effects of information campaign by free school meal status		Effects of information campaign by student ability	
	Eligible for FSM	Not eligible for FSM	Low ability (bottom third)	Higher ability (above bottom third)
Knowledge of student finance				
Know that university fees are paid after university and have a job	0.013 (0.039)	0.076 (0.024)***	0.036 (0.036)	0.063 (0.028)**
'Student loans are a cheaper/better way to borrow money than other types of borrowing' *Agree*	0.039 (0.047)	0.077 (0.032)**	0.061 (0.042)	0.073 (0.029)**
Perceived importance of financial constraint				
Would the financial cost of staying in education prevent you from staying on in education after Year 11? *Yes*	-0.060 (0.030)**	-0.026 (0.021)	**-0.071 (0.030)****	**-0.007 (0.017)**
Would the financial aspect of going to university make you think of not applying? *Yes*	**-0.113 (0.040)*****	**-0.017 (0.023)**	**-0.117 (0.044)*****	**-0.008 (0.022)**
'Going to university is too expensive for me and my family' *Yes*	**-0.083 (0.047)***	**0.000 (0.023)**	0.009 (0.033)	-0.019 (0.026)
Opportunity cost				
'Going to university would mean waiting too long before I could earn a full-time wage' *Agree*	-0.032 (0.037)	-0.025 (0.016)	-0.026 (0.032)	-0.028 (0.019)
Knowledge about benefits of staying on				
Better chance of getting a job if stays on to 18 A*gree*	0.044 (0.037)	0.028 (0.023)	**0.137 (0.045)*****	**0.011 (0.018)**
Better chance of getting a job if goes to university (v leaving at 18) A*gree*	0.076 (0.037)**	0.049 (0.023)**	**0.098 (0.034)*****	**0.036 (0.019)***
Will earn about the same no matter what subject I study *Agree/don't know*	-0.014 (0.052)	-0.052 (0.024)**	-0.071 (0.045)	-0.019 (0.024)
Will earn about the same no matter what university I go to *Agree/ don't know*	-0.088 (0.048)*	-0.054 (0.022)**	-0.100 (0.044)**	-0.045 (0.025)*
Future intentions				
Plan to stay on in full-time education after age 16	0.015 (0.023)	0.049 (0.019)**	0.067 (0.025)***	0.036 (0.018)**
Very/fairly likely will ever apply to go to university to do a degree	-0.003 (0.030)	0.003 (0.015)	0.032 (0.031)	-0.004 (0.013)
Very likely will ever apply to university to do a degree	-0.029 (0.033)	-0.013 (0.018)	0.017 (0.035)	-0.026 (0.020)

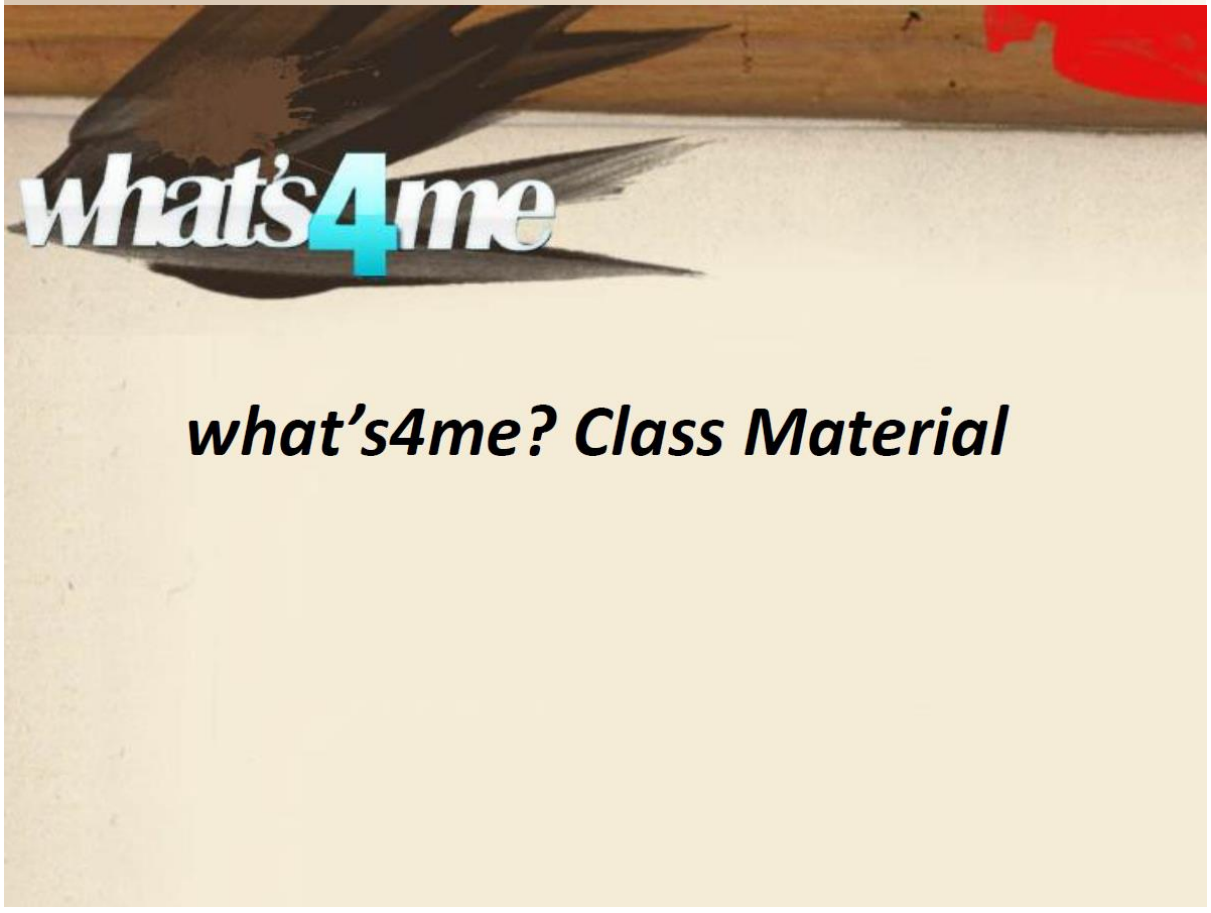
Notes. Linear probability models. Standard error clustered at school-level (54 schools). *** significant at 1% level; ** significant at 0.05 level. * significant at 0.10 level. Regressions estimate equation 4 reported in the text and thus main effects of student ability; ability x wave; ability x treatment status, school fixed effects and a dummy variable for wave of the survey. The number of observations differs a little depending on the outcome variable. In general, it is about 7,861 observations.
Where the information campaign (media exposure) has a different impact on students of low or high ability that is statistically significant, coefficients are in bold.

Appendix A: Selected Material from 'Information Treatment':
See: http://www.whats4me.uk/

1 page leaflet (front and back) and part of presentation for use by teachers



what's4me
Money doesn't buy happiness!
But it is important to think about it when you are planning what you want to do in the future!
CAN I AFFORD TO STAY ON IN EDUCATION? UNIVERSITY????
• If you want to stay on in education after age 16, it might be possible to get some financial help (if your family income is low).
• For going to university, anyone can get a student loan to cover their fees and living costs. You don't pay anything back until you leave university, have a job and earn over a certain amount. It is much less risky and costly than taking out loans for other things. See our website for further details and future updates.
• Some people can get a bursary to help with living costs too. This never has to be paid back!
Visit www.whats4.me.uk for more info or email whats4me@lse.ac.uk


what's4me
what's4me? Class Material

Introduction

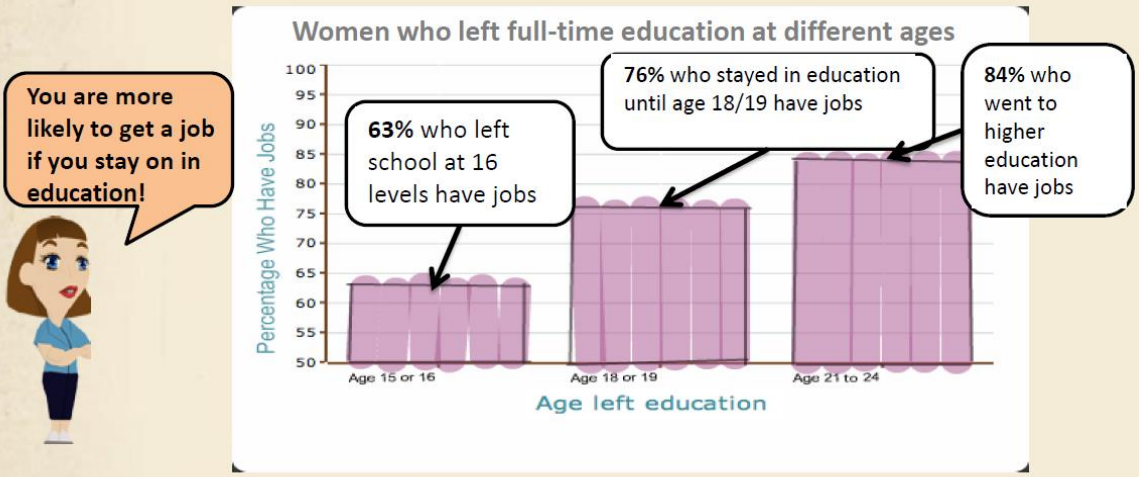
- Deciding what you want to do after Year 11 is very important for your future, so its a good idea to start thinking about it now
- Today we are going to talk about the different options available to you, and how you can decide what's the best one for you

What sorts of things matter for your future?

- Whether or not you stay in education after year 11
- How long you stay in education for
- If you go into higher education:
  - —What subject you choose to study
  - —Which university to go to

These decisions will affect whether you get a job and how much you earn! We will go through each in turn

Staying on matters…for whether you get a job



Staying on matters…for how much you earn

You are likely to earn more *on average* if you stay on at school!

Will we really earn *the average*? Maybe I'm a superstar!

No. It depends on lots of other things!
- What sort of job you get and how good you are at it.
- The state of the economy when we are older.
- We also have to think about lifestyle choices. What if we have children?!

Average wages just give a rough guide. Useful information but not a crystal ball!

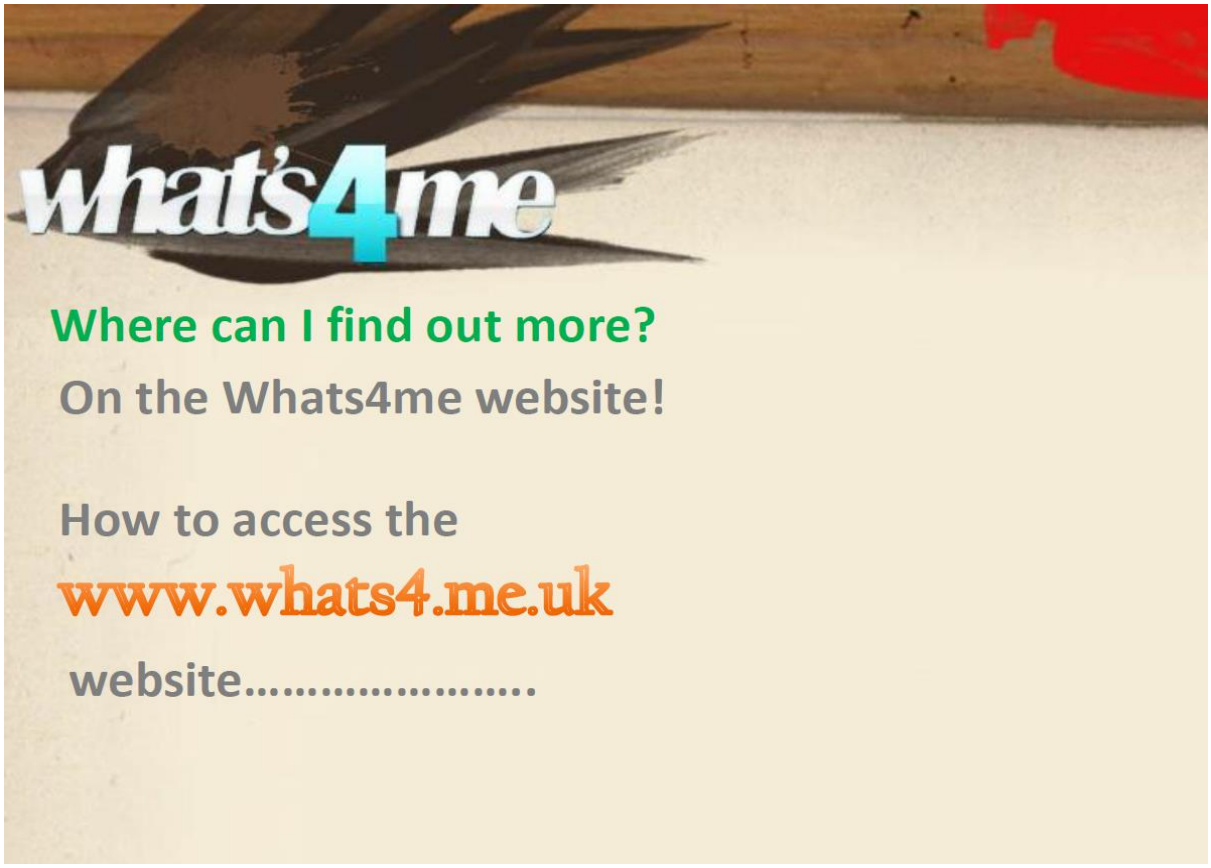
Staying on matters...and there will be help available if you decide to go to university

• By the time you are at the age where you can go to university, the costs will be quite different from today
• In 2012, **tuition fees** will be about £7,500 per year
• Some universities may charge less, and some may charge more, but fees will never be higher than £9,000 per year
• This may sound like a lot of money – but you don't have to pay this until after you have left university and got a job!
— You can borrow the money from the **student loans** company
— And you only pay back 9% of your earnings over £21,000
— So if you don't have a job you don't pay anything
—And if you were earning £25,000 a year, you'd only pay back £7 a week!

Staying on matters...and there will be help available if you decide to go to university

• You will also be able to get a **student loan** for living costs, and this is paid off in the same way as the fee loan
• In 2012, everyone applying for this loan will receive between £3,575 and £5,500 per year
•There are also **student grants** – this is money that you don't ever have to pay back!
•Those from families with income of less than £25,000 can get £3,250 per year. Those from families with income between £25,000 and about £42,000 per year can receive a smaller grant.

You don't have to pay anything up front, and you can get loan and grant money to live on while you're studying. So everyone can afford to go to university!


what's4me
Where can I find out more?
On the Whats4me website!
How to access the
www.whats4.me.uk
website……

what's4me
Click on the bars to access more detailed information on each of these things!
Facts you should know
Does staying on in education matter for getting a job?
Does staying on in education matter for what I can earn later on?
What is the cost of staying on in education?
Does subject of study matter for how much I can earn?
What jobs do degree subjects lead to?
What are the A-level requirements of different degree subjects?
Does where I go to university matter for what I can earn?
Where can I find more information?
Does staying on in education matter for getting a job?
YES! Lots of studies show this.
For example, look at women who are aged 30-35. Those who left full-time education when they were older (e.g. at age 21-24) are more likely to have a job compared to those who left full-time education when they were younger (e.g. straight after Year 11, at age 15 or 16).
Women who left full-time education at different ages

Appendix B: Questions used as outcome variables.

Full questionnaires are downloadable on http://www.whats4.me.uk

Knowledge of student finance

D3. When do you think most people pay their university fees? (tick one box): before the start of each year at university; immediately after they finish university; when they finish university and have a job; don't know.

A1. Student loans a cheaper/better way to borrow money than other types of borrowing (e.g. credit cards). Strongly agree; agree; disagree; strongly disagree; don't know.

Perceived importance of financial constraint

D2. Would the financial cost of staying on in education prevent you from staying on in education after Year 11? Yes; no; don't know.

D5. Would the financial aspect of going to university (that is the cost of fees and living expenses) make you think of NOT applying? Yes; no; don't know.

A1. Going to university is too expensive for me and my family. Strongly agree; agree; disagree; strongly disagree; don't know.

Opportunity cost

A1. Going to university would mean waiting too long before I could earn a full-time wage. Strongly agree; agree; disagree; strongly disagree; don't know.

Knowledge about benefits of staying on

C7. Do you think that a person has a better or worse chance of getting a job if he/she stays in education up to age 18 compared to leaving school after Year 11? Would you say it is: much worse; worse; same; better; much better.

C8. Do you think that a person has a better or worse chance of getting a job if he/she goes to university compared to leaving education at age 18? Would you say it is: much worse; worse; same; better; much better.

A1. If I get a university degree, I will earn about the same no matter what subject I study: strongly agree; agree; disagree; strongly disagree; don't know.

A1. If I get a university degree, I will earn about the same no matter what university I go to: strongly agree; agree; disagree; strongly disagree; don't know.

Estimates of costs and benefits

D3. What do you think is the yearly cost of sending a person to university? (just in terms of tuition fees).

E1. Imagine that you left school after Year 11 and tried to find a job. Think about the kinds of jobs you might be offered and what you might accept. What is your best guess of what you would earn per year at age 30?

E2. Imagine that you continued at school after Year 11 or went to a College of Further Education (or a Sixth Form College). And then, tried to find a job at around 18. Think about the kinds of job you might be offered and what you might accept. What is your best guess of what you would earn per year at age 30?

E3. Imagine that you continued in education and went to university (or other type of higher education) for 3 or 4 years. Think about the kinds of job you might be offered and what you might accept after this (leaving full-time education at about age 21). What is your best guess of what you would earn per year at age 30?

Future intentions

C1. When you are 16 and have finished Year 11 at school, what do you plan to do next? Tick one box. Stay in full-time education; start working full-time; start learning a trade/start work-based training; something else; don't know.

C4. How likely do you think it is that you will ever apply to go to university to do a degree? Would you say it is: very likely, fairly likely, not very likely, not at all likely, don't know.