Analysis Report

TASO Mature Learners Conjoint Experiment

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The full protocol for this study can be found on the TASO website

This study was pre-registered on the Open Science Framework (OSF) registry

1. Summary

Background

The TASO Theme 1 evidence review found that there was not enough research on how to support mature students into higher education (HE). TASO's Theme Working Group recommended TASO undertake more research on this topic and TASO commissioned this research accordingly.

Aims

The aim of this study is to explore which institutional features are attractive to mature learners, in order to help inform policy and practice at HE providers (HEPs) with respect to widening participation for mature learners.

Intervention and Design

This project consists of a survey experiment using conjoint analysis, which is a method that allows researchers to measure the value respondents place on different attributes of a given set of options. The attributes being varied in this experiment were features of an undergraduate HE course (e.g. size of course, timetabling options).

Outcome measures

The primary outcome measure was the probability that a participant chooses a course with a given attribute as compared to choosing a course without that given attribute. Secondary outcomes were the absolute probability of an individual choosing a profile given its attributes, and the reported likelihood of enrolling in a course given its attributes.

Analyses

The analytical strategy was a linear probability model to find the probability that an individual will select Profile A, given the attributes of Profile A and Profile B, and the characteristics of the individual. Secondary analysis focused on the likelihood of selecting a profile given its attributes regardless of the attributes of the other profile, reported likelihood of enrolling in each course, and demographic predictors of attitudes toward continuing education.

Results

The analysis found that across different analytical specifications, respondents displayed a strong preference for courses that offered online or blended learning. They also preferred higher-ranked institutions, and those whose policies and practices suggested the institution was supportive of mature students, including offering out-of-hours classes, academic support for mature students, and the presence of a designated staff member whose role was to support mature students - and to a lesser extent, availability of childcare. Respondents preferred smaller courses to larger ones, and strongly preferred institutions that were within a shorter commute.

Respondents had, on average, weaker positive preferences for courses with higher course satisfaction, and higher proportions of graduates in graduate-level jobs. While the proportion of mature students on the course had a small positive effect, the availability of opportunities to socialise with other mature students had no impact on preferences or self-reported likelihood of enrolling.

Partitioned analysis suggests that respondents aged 25 or younger were less concerned about commuting time. Respondents over the age of 25 were less concerned about available of childcare than those 25 or younger. Younger respondents were also the most responsive to the rate of placement of graduates in graduate-level jobs, and to course satisfaction. Respondents whose qualifications were at Level 2 (GCSE/equivalent) or below were more responsive to the presence of a mature student support officer than those whose qualifications were at Level 3 or above.

Those whose qualifications included an incomplete Level 5 (undergraduate) qualification reported overall significantly lower likelihoods of enrolling in an undergraduate course than those who had no qualifications at Level 2 or above, although their responses on the Adult Attitudes to Continuing Education (AACE) scale were significantly more positive. Increasing age had a small, significant association with the AACE scale, but a negative association with the likelihood of enrolling on a course. Those who were not in the labour market had significantly lower scores on the AACE

compared to those working full time. Women, respondents with children, and those whose qualifications were at Level 3 or above had the highest scores on the AACE.

Conclusions

This study provides a valuable insight into what features of a course may drive both preference for, and overall inclination to enrol in, undergraduate courses, among adults who have left formal education without an undergraduate qualification. The results suggest that practical issues are drivers of preference and likelihood, particularly travel time and the availability of online or blended learning. However, study participants were also responsive to other factors, such as course size and institution ranking, and seem to have valued indications that the institution was invested in supporting mature students. On social factors, participants were interested in the extent to which there would be other mature students in their course, but less concerned about social opportunities with other students.

The external validity of the study will need to be considered, given it was conducted within a survey environment and relied on self-reported preferences and likelihoods. Nonetheless, this study can help institutions think about how best to structure and market their undergraduate offer in order to attract mature learners.

2　Introduction

2.1　Background

As part of its work in understanding how to increase access to higher education (HE) among underrepresented groups, TASO undertook a programme of work exploring drivers of interest in HE among adults without a tertiary qualification. The first phase of this work was an evidence review, while the present study formed the second phase. The purpose of this study was to test some of the predictions of the literature review via a conjoint survey experiment, in order to contribute to the evidence base around how institutions and other organisations can reach out to adults without HE qualifications and re-engage them in learning. The project team are listed in Table 1.

Table 1 Roles and responsibilities

Organisation	Name(s)	Role and responsibilities
King's College London/TASO	Susannah Hume, Salome Gongadze and Dr Eliza Kozman	Trial design
King's College London	Dr Michael Sanders	Trial design QA
King's College London	Susannah Hume	Analysis
TASO	Dr Eliza Kozman	Analysis QA

2.2　Aims

The aim of this study was to explore which institutional features are attractive to mature learners, in order to help inform policy and practice at HEPs with respect to widening participation for mature learners.

2.3　Intervention

The intervention took the form of a survey experiment. In this experiment, participants were shown five comparison tasks (Tasks 1 to 5) of two HE courses (Profile A and Profile B), which each varied on a set of 12 attributes:

1. Institution ranking
2. Travel time
3. Course size
4. Class timing
5. Student satisfaction
6. Proportion of graduates in a graduate level job after 12 months
7. Proportion of mature students
8. Online or blended learning available

9. Academic skills training or study support for mature learners
10. Dedicated mature student support staff member
11. Nursery or childcare available on/near campus
12. Social opportunities for mature students

Each attribute varied randomly from a set of possible characteristics or values. More detail on how these attributes were described to participants is provided in the Trial Protocol, while details of the range of values they could take and how they were coded for analysis is provided in the Protocol and in the Results section of this analysis report.

3   Methods

3.1   Design

The study was a conjoint survey experiment hosted in Qualtrics, with recruitment via the online survey platform Prolific. Prolific is a dedicated online experiment platform with 150,000 participants internationally, including a UK representative sample, and is considered one of the more robust platforms for online experiments.

Conjoint analysis is a model of survey experimentation that seeks to facilitate the analysis of 'multidimensional causal relations'. While traditional survey experiments only allow for analysis of causal effects of a single attribute, conjoint analysis allows researchers to test out the causal impact of several attributes at once, making it useful for understanding how people make choices in the face of multiple options. Given that we are interested in understanding which type of HE recruitment messaging is more appealing to adults without a degree – testing their preferences in terms of what kind of recruitment is more appealing – a conjoint analysis is appropriate for this experiment.

The key limitation of online experiments is that the level of time and attention it is realistic to expect from participants is limited. This means that both the interventions and the treatment effects are likely to be modest, and the format is best used to test how different types of messages, messengers or activities influence attitudes towards the target behaviour (in this case, attitudes toward higher education).

For more detail on the design and rationale, refer to the Trial Protocol.

3.2   Randomisation

The randomisation was conducted via Javascript, embedded into the Qualtrics form. It was simple random sampling of all attributes, with no stratification.

3.3   Outcome measures

A summary of the outcome measures is provided in Table 2.

Table 2. Outcome measures

Outcome	Description
Primary Outcome	The likelihood that an individual chose Profile A, given the differences between Profile A and Profile B.
Secondary Outcome 1	Whether a given profile, with a particular set of attributes, was selected, regardless of the characteristics of the comparator module. This will be coded as 1 if the respondent chose that profile and 0 otherwise.
Secondary Outcome 2	How likely respondents considered they were to enrol in a course with a given profile with given attributes, regardless of the characteristics of the comparator module. This will be coded on a scale from 1 to 7 where 1 represents 'Extremely Unlikely' and 7 represents 'Extremely Likely'.

3.4 Sample selection

The sample was recruited via Prolific on 14 January 2021, in the evening. The advert was shown to Prolific participants who were in England, and where Prolific's records indicated that they did not have a tertiary-level (undergraduate or above) qualification, and were not currently enrolled in education. All Prolific participants are over 18. At the time of the study, Prolific had approximately 6,500 participants meeting the screening criteria who had been active in the past 90 days. Participants were given £1.35 for their time.

The target recruitment was 2,000 – 2,500 participants. 2,565 participants responded to the advert on Prolific. Of these, 63 either timed out or returned the task (including those who did agree to participate at the consent stage, and those who subsequently withdrew their consent), and 2 were rejected because their completion time was very short and they provided the wrong completion code.

Ultimately, 2,500 submissions were accepted. Of these, 2 were subsequently excluded as duplicates. A further 49 were excluded because they indicated in the questionnaire that they had an undergraduate qualification.

The final sample therefore contains 2,449 respondents, who completed a total of 12,245 comparison tasks, viewing a total of 24,490 randomly generated course profiles.

3.5   Analytical strategy

The analyses were specified in Table 3.

Table 3. Analyses

Analysis type	Details
Primary	Likelihood of selecting Profile A, given the differences between Profile A and Profile B
Secondary 1	Likelihood of selecting a profile given its characteristics, regardless of the characteristics of the other profile
Secondary 2	Reported likelihood of enrolling in course, given its characteristics
Secondary 3	Partitioned analysis of the primary, secondary 1 and secondary 2 analyses for respondents aged 25 and under, respondents aged over 25, respondents with children, respondents whose reported household income is below £30,000, respondents whose highest qualifications are equivalent to Level 2, and respondents whose highest qualifications are below Level 2
Secondary 4	Demographic predictors of responses on the Adult Attitudes to Continuing Education scale

The analytical strategy used OLS regression with robust standard errors. For some analyses (primary, secondary 1, and partitioned versions of these models), this represented a linear probability model on the likelihood of selecting a particular profile. The Hochberg step-up procedure was used on the p-values of secondary analyses, within each attribute, across models.

Full details of analytical and model specifications can be found in the Trial Protocol.

4   Results

4.1   Description of data

This section gives a summary of the demographic characteristics of the sample.

Table 4 provides a summary of respondents by gender. From this, we can see that women are over-represented in the sample, relative to men. This may be because of the timing of the advert, as there are demographic differences in who is active on Prolific at different times of the day, or may be because women were more attracted to completing a survey related to educational options.

Table 4. Sample by gender

Gender	Frequency	Percentage
Female	1,526	62.3%
Male	919	37.5%
Not given/Other	4	0.2%

Table 5 provides a summary of respondents by ethnicity.

Table 5. Sample by ethnicity

Ethnicity	Frequency	Percentage
White/White British	2,209	90.2%
Other	136	5.6%
Asian/Asian British	57	2.3%
Black/Black British	47	1.9%

Figure 1 plots the distribution of respondents by age. Respondents who did not disclose their age (N = 3) were imputed with the sample mean age (40.5 years) to retain them in the sample. For the purpose of analysis, age was uniformly recoded into ten bins, each representing seven years. These are shown via the dotted lines on the chart.
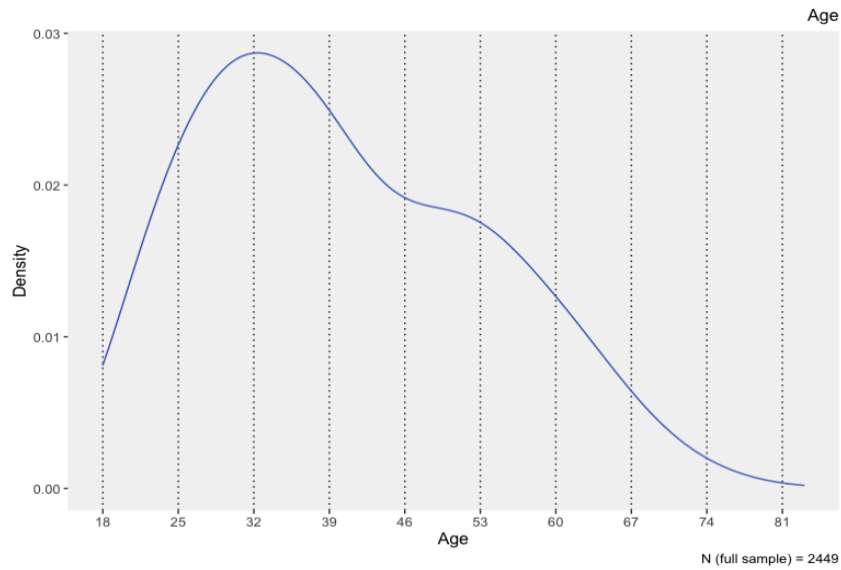
Figure 1. Sample by age

Figure 2 plots respondents by their self-declared household income. For the purpose of analysis, household income was imputed based on respondents who did not disclose their income (N = 308; 12.6%). This was done using linear regression on their gender,

age, ethnicity, employment status, region of residence, qualifications, and whether they had children.

Figure 2. Sample by income

Reported household income distribution
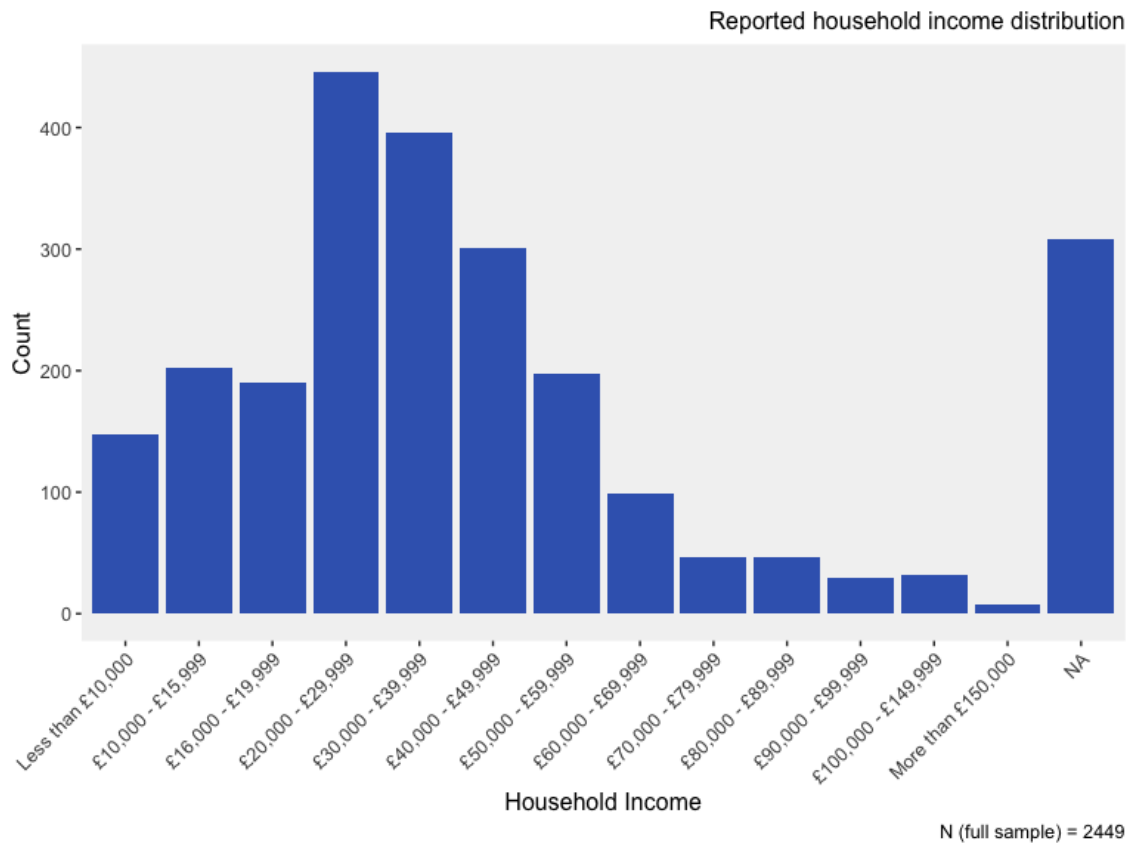
N (full sample) = 2449

Figure 3 shows a breakdown by the highest qualification held. To establish this, respondents were asked which qualifications they held, from a full list, and the qualification level of the highest qualification they selected was identified.
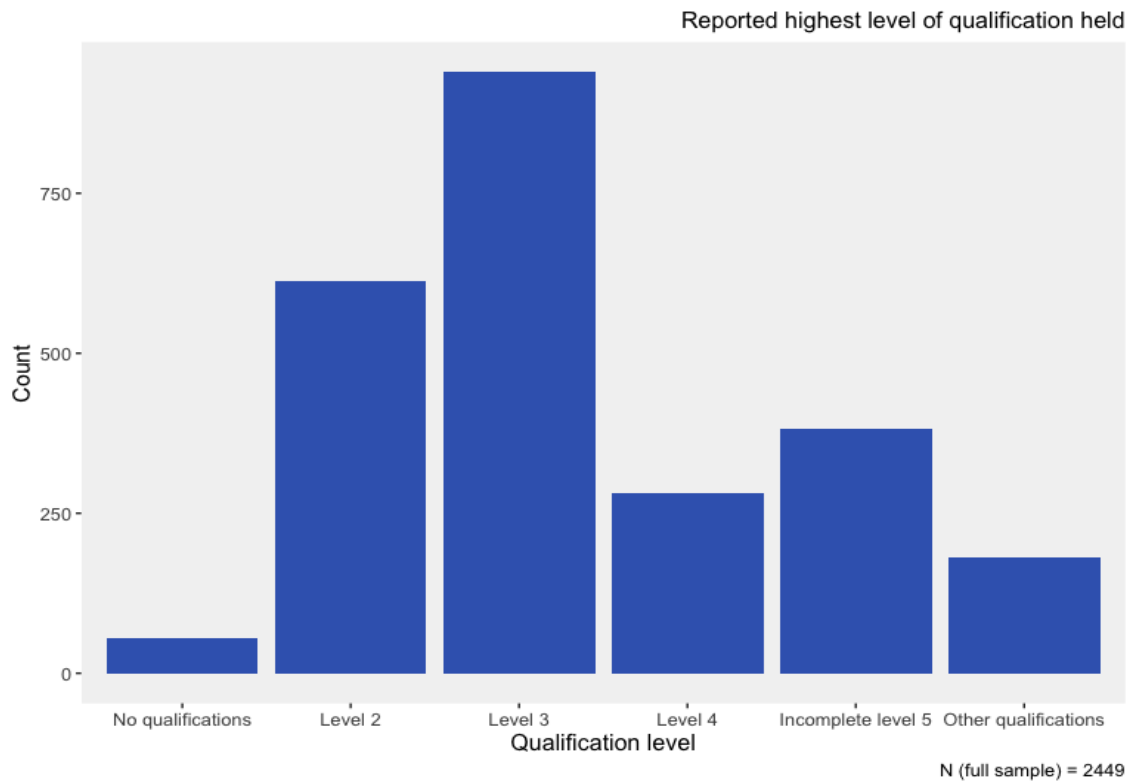
Figure 3. Sample by qualifications held

Reported highest level of qualification held

N (full sample) = 2449

Figure 4 plots respondents by their responses on the Adult Attitudes to Continuing Education (AACE) scale. Item scores range from 1 (low) to 5 (high), and there are nine items. For analysis, we have presented this as a respondent's average rating out of 5 across the nine items. The mean score was 3.8 out of 5.

Figure 4. Response on AACE

Adult Attitudes to Continuing Education

Density

AACE average rating (1-5)

N (full sample) = 2449
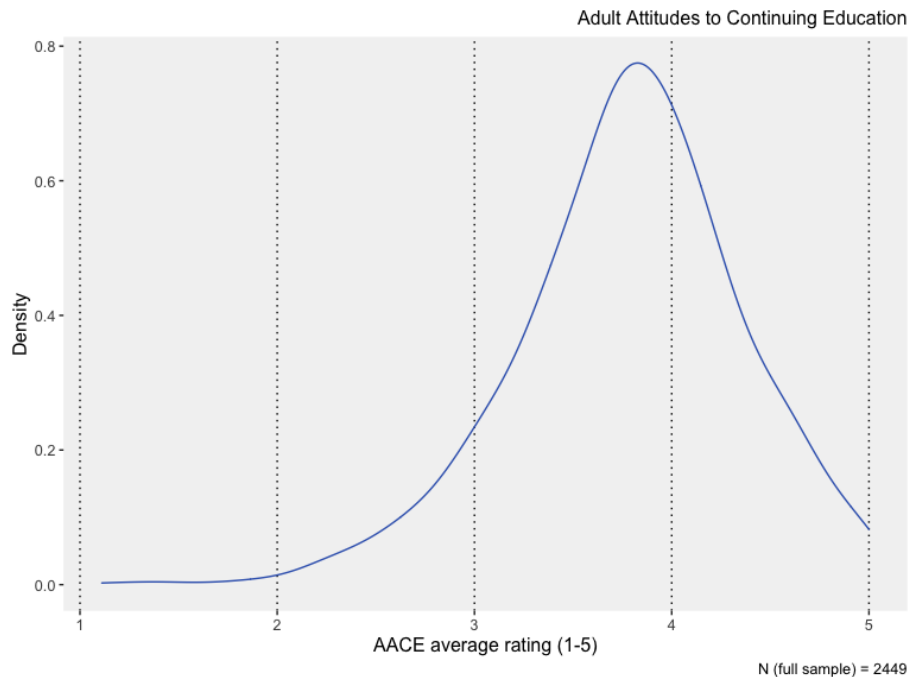
Owing to a lack of comparable studies, we are not able to benchmark this against other samples, but we expect that respondents who selected into a survey about education options are likely to have a starting point that is more positive towards continuing education than the average. We do not consider this an issue for the research as this is also the group who are likely to be most interested in messages about undergraduate courses in their everyday lives, but it is important to be mindful of this when considering the generalisability of the findings.

Respondents were given a set of subjects that they could choose from. Whatever subject they chose was then piped into the header of the conjoint experiment: if they chose Psychology, then the header became "Choices for undergraduate courses in Psychology" on subsequent pages. Overall, three subjects were particularly dominant, which were Psychology, Business, and Computer Science. Mathematics, Medicine, and Politics were selected by the fewest respondents.

Figure 5. Subject choices

N (full sample) = 2449
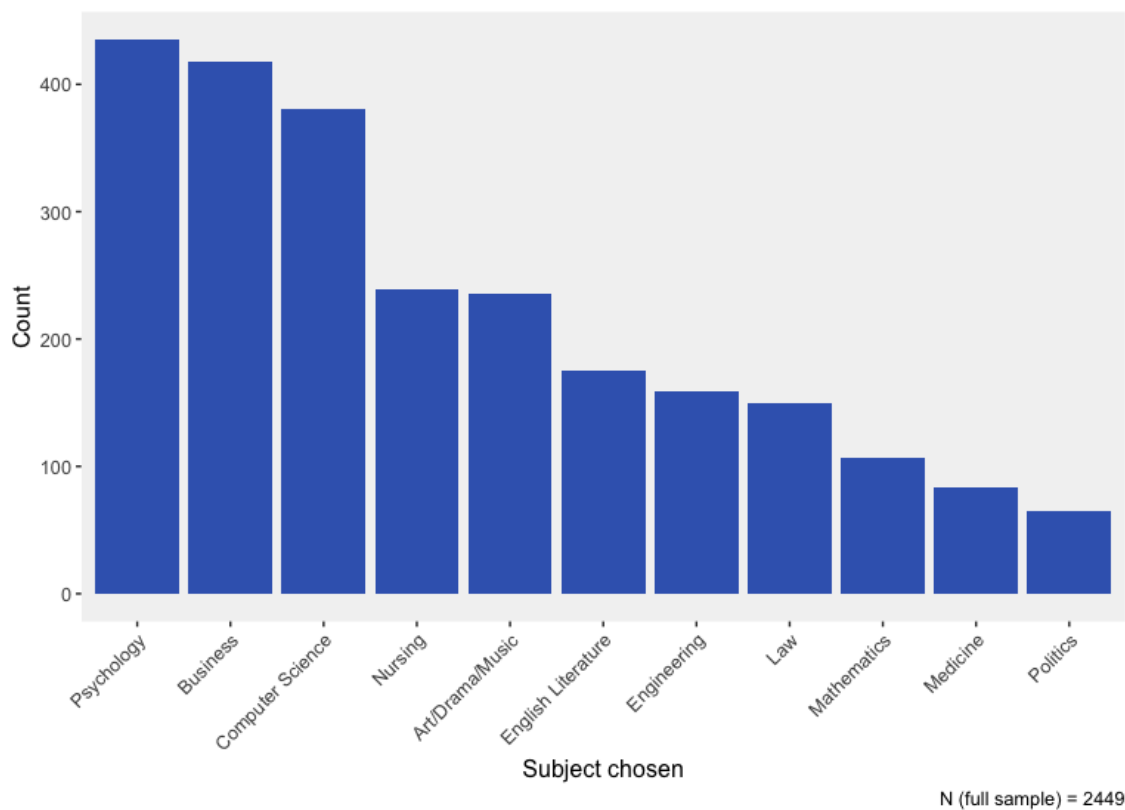
4.2 Outcome of analysis

4.2.1 Primary analysis

The forest plot in Figure 6 gives the results for the primary analysis, while the Appendix gives the regression tables. The primary analysis investigated the extent to which the presence of a feature in a particular profile made that profile more likely to be selected, relative to the other profile, which did not have that feature.

Figure 6. Primary analysis - forest plot

Bars represent the 95% confidence interval. N (full sample) = 2449
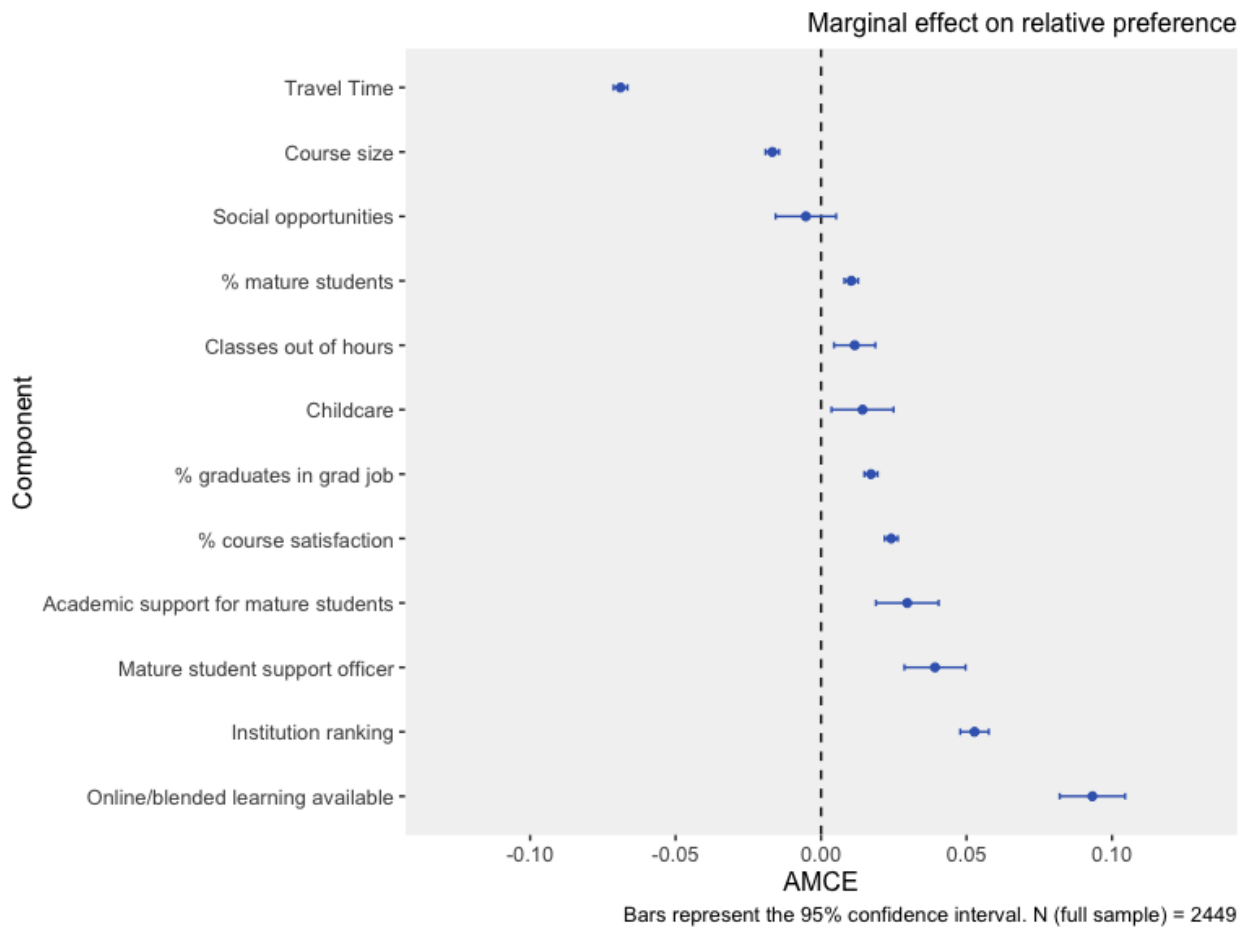
4.2.2   Secondary analysis

4.2.2.1   Absolute preferences

Figure 7 plots the likelihood that a participant would pick a course with a given attribute, regardless of the attributes of the course it was compared with.

Figure 7. Secondary analysis - forest plot - absolute preferences

Marginal effect on absolute preference

Bars represent the 95% confidence interval. N (full sample) = 2449
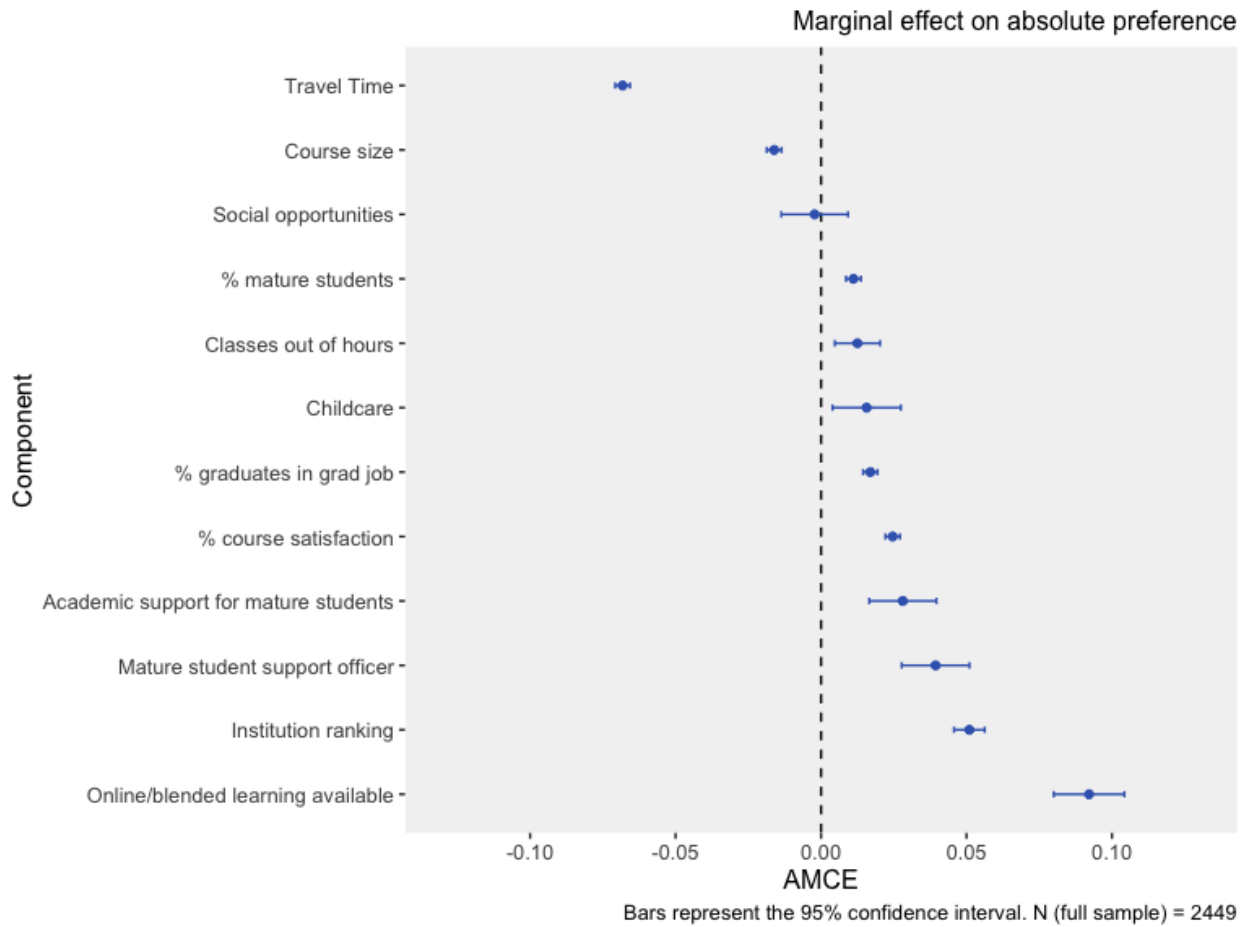
4.2.2.2 Self-reported likelihood

Figure 8 plots the marginal effect of a given attribute on how likely an individual considered themselves to sign up to that course, regardless of the course it was being compared to.

Figure 8. Secondary analysis - forest plot - self-reported likelihood
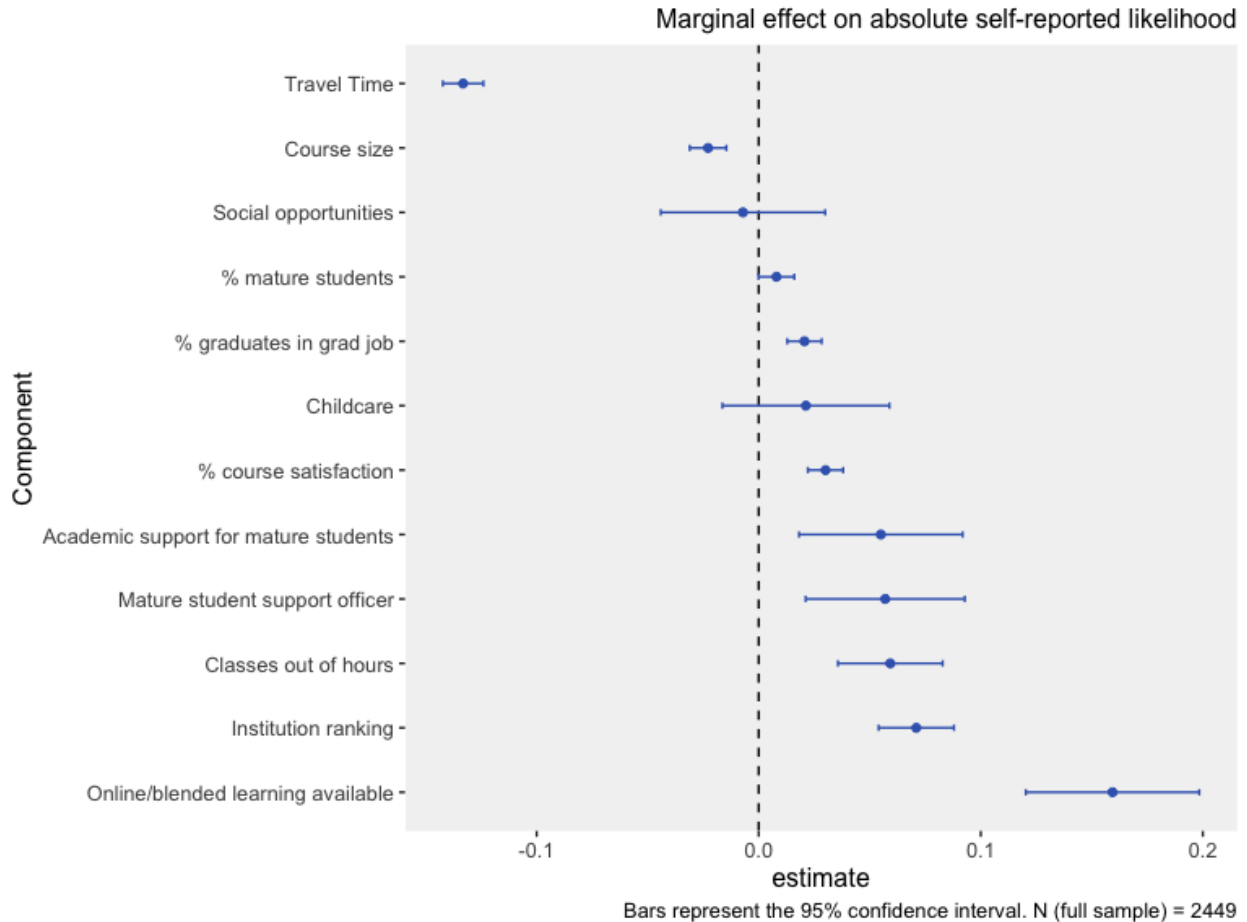
4.2.2.3 Partitioned analyses

The following charts split the preceding analysis by pre-specified subgroups. These subgroups are: participants aged 25 or younger, participants over 25, participants with lower income, participants who have children, participants with qualifications equating to Level 2 or below, and participants with qualifications equating to Level 3 or above.

Figure 9. Marginal effects on relative preference (partitioned)
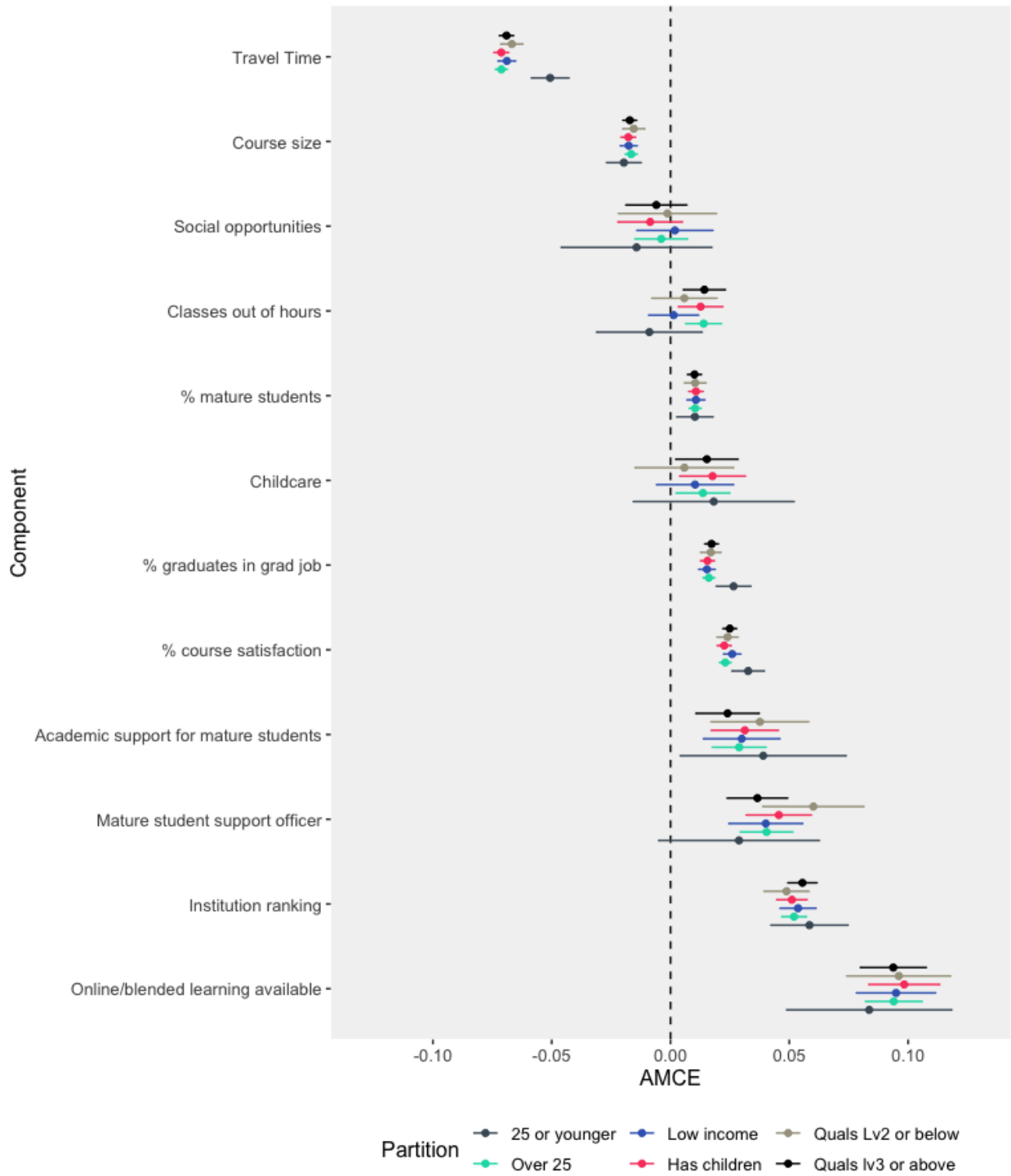
Figure 10. Marginal effects on absolute preference (partitioned)
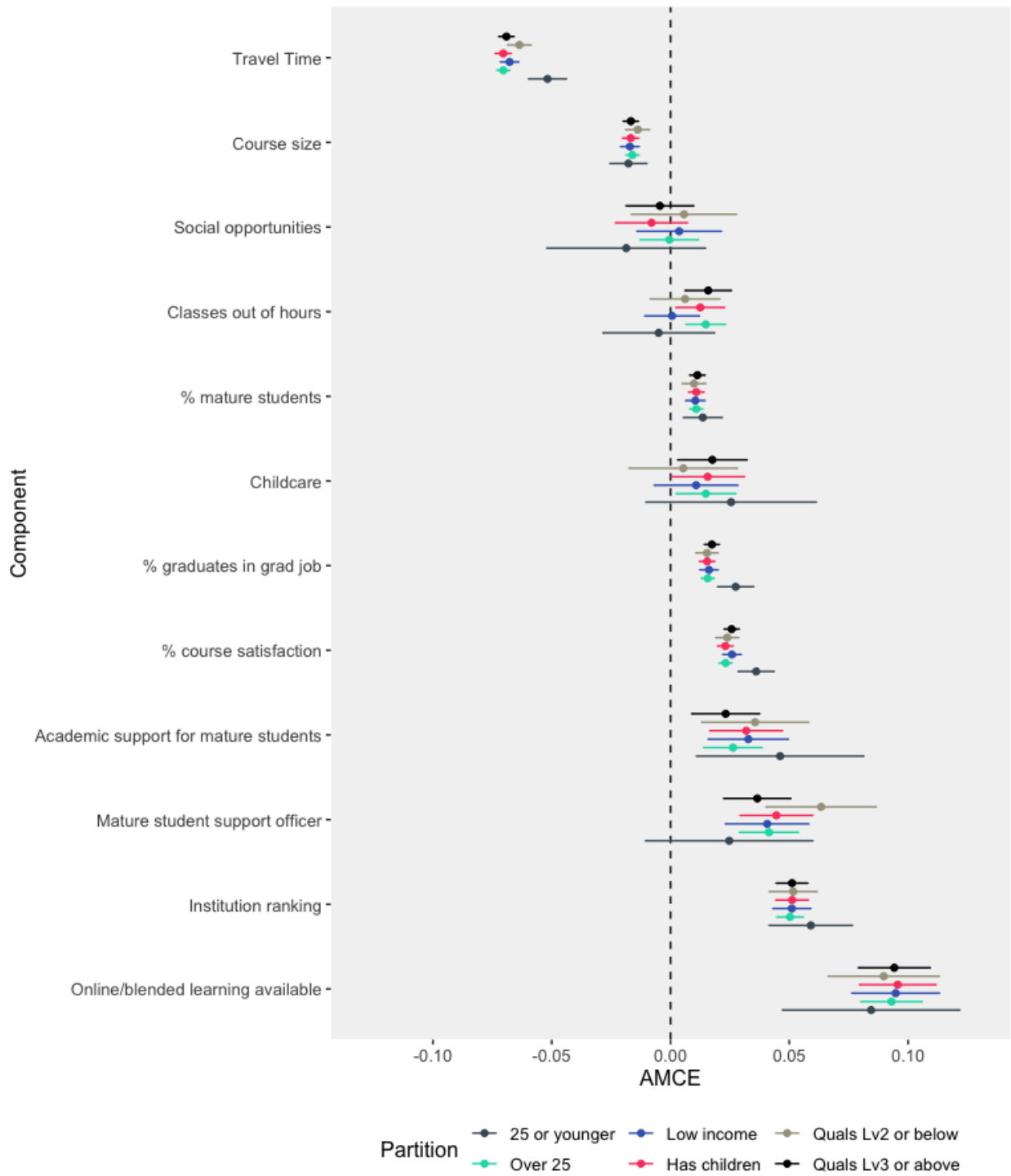
278; N (Over 25) = 2171; N (low-income) = 1085; N (has children) = 1436; N (Low qualifications) = 666; N (High qualifications) = 1602.

Figure 11. Marginal effects on absolute self-reported likelihood (partitioned)

4.2.2.4 Demographic predictors of AACES and overall self-reported likelihood of enrolling

Figure 12 plots the association between different covariates and a respondent's score on the Adult Attitudes to Continuing Education scale. Covariates can be grouped into the following categories (with the reference category, if applicable, given in brackets):

- Age (recoded into ten bins, where 1 = age 18-25 and 10 = 81 and older)
- Household income
- Adult Attitudes to Continuing Education scale
- Qualifications (No qualifications)
- Gender (Male)
- Ethnicity (White/White British)
- Whether they have children (No)
- Employment status (Full-Time)
- Sector of employment (Not in work/unknown/not given)
- Region (East Midlands)

For details of coding, refer to the Trial Protocol.

Figure 12. Predictors of attitudes to continuing education
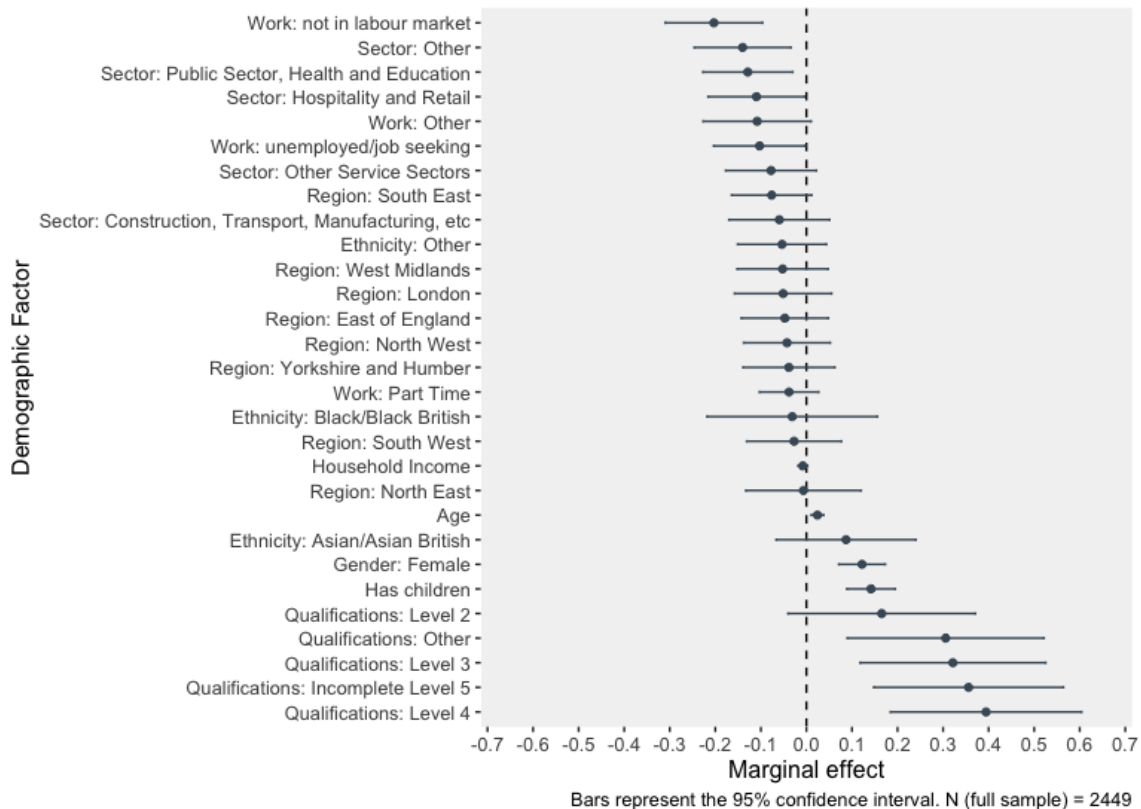
Figure 13 gives the association between the demographic characteristics and the overall positivity with which an individual viewed enrolling in the courses presented.

Figure 13. Predictors of overall self-reported likelihood of enrolling in courses

Bars represent the 95% confidence interval. N (full sample) = 2449
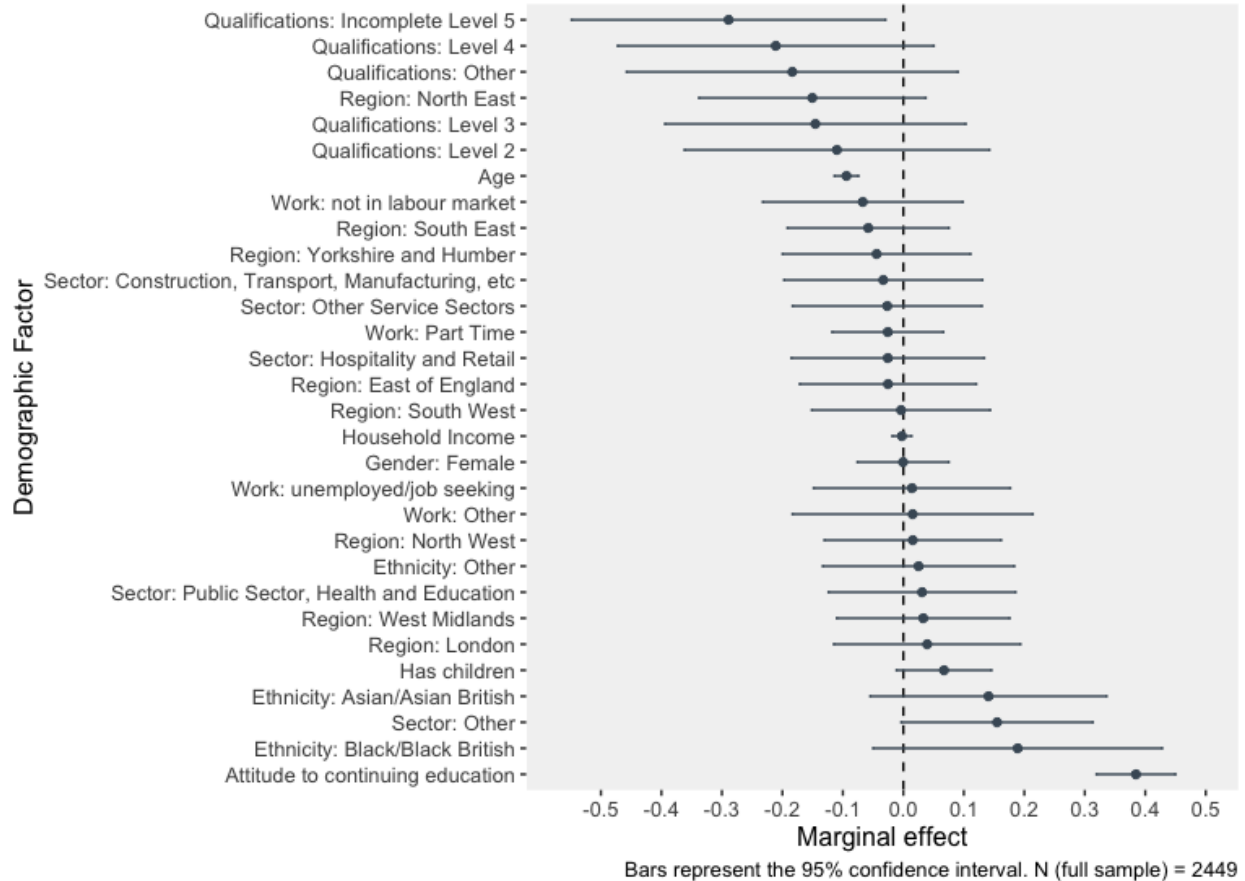
5 Discussion

This study provides a valuable insight into what features of a course may drive both preference for, and overall inclination to enrol in, undergraduate courses, among adults who have left formal education without an undergraduate qualification.

The results suggest that practical issues are drivers of preference and self-reported likelihood. The analysis found that across different analytical specifications, respondents displayed a strong preference for courses that offered online or blended learning. It is also worth bearing in mind that the appeal of online and blended learning and the lack of appeal of longer commutes may have been partially influenced by the context of the study, during the third national UK lockdown in January 2021. We asked participants to imagine that all lockdowns and safety considerations had elapsed, but this was likely still front-of-mind, so these preferences may be overstated. Moreover, we should

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acknowledge that the sample for our analysis comprised individuals who are registered on an online platform and so this may further influence their attitudes to online or blended learning.

All else equal, respondents also preferred higher-ranked institutions, and those whose policies and practices suggested the institution was supportive of mature students, including offering out-of-hours classes, academic support for mature students, and the presence of a designated staff member whose role was to support mature students - and to a lesser extent, availability of childcare. Respondents preferred smaller courses to larger ones, and strongly preferred institutions that were within a shorter commute. On social factors, participants were interested in the extent to which there would be other mature students in their course, but less concerned about social opportunities with other students.

Partitioned analysis suggests that respondents aged 25 or younger were less concerned about commuting time. Respondents over the age of 25 were less concerned about availability of childcare than those 25 or younger. Younger respondents were also the most responsive to the rate of placement of graduates in graduate-level jobs, and to course satisfaction. Respondents whose qualifications were at Level 2 (GCSE/equivalent) or below were more responsive to the presence of a mature student support officer than those whose qualifications were at Level 3 or above.

Those whose qualifications included an incomplete Level 5 (undergraduate) qualification reported overall significantly lower likelihoods of enrolling in an undergraduate course than those who had no qualifications at Level 2 or above, although their responses on the Adult Attitudes to Continuing Education (AACE) scale were significantly more positive. Increasing age had a small, significant association with the AACE scale, but a negative association with the likelihood of enrolling on a course. Those who were not in the labour market had significantly lower scores on the AACE compared to those working full time. Women, respondents with children, and those whose qualifications were at Level 3 or above had the highest scores on the AACE.

In terms of key limitations, the external validity of the study will need to be considered, given it was conducted within a survey environment and relied on self-reported preferences and likelihoods. Further research could look to partner with institutions who offer some of these features to explore the extent to which emphasising these features in outreach and marketing to mature learners could increase interest in actual courses, and even translate through to enrolment.

The makeup of our sample also has implications for our findings. One key consideration is that approximately 90% of our sample were White/White British which means that this

group was overrepresented versus the broader population.[1] Moreover, mature students are more likely to be from black, Asian or minority ethnic backgrounds, which means that we don't know if some of the factors which our sample indicated as important to them would generalise to the current population of mature students.[2] For this reason, and as intended in the design of the study, the findings are more applicable to the issue of attracting of new mature learners from the pool of possible applicants, than to the issue of how to support which the current population of mature learners. Additional research on this topic compare and contrast findings from the two distinct populations.

In terms of follow-up work, there is also scope to explore the role of cost/fees. In this experiment, we have assumed the cost of HE to be a constant and looked at what other factors may be influential in supporting access, but a follow-up study could probe the financial factors in more detail. Exploring the attitudes of prospective learners to modular education is another avenue for future investigation.

Finally, it is important to note that this research focuses on the first stage of supporting mature students, which is interventions that could have potential in getting them through the door. In keeping with the whole-lifecycle approach to widening participation, it is important to be mindful of the extent to which mature students are supported to succeed once they are enrolled. This research suggests that people might expect that academic support and a dedicated staff member will help them succeed, but this should be tested in practice. Nonetheless, this study can help institutions think about how best to structure and market their undergraduate offer in order to attract mature learners.

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[1] The latest data from the ONS suggests that 86% of the population were White in 2011.
[2] See the Office for Students Effective Practice pages for more links and information on mature students.

Appendix 1: Balance across attributes

The following tables summarise the balance of the randomisation across the 24490 profiles.

Institution ranking

Table 6. Balance of institution ranking options

Ranking	Frequency	Percentage
151st - 400th in the UK	6,006	24.5%
51st - 150th in the UK	6,147	25.1%
10th - 50th in the UK	6,219	25.4%
Top 10 in the UK	6,118	25.0%

Travel time

The randomisation drew from a uniform distribution from 5 to 400 minutes, converted to hours/mins for presentation to respondents. For the purpose of analysis, this was recoded uniformly into octiles.

Table 7. Balance of travel time options

Octile	Frequency	Percentage
1	3,145	12.8%
2	2,920	11.9%
3	3,159	12.9%
4	2,989	12.2%
5	3,032	12.4%
6	3,091	12.6%
7	3,040	12.4%
8	3,114	12.7%

Course size

The randomisation drew from a uniform distribution from 10 to 500 students. For the purpose of analysis, this was recoded uniformly into octiles.

Table 8. Balance of course size options

Octile	Frequency	Percentage
1	3,048	12.4%
2	3,038	12.4%
3	3,025	12.4%
4	3,059	12.5%
5	3,137	12.8%
6	3,050	12.5%
7	3,087	12.6%
8	3,046	12.4%

Class timing

Table 9. Balance of class timing options

Timing	Frequency	Percentage
All during working hours	8,231	33.6%
A mix of during and outside working hours	8,058	32.9%
All outside working hours	8,201	33.5%

Student satisfaction

The randomisation drew from a uniform distribution from 50% to 99%. For the purpose of analysis, this was recoded uniformly into octiles.

Table 10. Balance of student satisfaction options

Octile	Frequency	Percentage
1	3,377	13.8%
2	2,929	12.0%
3	2,923	11.9%
4	2,911	11.9%
5	2,982	12.2%
6	3,032	12.4%
7	2,911	11.9%
8	3,425	14.0%

Proportion of graduates in a graduate-level job after 12 months

The randomisation drew from a uniform distribution from 40% to 80%. For the purpose of analysis, this was recoded uniformly into octiles.

Table 11. Balance of graduate job options

Octile	Frequency	Percentage
1	3,630	14.8%
2	3,078	12.6%
3	2,937	12.0%
4	2,927	12.0%
5	2,937	12.0%
6	2,948	12.0%
7	3,001	12.3%
8	3,032	12.4%

Proportion of mature students

The randomisation drew from a uniform distribution from 5% - 60%. For the purpose of analysis, this was recoded uniformly into octiles.

Table 12. Balance of mature student proportion options

Octile	Frequency	Percentage
1	3,104	12.7%
2	3,036	12.4%
3	3,080	12.6%
4	2,980	12.2%
5	3,001	12.3%
6	3,052	12.5%
7	3,122	12.7%
8	3,115	12.7%

Online or blended learning available

Table 13. Balance of online/blended availability options

Available	Frequency	Percentage
No	12,276	50.1%
Yes	12,214	49.9%

Academic skills training or study support for mature learners

Table 14. Balance of academic support availability options

Available	Frequency	Percentage
No	12,259	50.1%
Yes	12,231	49.9%

Dedicated mature student support staff member

Table 15. Balance of dedicated staff availability options

Available	Frequency	Percentage
No	12,167	49.7%
Yes	12,323	50.3%

Nursery or childcare available on/near campus

Table 16. Balance of childcare availability options

Available	Frequency	Percentage
No	12,156	49.6%
Yes	12,334	50.4%

Social opportunities for mature students

Table 17. Balance of social opportunity options

Available	Frequency	Percentage
No	12,430	50.8%
Yes	12,060	49.2%

7 Appendix 2: Regression tables

7.1 Relative preference

	Full Sample	25 or younger	Over 25	Low household income	Has children	Qualifications Lv2 or below	Qualifications Lv3 or above
Travel Time	-0.07 (0.00) ***	-0.05 (0.00) ***	-0.07 (0.00) ***	-0.07 (0.00) ***	-0.07 (0.00) ***	-0.07 (0.00) ***	-0.07 (0.00) ***
Social opportunities	-0.01 (0.01)	-0.01 (0.02)	-0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)
Course size	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***
% mature students	0.01 (0.00) ***	0.01 (0.00) **	0.01 (0.00) ***	0.01 (0.00) ***	0.01 (0.00) ***	0.01 (0.00) ***	0.01 (0.00) ***
Childcare	0.01 (0.01) **	0.02 (0.02)	0.01 (0.01) *	0.01 (0.01)	0.02 (0.01) *	0.01 (0.01)	0.02 (0.01) *
% graduates in grad job	0.02 (0.00) ***	0.03 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***
% course satisfaction	0.02 (0.00) ***	0.03 (0.00) ***	0.02 (0.00) ***	0.03 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***
Academic support for mature students	0.03 (0.01) ***	0.04 (0.02) *	0.03 (0.01) ***	0.03 (0.01) ***	0.03 (0.01) ***	0.04 (0.01) ***	0.02 (0.01) ***
Institution ranking	0.05 (0.00) ***	0.06 (0.01) ***	0.05 (0.00) ***	0.05 (0.00) ***	0.05 (0.00) ***	0.05 (0.00) ***	0.06 (0.00) ***
Mature student support officer	0.04 (0.01) ***	0.03 (0.02)	0.04 (0.01) ***	0.04 (0.01) ***	0.05 (0.01) ***	0.06 (0.01) ***	0.04 (0.01) ***
Classes out of hours	0.01 (0.00) **	-0.01 (0.01)	0.01 (0.00) ***	0.00 (0.01)	0.01 (0.00) **	0.01 (0.01)	0.01 (0.00) **
Online/blended learning available	0.09 (0.01) ***	0.08 (0.02) ***	0.09 (0.01) ***	0.09 (0.01) ***	0.10 (0.01) ***	0.10 (0.01) ***	0.09 (0.01) ***
Demographics	✓	✓	✓	✓	✓	✓	✓
R^2	0.31	0.28	0.32	0.32	0.33	0.30	0.32
Adj. R^2	0.31	0.26	0.32	0.31	0.32	0.29	0.31
Num. obs.	12245	1390	10855	5425	7180	3330	8010
RMSE	0.42	0.43	0.41	0.42	0.41	0.42	0.41
N Clusters	2449	278	2171	1085	1436	666	1602

7.2 Absolute preference

	Full Sample	25 or younger	Over 25	Low household income	Has children	Qualifications Lv2 or below	Qualifications Lv3 or above
Social opportunities	-0.00 (0.01)	-0.02 (0.02)	-0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.01 (0.01)	-0.00 (0.01)
Course size	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.02 (0.00) ***	-0.01 (0.00) ***	-0.02 (0.00) ***
% mature students	0.01 (0.00) ***	0.01 (0.00) **	0.01 (0.00) ***	0.01 (0.00) ***	0.01 (0.00) ***	0.01 (0.00) ***	0.01 (0.00) ***
Childcare	0.02 (0.01) **	0.03 (0.02)	0.01 (0.01) *	0.01 (0.01)	0.02 (0.01) *	0.01 (0.01)	0.02 (0.01) *
% graduates in grad job	0.02 (0.00) ***	0.03 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***
% course satisfaction	0.02 (0.00) ***	0.04 (0.00) ***	0.02 (0.00) ***	0.03 (0.00) ***	0.02 (0.00) ***	0.02 (0.00) ***	0.03 (0.00) ***
Academic support for mature students	0.03 (0.01) ***	0.05 (0.02) *	0.03 (0.01) ***	0.03 (0.01) ***	0.03 (0.01) ***	0.04 (0.01) **	0.02 (0.01) **
Institution ranking	0.05 (0.00) ***	0.06 (0.01) ***	0.05 (0.00) ***	0.05 (0.00) ***	0.05 (0.00) ***	0.05 (0.01) ***	0.05 (0.00) ***
Mature student support officer	0.04 (0.01) ***	0.02 (0.02)	0.04 (0.01) ***	0.04 (0.01) ***	0.04 (0.01) ***	0.06 (0.01) ***	0.04 (0.01) ***
Classes out of hours	0.01 (0.00) **	-0.00 (0.01)	0.01 (0.00) ***	0.00 (0.01)	0.01 (0.01) *	0.01 (0.01)	0.02 (0.00) **
Online/blended learning available	0.09 (0.01) ***	0.08 (0.02) ***	0.09 (0.01) ***	0.09 (0.01) ***	0.10 (0.01) ***	0.09 (0.01) ***	0.09 (0.01) ***
Demographics	✓	✓	✓	✓	✓	✓	✓
R^2	0.15	0.14	0.16	0.15	0.16	0.14	0.16
Adj. R^2	0.15	0.12	0.16	0.15	0.16	0.14	0.16
Num. obs.	24490	2780	21710	10850	14360	6660	16020
RMSE	0.46	0.47	0.46	0.46	0.46	0.46	0.46
N Clusters	2449	278	2171	1085	1436	666	1602

7.3 Absolute self-reported likelihood

	Full Sample	25 or younger	Over 25	Low household income	Has children	Qualifications Lv2 or below	Qualifications Lv3 or above
Attributes							
Social opportunities	-0.01 (0.02)	0.03 (0.05)	-0.01 (0.02)	0.04 (0.03)	-0.02 (0.02)	0.03 (0.04)	-0.02 (0.02)
Course size	-0.02 (0.00) ***	-0.03 (0.01) *	-0.02 (0.00) ***	-0.02 (0.01) **	-0.02 (0.01) ***	-0.02 (0.01) *	-0.02 (0.01) ***
% mature students	0.01 (0.00)	0.01 (0.01)	0.01 (0.00)	0.01 (0.01)	0.00 (0.01)	0.02 (0.01) *	0.00 (0.01)
Childcare	0.02 (0.02)	-0.04 (0.05)	0.03 (0.02)	0.01 (0.03)	0.04 (0.03)	-0.01 (0.04)	0.04 (0.02)
% graduates in grad job	0.02 (0.00) ***	0.03 (0.01) **	0.02 (0.00) ***	0.02 (0.01) **	0.02 (0.01) ***	0.02 (0.01) *	0.02 (0.00) ***
% course satisfaction	0.03 (0.00) ***	0.04 (0.01) ***	0.03 (0.00) ***	0.02 (0.01) ***	0.03 (0.01) ***	0.02 (0.01) **	0.03 (0.01) ***
Academic support for mature students	0.06 (0.02) **	0.03 (0.05)	0.06 (0.02) **	0.04 (0.03)	0.07 (0.03) **	0.04 (0.04)	0.06 (0.02) **
Institution ranking	0.07 (0.01) ***	0.08 (0.02) **	0.07 (0.01) ***	0.08 (0.01) ***	0.07 (0.01) ***	0.10 (0.02) ***	0.06 (0.01) ***
Mature student support officer	0.06 (0.02) **	0.08 (0.06)	0.06 (0.02) **	0.08 (0.03) **	0.07 (0.02) **	0.09 (0.04) *	0.05 (0.02) *
Classes out of hours	0.06 (0.01) ***	0.09 (0.03) **	0.06 (0.01) ***	0.05 (0.02) *	0.04 (0.02) *	0.05 (0.02) *	0.06 (0.01) ***
Online/blended learning available	0.16 (0.02) ***	0.10 (0.06)	0.17 (0.02) ***	0.13 (0.03) ***	0.21 (0.03) ***	0.13 (0.04) ***	0.16 (0.02) ***
Demography							
Age	-0.09 (0.01) ***	NA	-0.08 (0.01) ***	-0.10 (0.01) ***	-0.08 (0.01) ***	-0.09 (0.02) ***	-0.10 (0.01) ***
Household Income	-0.00 (0.01)	-0.00 (0.02)	-0.00 (0.01)	0.00 (0.03)	-0.01 (0.01)	-0.03 (0.02)	0.00 (0.01)
Female	-0.00 (0.04)	0.00 (0.10)	0.00 (0.04)	0.01 (0.06)	-0.03 (0.06)	0.03 (0.08)	-0.01 (0.05)
Has children	0.07 (0.04)	-0.10 (0.17)	0.09 (0.04) *	0.14 (0.06) *	NA	0.15 (0.08)	0.02 (0.05)
Attitude to continuing education	0.38 (0.03) ***	0.31 (0.09) **	0.40 (0.04) ***	0.40 (0.05) ***	0.36 (0.04) ***	0.39 (0.06) ***	0.38 (0.04) ***
Ethnicity							
(Ref: White/White British)							
Black/Black British	0.19 (0.12)	0.06 (0.18)	0.23 (0.16)	0.27 (0.17)	0.20 (0.19)	0.60 (0.21) *	0.07 (0.15)
Asian/Asian British	0.14 (0.10)	-0.29 (0.24)	0.22 (0.11) *	0.15 (0.13)	0.34 (0.12) **	0.06 (0.16)	0.17 (0.12)
Other ethnicity	0.03 (0.08)	0.20 (0.13)	-0.03 (0.09)	0.06 (0.13)	0.06 (0.12)	-0.08 (0.21)	0.09 (0.08)
Region (Ref: East Midlands)							
East of England	-0.03 (0.07)	-0.10 (0.18)	0.01 (0.08)	0.02 (0.11)	-0.05 (0.10)	0.03 (0.15)	-0.09 (0.09)
London	0.04 (0.08)	-0.16 (0.18)	0.09 (0.09)	-0.08 (0.12)	-0.10 (0.12)	0.06 (0.15)	-0.01 (0.10)
North East	-0.15 (0.10)	-0.78 (0.32) *	-0.07 (0.10)	-0.17 (0.13)	-0.11 (0.12)	-0.24 (0.23)	-0.15 (0.11)
North West	0.02 (0.07)	-0.11 (0.18)	0.06 (0.08)	0.09 (0.11)	-0.01 (0.10)	0.10 (0.14)	-0.02 (0.09)
South East	-0.06 (0.07)	-0.29 (0.17)	-0.00 (0.07)	-0.12 (0.10)	-0.08 (0.09)	-0.05 (0.13)	-0.07 (0.09)
South West	-0.00 (0.08)	-0.27 (0.18)	0.05 (0.08)	-0.06 (0.11)	-0.07 (0.11)	-0.03 (0.15)	-0.04 (0.10)
West Midlands	0.03 (0.07)	-0.31 (0.19)	0.10 (0.08)	0.00 (0.10)	0.09 (0.10)	0.09 (0.14)	-0.02 (0.09)
Yorkshire and Humber	-0.04 (0.08)	-0.14 (0.19)	-0.01 (0.09)	0.04 (0.11)	-0.06 (0.11)	0.07 (0.15)	-0.15 (0.10)
Employment status							
(Ref: Full-Time)							
Unemployed/job seeking	0.01 (0.08)	-0.12 (0.15)	0.04 (0.10)	0.10 (0.11)	-0.01 (0.13)	-0.04 (0.17)	-0.03 (0.10)
Other status	0.02 (0.10)	0.27 (0.23)	-0.03 (0.11)	0.04 (0.14)	-0.11 (0.14)	-0.16 (0.21)	0.11 (0.12)

	Full Sample	25 or younger	Over 25	Low household income	Has children	Qualifications Lv2 or below	Qualifications Lv3 or above
Part Time	-0.03 (0.05)	0.04 (0.12)	-0.05 (0.05)	0.06 (0.07)	-0.07 (0.06)	-0.14 (0.10)	-0.01 (0.06)
Not in labour market	-0.07 (0.08)	-0.00 (0.29)	-0.08 (0.09)	-0.03 (0.11)	-0.14 (0.11)	-0.15 (0.16)	-0.06 (0.11)
Sector (Ref: Not in work)							
Construction, Transport, Manufacturing, etc	-0.03 (0.08)	-0.12 (0.20)	-0.01 (0.09)	0.13 (0.14)	-0.13 (0.11)	0.11 (0.16)	-0.12 (0.10)
Hospitality and Retail	-0.03 (0.08)	-0.13 (0.16)	-0.02 (0.09)	0.02 (0.11)	-0.09 (0.11)	-0.05 (0.15)	-0.06 (0.10)
Other sector	0.15 (0.08)	0.10 (0.19)	0.17 (0.09)	0.08 (0.12)	0.10 (0.11)	0.19 (0.16)	0.07 (0.10)
Other Service Sectors	-0.03 (0.08)	-0.04 (0.18)	-0.02 (0.09)	-0.08 (0.12)	-0.18 (0.11)	0.00 (0.15)	-0.08 (0.10)
Public Sector, Health and Education	0.03 (0.08)	0.11 (0.18)	0.03 (0.09)	0.05 (0.11)	-0.03 (0.10)	0.01 (0.15)	-0.00 (0.10)
Qualifications (Ref: No qualifications)							
Level 2	-0.11 (0.13)	0.05 (0.43)	-0.11 (0.14)	-0.14 (0.15)	-0.25 (0.16)	-0.09 (0.13)	*NA*
Level 3	-0.15 (0.12)	0.15 (0.41)	-0.16 (0.13)	-0.15 (0.15)	-0.31 (0.16)	*NA*	0.15 (0.05) **
Level 4	-0.21 (0.13)	0.07 (0.47)	-0.22 (0.14)	-0.25 (0.16)	-0.38 (0.17) *	*NA*	0.09 (0.07)
Incomplete Level 5	-0.29 (0.13) *	0.05 (0.43)	-0.30 (0.14) *	-0.35 (0.17) *	-0.39 (0.17) *	*NA*	*Ref*
R^2	0.09	0.07	0.09	0.09	0.09	0.10	0.09
Adj. R^2	0.09	0.06	0.09	0.09	0.09	0.10	0.08
Num. obs.	24490	2780	21710	10850	14360	6660	16020
RMSE	1.47	1.36	1.48	1.47	1.48	1.48	1.46
N Clusters	2449	278	2171	1085	1436	666	1602

7.4   Adult Attitudes to Continuing Education

The coefficients represent marginal impacts on a 5-point scale.

	Model
Demography	
Age	0.02 (0.01) ***
Household Income	-0.01 (0.01)
Female	0.12 (0.03) ***
Has children	0.14 (0.03) ***
Ethnicity	
Black/Black British	-0.03 (0.10)
Asian/Asian British	0.09 (0.08)
Other ethnicity	-0.05 (0.05)
Region (Ref: East Midlands)	
East of England	-0.05 (0.05)
London	-0.05 (0.05)
North East	-0.01 (0.06)
North West	-0.04 (0.05)
South East	-0.08 (0.04)
South West	-0.03 (0.05)
West Midlands	-0.05 (0.05)
Yorkshire and Humber	-0.04 (0.05)
Employment status (Ref: Full-Time)	
Unemployed/job seeking	-0.10 (0.05) *
Other status	-0.11 (0.06)
Part Time	-0.04 (0.03)
Not in labour market	-0.20 (0.05) ***
Sector (Ref: Not in work)	
Construction, Transport, Manufacturing, etc	-0.06 (0.06)
Hospitality and Retail	-0.11 (0.05) *
Other sector	-0.14 (0.05) **
Other Service Sectors	-0.08 (0.05)
Public Sector, Health and Education	-0.13 (0.05) *
Qualifications (Ref: no qualifications)	
Level 2	0.17 (0.10)
Level 3	0.32 (0.10) **
Level 4	0.39 (0.11) ***
Incomplete Level 5	0.36 (0.11) ***
Other qualifications	0.31 (0.11) **
R^2	0.06
Adj. R^2	0.05
Num. obs.	2449
RMSE	0.56